Costa Verde Center Revitalization Project
Environmental Impact Report
SCH No. 2016071031; Project No. 477943

Appendix B

Traffic Impact Analysis

March 2020

LINSCOTT LAW & GREENSPAN engineers

TRANSPORTATION IMPACT ANALYSIS

COSTA VERDE CENTER REVITALIZATION PROJECT

San Diego, California
February 26, 2020

LLG Ref. 3-14-2408

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EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has been retained to determine the transportation impacts of the proposed *Costa Verde Center Revitalization Project*. The Costa Verde Center is an existing neighborhood/community-serving shopping center located west of Genesee Avenue between La Jolla Village Drive and Nobel Drive in the University community of the City of San Diego. The shopping center is located on a 13.2-acre site and is comprised of a gross floor area of approximately 178,000 square feet (sf) of commercial retail space.

The Project entails the reconfiguration and expansion of the existing Costa Verde Center to create a local, walkable hub that provides neighborhood services, retail shops, restaurants, office/research/ development uses, a hotel, and community gathering spaces. The Project proposes to retain the current amount (approximately 178,000 sf) of commercial/retail uses, add approximately 360,000 sf of research and development (R&D) and 40,000 sf of commercial/office uses, and re-designate an approximately one-acre portion of the project site to Visitor Commercial to reintroduce a hotel use to the Costa Verde Specific Plan area. A 200-room hotel would serve visitors and the community's research, business, and educational hub.

Vehicular access to the project site would be provided from Genesee Avenue, Nobel Drive, Costa Verde Boulevard, and Esplanade Court. The main project access would be provided from a gateway entry at the signalized intersection of Genesee Avenue and Esplanade Court. Vehicular access to the lower portion of the site would be provided from three existing access drives: one along Genesee Avenue, one along Nobel Drive, and one along Costa Verde Boulevard. These access drives would connect to parking areas. A north-south connection through the site and to surrounding roadways would continue to be provided, but would be routed through a proposed parking garage. The total proposed parking supply would be between 1,837 spaces and 2,076 spaces.

The study area for this project was developed with the City of San Diego staff per the *City of San Diego Traffic Impact Study Manual* and regional guidelines.

Existing weekday AM and PM peak hour (7:00-9:00 AM and 4:00-6:00 PM) traffic volumes were commissioned at all the study area intersections. AM and PM peak hour manual turning movement counts were taken on Tuesday, October 2, 2018; Wednesday, October 3, 2018 while UCSD and nearby schools were in session. Supplemental counts from Year 2015 were also used given that the Mid-Coast Trolley is under construction at the time of preparation of this report. The Mid Coast trolley is expected to open in late 2021 while the Opening Day of the project is anticipated to be in Year 2023.

The total project is calculated to generate a net trip total of 4,981 ADT with 621 total (527 inbound / 94 outbound) primary trips during the AM peak hour and 592 total (139 inbound / 453 outbound) primary trips during the PM peak hour.

With assistance from the City and our experience working on other projects in the area, LLG identified twenty-three (23) cumulative projects in the near-term, and two (2) cumulative projects in

the long-term. The Year 2035 represents the Community Buildout in this analysis, per the 2016 University Community Plan Amendment (UCPA), which analyzed the community plan land use buildout.

The following six (6) scenarios were analyzed:

- Existing
- Existing + Project
- Near-Term (Opening Day 2023)
- Near-Term (Opening Day 2023) + Project
- Year 2035 (Community Buildout)
- Year 2035 (Community Buildout) + Project

Existing + Project Impacts and Mitigation

Per the City's significance thresholds and the analysis methodology presented in this report, significant direct impacts were identified within the study area under Existing + Project conditions. An impact summary is shown in ***Table A***. A mitigation summary is shown in ***Table B.*** *Section 13.0* of this report includes more detail on the Existing + Project impacts and recommended mitigation measures.

TABLE A
EXISTING + PROJECT IMPACT SUMMARY

Facility Type	Location
Intersections	• Genesee Avenue / Esplanade Court • Genesee Avenue / Governor Drive • Genesee Avenue / SR 52 WB Ramps • Genesee Avenue / SR 52 EB Ramps
Street Segments	None
Freeway Segments	• Interstate 5: Gilman Drive to Nobel Drive • Interstate 805: Governor Drive to Nobel Drive • State Route 52: Genesee Avenue to I-805
Metered Freeway On-Ramps	• Nobel Drive to SB I-805

TABLE B
SUMMARY OF EXISTING + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location	Recommended Mitigation	Mitigated?	Significant After Mitigation?
A-DI-1	Intersection	14. Genesee Avenue / Esplanade Court	Reconfigure the eastbound approach to provide two dedicated left-turn lanes, a through lane and a dedicated right-turn lane. A signal modification will also be required at this intersection. Install an eastbound right-turn overlap phase.	Fully Mitigated	No
A-DI-2	Intersection	29. Genesee Avenue / Governor Drive	Install right-turn overlap phasing on the southbound approach and modify the signal accordingly. However, the installation of southbound right-turn overlap would prohibit access to the parcel in the northwest corner of the intersection due to the inability to make eastbound U-turns. Therefore, this impact is considered significant and unmitigated. As partial mitigation, the project will upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.	Significant and Unmitigated	Yes
A-DI-3	Intersection	30. Genesee Avenue / SR52 WB Ramps	Install a traffic signal to allow for protected northbound left-turns. Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or the City's control as it requires Caltrans approval.	Significant and Unmitigated	Yes
A-DI-4	Intersection	31. Genesee Avenue / SR52 EB Ramps	Install right-turn overlap phasing on the westbound approach and associated traffic signal modification. Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval.	Significant and Unmitigated	Yes

TABLE B
SUMMARY OF EXISTING + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location		Recommended Mitigation	Mitigated?	Significant After Mitigation?
A-DI-5	Freeway Segment	Interstate 5	Gilman Drive to Nobel Drive	Addition of managed lanes would further improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes the following TDM measures to incentivize use of alternate forms of transportation other than single occupancy vehicles. ▪ The project will implement a parking management plan, which will charge employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools. This may encourage employees to use transit and thereby reduce single occupant vehicle trips and associated parking demand. ▪ The project will provide carpool/vanpool parking spaces as a part of the overall project parking requirements at the project site. These spaces will be signed and striped "carpool/vanpool parking only". ▪ The project will provide shower and locker facilities. These showers and lockers will be located in the Main Street parking structure adjacent to the security office. ▪ The project will make a commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees ▪ The project will provide on-site carsharing vehicle(s) and/or bikesharing. ▪ The project proposes on-site retail services that would reduce the need for employees to drive,	Significant and Unmitigated	Yes

TABLE B
SUMMARY OF EXISTING + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location		Recommended Mitigation	Mitigated?	Significant After Mitigation?
				such as cafes, commercial stores, banks, a post office, restaurants, and a gym.		
A-DI-6	Freeway Segment	Interstate 805	Governor Drive to Nobel Drive	Addition of managed lanes and a new DAR on Nobel Drive would further improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.	Significant and Unmitigated	Yes
A-DI-7	Freeway Segment	State Route 52	Genesee Avenue to I-805	Addition of a third lane in each direction would further improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.	Significant and Unmitigated	Yes
A-DI-8	Ramp Meter	Interstate 805 / Nobel Drive Interchange: SB Ramps		Addition of managed lanes and a new DAR on Nobel Drive would relieve the congestion and delay at the ramp meter and improve overall freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.	Significant and Unmitigated	Yes

Near-Term (Opening Day 2023) + Project Impacts and Mitigation

Per the City's significance thresholds and the analysis methodology presented in this report, significant direct impacts were identified within the study area under Near-Term (Opening Day 2023) + Project conditions. An impact summary is shown in ***Table C.*** A mitigation summary is shown in ***Table D.*** *Section 14.0* of this report includes more detail on the project impacts and mitigation measures.

TABLE C
NEAR-TERM (OPENING DAY 2023) + PROJECT IMPACT SUMMARY

Facility Type	Location
Intersections	• Genesee Avenue / Esplanade Court • Genesee Avenue / Decoro Street • Genesee Avenue / Governor Drive • Genesee Avenue / SR 52 WB Ramps • Genesee Avenue / SR 52 EB Ramps
Street Segments	• Genesee Avenue: Decoro Street to Centurion Square • Genesee Avenue: Centurion Square to Governor Drive
Freeway Segments	• Interstate 5: Gilman Drive to Nobel Drive • Interstate 805: Governor Drive to Nobel Drive • State Route 52: Genesee Avenue to I-805
Metered Freeway On-Ramps	• Nobel Drive to SB I-805

TABLE D
SUMMARY OF NEAR-TERM (OPENING DAY 2023) + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location	Recommended Mitigation	Mitigated?	Significant After Mitigation?
A-DI-9	Intersection	14. Genesee Avenue / Esplanade Court	Reconfigure the eastbound approach to provide two dedicated left-turn lanes, a through lane and a dedicated right-turn lane. Install an eastbound right-turn overlap phase. A signal modification will also be required at this intersection (Same as A-DI-1).	Fully Mitigated	No
A-DI-10	Intersection	28. Genesee Avenue / Decoro Street	Restripe the westbound approach to include a shared through-left turn lane and an exclusive right-turn lane along with associated traffic signal modifications.	Fully Mitigated	No
A-DI-11	Intersection	29. Genesee Avenue / Governor Drive	Install right-turn overlap phasing on the southbound approach and modify the signal accordingly. However, the installation of southbound right-turn overlap would prohibit access to the northwest corner of the intersection due to the inability to make eastbound U-turns. Therefore, this impact is considered significant and unmitigated. As partial mitigation, the project will upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive (Same as A-DI-2).	Significant and Unmitigated	Yes
A-DI-12	Intersection	30. Genesee Avenue / SR52 WB Ramps	Install a traffic signal to allow for protected northbound left-turns. Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as they require Caltrans approval (Same as A-DI-3).	Significant and Unmitigated	Yes
A-DI-13	Intersection	31. Genesee Avenue / SR52 EB Ramps	Install right-turn overlap phasing on the westbound approach and associated traffic signal modification. Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as they require Caltrans approval (Same as A-DI-4).	Significant and Unmitigated	Yes

TABLE D
SUMMARY OF NEAR-TERM (OPENING DAY 2023) + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location		Recommended Mitigation	Mitigated?	Significant After Mitigation?
A-DI-14	Street Segment	Genesee Avenue	Decoro Street to Governor Drive	Per the 2016 University Community Plan Amendment, the widening of Genesee Avenue to 6-lanes was deemed infeasible. As partial mitigation, the project will upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.	Significant and Unmitigated	Yes
A-DI-15	Freeway Segment	Interstate 5	Gilman Drive to Nobel Drive	Addition of managed lanes would further improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles. (Same as A-DI-5)	Significant and Unmitigated	Yes
A-DI-16	Freeway Segment	Interstate 805	Governor Drive to Nobel Drive	Addition of managed lanes and a new DAR on Nobel Drive would further improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles. (Same as A-DI-6)	Significant and Unmitigated	Yes
A-DI-17	Freeway Segment	State Route 52	Genesee Avenue to I-805	Addition of a third lane in each direction would further improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles. (Same as A-DI-7)	Significant and Unmitigated	Yes
A-DI-18	Ramp Meter	Interstate 805 / Nobel Drive Interchange: SB Ramps		Addition of managed lanes and a new DAR on Nobel Drive would relieve the congestion and delay at the ramp meter and improve overall freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles (Same as A-DI-8)	Significant and Unmitigated	Yes

Year 2035 (Community Buildout) + Project Impacts and Mitigation

Per the City's significance thresholds and the analysis methodology presented in this report, significant cumulative impacts were identified within the study area Year 2035 (Community Buildout) + Project conditions. An impact summary is shown in ***Table E***. A mitigation summary is shown in ***Table F.*** *Section 15.0* of this report includes more detail on the project impacts and mitigation measures.

TABLE E
YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT IMPACT SUMMARY

Facility Type	Location
Intersections	• La Jolla Village Drive / Genesee Avenue • Costa Verde Boulevard / Loop Road (South) • Genesee Avenue / Esplanade Court • Nobel Drive / Costa Verde Boulevard • Nobel Drive / Genesee Avenue • Genesee Avenue / Decoro Street • Genesee Avenue / Governor Drive • Genesee Avenue / SR 52 WB Ramps • Genesee Avenue / SR 52 EB Ramps
Street Segments	• La Jolla Village Drive: Genesee Avenue to Executive Way • Genesee Avenue: La Jolla Village Drive to Esplanade Court • Genesee Avenue: Nobel Drive to Decoro Street • Genesee Avenue: Decoro Street to Centurion Square • Genesee Avenue: Centurion Square to Governor Drive • Genesee Avenue: Governor Drive to SR 52
Freeway Segments	• Interstate 5: Gilman Drive to Nobel Drive • Interstate 805: Governor Drive to Nobel Drive • State Route 52: Genesee Avenue to I-805
Metered Freeway On-Ramps	• WB La Jolla Village Drive to NB I-5 • Nobel Drive to SB I-805

TABLE F
SUMMARY OF YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location	Recommended Mitigation	Mitigated?	Significant After Mitigation?
A-CI-1	Intersection	7. La Jolla Village Drive / Genesee Avenue	Widening the westbound approach to provide a second dedicated right-turn lane would mitigate the project's cumulative impact. This improvement has been assured by the Monte Verde Project by permitting and bonding for this improvement. Therefore, the proposed project's impact in the Year 2035 scenario at this location is considered less than significant.	Fully Mitigated	No
A-CI-2	Intersection	13. Costa Verde Boulevard / Costa Verde Shopping Center (South)	Widen the westbound approach to provide a dedicated left-turn lane and restripe the northbound approach to provide a dedicated right-turn lane.	Fully Mitigated	No
A-CI-3	Intersection	14. Genesee Avenue / Esplanade Court	Reconfigure the eastbound approach to provide two dedicated left-turn lanes, a through lane and a dedicated right-turn lane. Install an eastbound right-turn overlap phase. A signal modification will also be required at this intersection. (Same as A-DI-1)	Fully Mitigated	No
A-CI-4	Intersection	20. Nobel Drive / Costa Verde Boulevard	Restripe the southbound approach to provide a dedicated right-turn lane. A signal modification will also be required at this intersection.	Fully Mitigated	No
A-CI-5	Intersection	22. Nobel Drive / Genesee Avenue	Install right-turn overlap phasing on the eastbound approach with associated signal modification. However, the installation of an eastbound right-turn overlap would prohibit access to the residential development on the west side of Genesee Avenue, south of Nobel Drive due to the inability to make northbound U-turns. Therefore, this impact is considered significant and unmitigated. As partial mitigation, the project will upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.	Significant and Unmitigated	Yes
A-CI-6	Intersection	28. Genesee Avenue / Decoro Street	Restripe the westbound approach to include a shared through-left turn lane and an exclusive right-turn lane with associated signal modification (Same as A-DI-10).	Fully Mitigated	No

TABLE F
SUMMARY OF YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location		Recommended Mitigation	Mitigated?	Significant After Mitigation?
A-CI-7	Intersection	29. Genesee Avenue / Governor Drive		Install right-turn overlap phasing on the southbound approach and modify the signal accordingly. However, the installation of southbound right-turn overlap would prohibit access to the northwest corner of the intersection due to the inability to make eastbound U-turns. Therefore, this impact is considered significant and unmitigated. As partial mitigation, the project will upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive (Same as A-DI-11).	Significant and Unmitigated	Yes
A-CI-8	Intersection	30. Genesee Avenue / SR52 WB Ramps		Install a traffic signal to allow for protected northbound left-turns. Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control jurisdiction as they require Caltrans approval (Same as A-DI-3).	Significant and Unmitigated	Yes
A-CI-9	Intersection	31. Genesee Avenue / SR52 EB Ramps		Install right-turn overlap phasing on the westbound approach and associated traffic signal modification. Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of identified improvements are not within the Applicant's or City's control as they require Caltrans approval (Same as A-DI-4).	Significant and Unmitigated	Yes
A-CI-10	Street Segment	La Jolla Village Drive	Genesee Avenue and Executive Way	Per the 2016 University Community Plan Amendment, the repurposing of this segment to a 6-lane Prime Arterial was deemed infeasible as it was determined that on-street parking would remain.	Significant and Unmitigated	Yes
A-CI-11	Street Segment	Genesee Avenue	La Jolla Village Drive to Esplanade Court	Per the 2016 University Community Plan Amendment, the repurposing of this segment to a 6-lane Prime Arterial was deemed infeasible given that the existing condition includes a loading driveway serving the UTC mall.	Significant and Unmitigated	Yes

TABLE F
SUMMARY OF YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location		Recommended Mitigation	Mitigated?	Significant After Mitigation?
A-CI-12	Street Segment	Genesee Avenue	Nobel Drive to Decoro Street	Per the University Community Plan Amendment, the widening of Genesee Avenue to 6-lanes was deemed infeasible. As partial mitigation, the project will upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.	Significant and Unmitigated	Yes
A-CI-13	Street Segment	Genesee Avenue	Decoro Street to Governor Drive	Per the 2016 University Community Plan Amendment, the widening of Genesee Avenue to 6-lanes was deemed infeasible. As partial mitigation, the project will upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive (Same as A-DI-14).	Significant and Unmitigated	Yes
A-CI-14	Street Segment	Genesee Avenue	Governor Drive to SR52	Per the 2016 University Community Plan Amendment, the widening of Genesee Avenue to 6-lanes was deemed infeasible. As partial mitigation, the project will upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.	Significant and Unmitigated	Yes
A-CI-15	Freeway Segment	Interstate 5	Gilman Drive to Nobel Drive	Addition of managed lanes would improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles. (Same as A-DI-5)	Significant and Unmitigated	Yes

TABLE F
SUMMARY OF YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT IMPACTS AND MITIGATION MEASURES

Mitigation Number	Facility	Location		Recommended Mitigation	Mitigated?	Significant After Mitigation?
A-CI-16	Freeway Segment	Interstate 805	Governor Drive to Nobel Drive	Addition of managed lanes and a new DAR on Nobel Drive would further improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles (Same as A-DI-6).	Significant and Unmitigated	Yes
A-CI-17	Freeway Segment	State Route 52	Genesee Avenue to I-805	Addition of a third lane in each direction would improve freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles (Same as A-DI-7).	Significant and Unmitigated	Yes
A-CI-18	Ramp Meter	Interstate 5 / La Jolla Village Drive Interchange: NB Ramps		The UTC Revitalization project is conditioned to construct a HOV lane at this on-ramp. As of January 2020, this improvement is currently under construction and is expected to be completed prior to Year 2035.	Fully Mitigated	No
A-CI-19	Ramp Meter	Interstate 805 / Nobel Drive Interchange: SB Ramps		Addition of managed lanes and a new DAR on Nobel Drive would relieve the congestion and delay at the ramp meter and improve overall freeway operations. However, at this time, there is no funding in place to guarantee that this improvement would be completed. As partial mitigation, the project proposes TDM measures as shown in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles (Same as A-DI-8)	Significant and Unmitigated	Yes

Active Transportation
A detailed Pedestrian, Bicycle and Transit Mobility review was conducted, which includes existing conditions inventory, walkshed analysis, bikeshed analysis, and transit ridership projections. In addition, several pedestrian and bicycle improvements have been proposed by the project.

Vehicles Miles Traveled (SB 743)
A VMT analysis was also conducted consistent with the California Governor's Office of Planning and Research (OPR) guidelines to implement California State Law Senate Bill (SB) 743. At the time this report was prepared, the City of San Diego has yet to formally adopt significance thresholds and technical methodologies. Nonetheless, a VMT analysis is presented in this study.

The proposed project is located in a Transit Priority Area (TPA), which the revised CEQA Guidelines, OPR Technical Advisory note are areas where new land use projects generally are exempt from project-level VMT assessment. Nonetheless, a project-level VMT analysis was performed, which concluded that no significant VMT transportation impact was calculated for the proposed project.

Construction Traffic Analysis
A construction analysis was conducted to review traffic implications due to construction traffic associated with the project. Near-Term intersection analysis was conducted based on the methodology in *Section 5.0*. Based on the analysis, no construction traffic impacts are identified.

Parking
Based on the calculations shown in *Section 24.5* of this report, the total project parking requirement is calculated as 1,837 spaces. The project proposes to provide a parking range between 1,837 and 2,076 parking spaces, which would result in a surplus of up to 239 spaces. The project will meet or exceed the City's minimum parking requirements relating to accessible, bicycle, EV and motorcycle parking. Therefore, no parking supply issues are identified.

Transportation Demand Management (TDM) Plan
The project proposes a robust TDM program as a benefit to both the future tenants and the community. The goal of the plan is to reduce and/or remove vehicle trips to relieve congestion. The project's TDM program will include measures such as employee paid parking, preferential carpool / vanpool spaces, shower and locker facilities among others (see *Section 25.0* of this report).

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TRANSPORTATION IMPACT ANALYSIS

COSTA VERDE CENTER REVITALIZATION PROJECT

San Diego, California
February 26, 2020

1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has been retained to determine the transportation impacts of the proposed *Costa Verde Center Revitalization Project*. The Costa Verde Center is an existing neighborhood/community-serving shopping center located on the west side of Genesee Avenue between La Jolla Village Drive and Nobel Drive in the University community of the City of San Diego. The shopping center is located on a 13.2-acre site and is currently comprised of a gross floor area of approximately 178,000 square feet (sf) of commercial retail space. The project is zoned RS-1-14, however, the University Community Plan and the Costa Verde Specific Plan designates the site for neighborhood and commercial uses.

The Project entails the reconfiguration and expansion of the existing Costa Verde Center to create a local, walkable hub that provides neighborhood services, retail shops, restaurants, office/research/ development uses, a hotel, and community gathering spaces. The Project proposes to retain the current amount (approximately 178,000 sf) of commercial/retail uses, add approximately 360,000 sf of research and development (R&D) and 40,000 sf of commercial/office uses, and re-designate an approximately one-acre portion of the project site to Visitor Commercial to reintroduce a hotel use to the Costa Verde Specific Plan area. A 200-room hotel would serve visitors and the community's research, business, and educational hub.

The project vicinity map is shown in ***Figure 1–1***. The project area map is shown in ***Figure 1–2***.

The traffic analysis presented in this report encompasses the following key areas:

- Project Description
- Study Area
- Existing Conditions
- Existing Analysis
- Project Trip Generation/ Distribution/ Assignment
- Cumulative Projects
- Existing + Project Analysis
- Near-Term (Opening Day 2023) Analysis
- Year 2035 (Community Buildout) Analysis
- Significance of Impacts and Mitigation
- Site Access and On-Site Circulation
- Parking

- Pedestrian Mobility
- Bicycle Mobility
- Transit Mobility
- Vehicle Miles Traveled (VMT)
- Construction Traffic
- Transportation Demand Management (TDM)

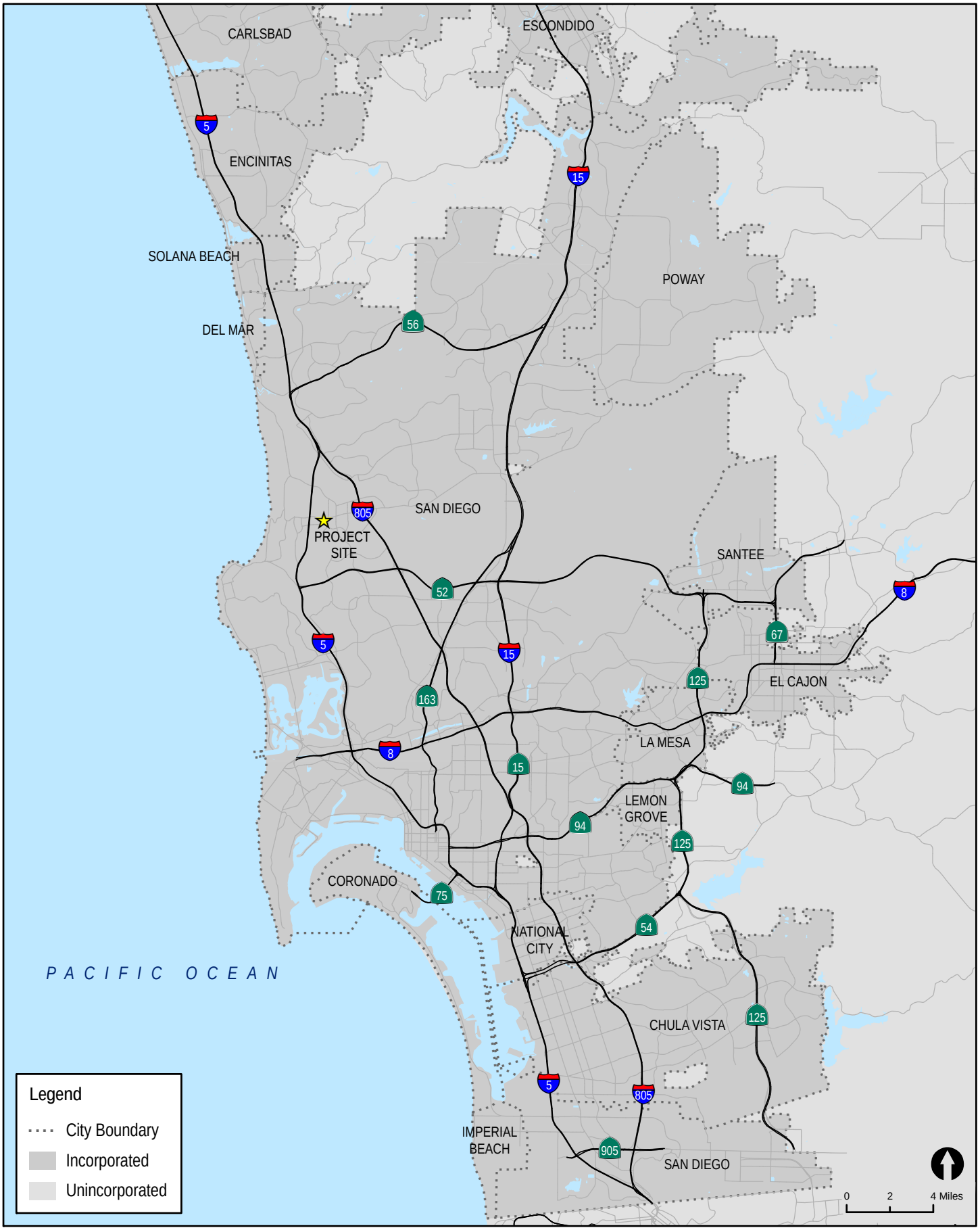

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Figure 1-1

Vicinity Map

COSTA VERDE CENTER REVITALIZATION PROJECT

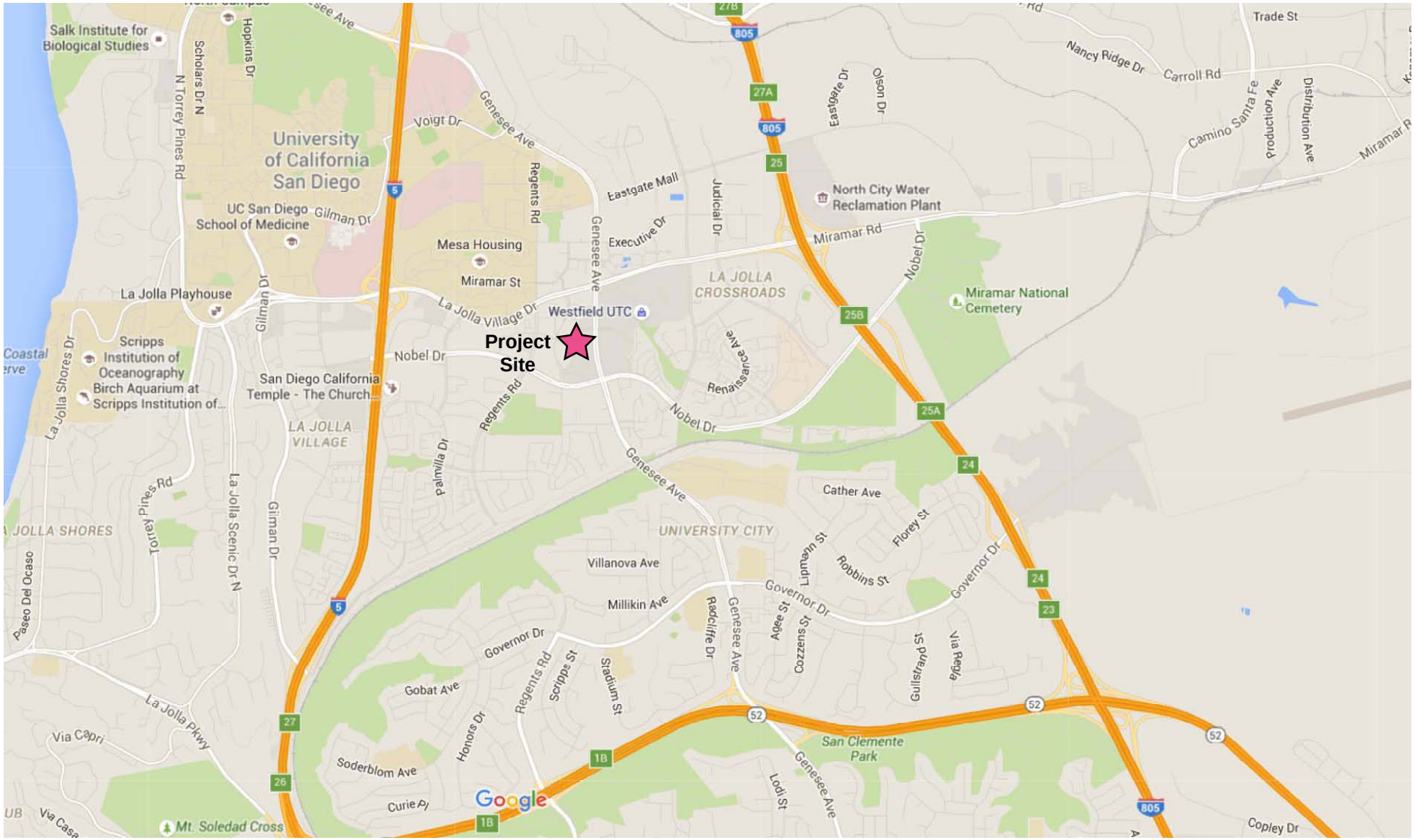

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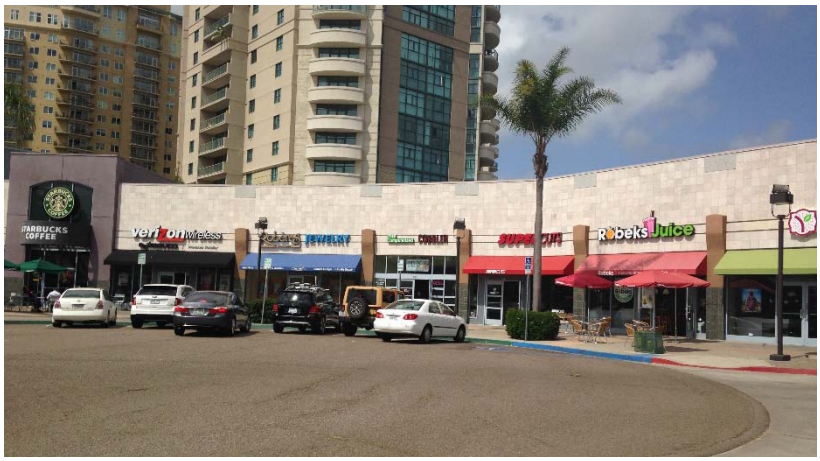
Figure 1-2

Project Area Map

COSTA VERDE CENTER REVITALIZATION PROJECT

2.0 PROJECT DESCRIPTION

2.1 Project Location and Background



The Costa Verde Center is an existing neighborhood/community-serving shopping center located west of Genesee Avenue between La Jolla Village Drive and Nobel Drive in the University community of the City of San Diego. The shopping center is located on a 13.2-acre site and is comprised of a gross floor area of approximately 178,000 square feet (sf) of commercial retail space along with associated parking. Constructed in 1989, it is one of the few neighborhood shopping centers in the University community. The shopping center currently has more than 30 tenants, including retail businesses, restaurants, fitness and service facilities, a grocery store, a post office, a dry cleaner, banks, an optometrist office, and a gas station. Surrounding uses include a senior housing facility and multi-family residential uses to the west, multi-family residential uses to the south, a surface parking lot and the approved Monte Verde residential project currently under construction to the north, and the Westfield UTC regional shopping center, which was approved for a Community Plan Amendment (CPA) in July 2008 and is undergoing expansion to the east. The project site is also adjacent to the planned Mid-Coast Trolley line that is currently under construction. A new, elevated trolley station and platform will be located south of Esplanade Court above the center median of Genesee Avenue. Trolley service within the area is expected to be in operation in late 2021.

The project site is located within the University Community Plan (UCP) area, as well as the Costa Verde Specific Plan (CVSP) area, which both designate the project site for neighborhood and community commercial uses. The UCP area is divided into four major subareas, and the project site is located within the Urban Node of the Central Subarea. The Urban Node is intended to be developed as a mixed-use core with a relatively high residential density of up to 75 dwelling units per acre. The CVSP was approved in 1986 and established the land uses and development guidelines for 56.7 acres bounded by La Jolla Village Drive, Regents Road, Genesee Avenue, and Nobel Drive. The CVSP intended the project site to be developed as a neighborhood and community commercial center surrounded by a mixture of uses. The UCP and the CVSP established the land use and development intensities for the CVSP area at 178,000 sf of neighborhood and community commercial, 2,600 dwelling units, and a 400-room hotel. In 2007, the UCP and CVSP were amended as part of the Monte Verde residential project to re-designate the Monte Verde site from Visitor Commercial to High Density Residential and converted the 400-room hotel into 560 dwelling units, for a total of 2,740 dwelling units within the CVSP area. Currently, 2,180 dwelling units and 178,000 sf of neighborhood and community commercial have been developed within the CVSP area.

The University Community has grown substantially since construction of the Costa Verde Center in 1989.

2.2 Discretionary Actions

Proposed discretionary actions include a University Community Plan Amendment (CPA), Costa Verde Specific Plan Amendment (SPA), and a Planned Development Permit (PDP) (amendment to Planned Commercial Development Permit). In addition, Esplanade Court would also be vacated as a public street and would become private. A General Utility and Emergency Vehicle Access Easement would be dedicated along the northern portion of Esplanade Court. Initiation of the CPA/SPA was authorized by the City of San Diego Planning Commission on March 26, 2015.

2.3 Project Description

2.3.1 *Development Concept and Summary*

The Project entails the reconfiguration and expansion of the existing Costa Verde Center to create a local, walkable hub that provides neighborhood services, retail shops, restaurants, office/research/ development uses, a hotel, and community gathering spaces. The Project proposes to retain the current amount (approximately 178,000 sf) of commercial/retail uses, add approximately 360,000 sf of research and development (R&D) and 40,000 sf of commercial/office uses, and re-designate an approximately one-acre portion of the project site to Visitor Commercial to reintroduce a hotel use to the CVSP area. A 200-room hotel would serve visitors and the community's research, business, and educational hub. The hotel would be up to 10 stories in height and would encompass approximately 125,000 sf.

The northern portion of the center would consist of a pedestrian-oriented promenade. The promenade would extend from a gateway entry at Genesee Avenue and Esplanade Court to a circular style cul-de-sac and a central thoroughfare. It would be lined with retail, restaurant, and office buildings, as well as a central lawn and gathering area, outdoor seating and dining areas, decorative planters, site furniture, landscaping, and accent paving. Elevators and stairs would provide connections to the Mid-Coast Trolley Station.

The southern portion of the center would be oriented around a surface parking lot. This area is intended for essential neighborhood services, such as a grocery store, pharmacy, and banks. Landscaping and non-contiguous sidewalks would be provided along the project's frontage on Genesee Avenue and Nobel Drive.

Figure 2–1 shows the project site plan.

2.3.2 *Circulation/Access*

Vehicular access to the project site would be provided from Genesee Avenue, Nobel Drive, Costa Verde Boulevard, and Esplanade Court. The main project access would be provided from a gateway entry at the signalized intersection of Genesee Avenue and Esplanade Court to the northern portion of the site. The northern portion of the center sits approximately 14 feet higher in elevation than the southern portion (lower portion) of the site. Esplanade Court would also be vacated as a public street

and would become private. A General Utility and Emergency Vehicle Access Easement would be dedicated along the northern portion of Esplanade Court.

Vehicular access to the lower portion of the site would be provided from three existing access drives: one along Genesee Avenue, one along Nobel Drive, and one along Costa Verde Boulevard. These access drives would connect to parking areas. A north-south connection through the site and to surrounding roadways would continue to be provided, but would be routed through a proposed parking garage.

Pedestrian facilities would be provided throughout the site by a network of sidewalks, pathways, plazas, and public spaces. Landscaping and non-contiguous sidewalks would be provided along the project's frontage on Genesee Avenue and Nobel Drive. The pedestrian facilities would provide convenient connections between the proposed uses within the project, and would connect to existing sidewalks along Genesee Avenue, Nobel Drive, Costa Verde Boulevard, Las Palmas Square, and Esplanade Court. Access to the planned Mid-Coast Trolley Station elevated above Genesee Avenue would be provided with stairs, elevators, and pedestrian bridges. This, in turn, would provide an additional pedestrian connection to the UTC regional shopping center and UTC Transit Station across Genesee Avenue. Pedestrian connections to Las Palmas Square and the existing adjacent pocket park to the west of the site would also be provided, to enhance connectivity of residences to the west with the Costa Verde Center, Mid-Coast Trolley Station, and UTC Transit Station.

In addition, a bicycle route would be provided along internal roadways that would connect to existing bicycle lanes along Genesee Avenue and Nobel Drive. Appropriate on-site signage will be included to formalize locations where bicycle activity is allowed. Bicycle access to the Mid-Coast Trolley Station and UTC Transit Station would be provided by the pedestrian bridges on Genesee Avenue. Bicycle lockers and parking would be provided on-site to encourage bicycle use and will meet City code regulations.

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Figure 2-1

Proposed Site Plan

COSTA VERDE CENTER REVITALIZATION PROJECT

3.0 REPORT APPROACH

This Transportation Impact Analysis evaluates the proposed project's potential vehicular impacts based on the currently adopted guidelines which focus on automobile delay (and Level of Service).

In addition, and in compliance with Senate Bill 743 (SB 743), this Transportation Impact Analysis also evaluates the Costa Verde Center Revitalization Project's potential vehicular impacts using a Vehicle Miles Traveled (VMT) metric, pursuant to direction from the Governor's Office of Planning and Research (OPR) . Public Resources Code section 20199, enacted pursuant to SB 743, identifies Vehicle Miles Traveled (VMT) as an appropriate metric for measuring transportation impacts. VMT Analysis focuses on the number and length of vehicle trips made by project's employees and residents.

SB 743 also directed the state Office of Planning and Research ("OPR") to develop and transmit to the Secretary of the Natural Resources Agency for certification and adoption, proposed revisions to the CEQA guidelines establishing criteria for determining the significance of transportation impacts for projects within transit priority areas. Under OPR's proposed revisions to the CEQA guidelines, VMT exceeding an applicable threshold of significance may indicate a significant transportation impact. Furthermore, under the proposed guideline revisions, for projects other than roadway capacity projects, Automobile Delay, as described solely by Level of Service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant effect on the environment. The proposed revisions to the guidelines would allow a lead agency to elect to evaluate transportation impacts under the revised guidelines at any time and would make the revised guidelines applicable statewide beginning July 1, 2020. The City's VMT guidelines are still being developed for adoption prior to the state's deadline.

Generally speaking, mitigation for transportation impacts evaluated using VMT focuses primarily on reducing vehicular trips, rather than on increasing road capacity as a means of reducing automobile delay. Measures to reduce VMT impacts may, for example, include locating a project near transit, improving bicycle and pedestrian facilities, and programs to encourage travel by modes other than driving

Since regulatory agencies are in transition, both an automobile delay/ LOS and a VMT Analysis have been prepared for the Costa Verde Center Revitalization Project.

In addition to the vehicular mode analyses, the multi-modal network in the area of the Costa Verde Center Revitalization Project study area was also reviewed. This included Pedestrian, Bicycle and Transit mobility.

3.1 Planning Documents and Supporting Information

The following key adopted and ongoing planning documents were reviewed and referenced in preparation of this report:

SANDAG San Diego Forward: The Regional Plan / Sustainable Communities Strategy 2050 (2015)

The Regional Transportation Plan (RTP) proposes a vision for a regional transportation system that enhances quality of life, promotes sustainability, and offers more mobility options for the movement of people and goods. The RTP includes an integrated, multimodal transportation network with transit investments concentrated in strategic areas. These include identifying a network of planned high-quality transit corridors consisting of major transit stops and/or peak period services.

Developed in accordance with California Senate Bill 375 (SB 375), the Sustainable Communities Strategy (SCS) is a new element of the 2050 Regional Transportation Plan (RTP). The SCS lays out how the region will meet greenhouse gas (GHG) reduction targets set by the California Air Resources Board (CARB). CARB's targets call for the region to reduce per capita emissions seven percent by 2020 and 13 percent by 2035 from a 2005 baseline.

University Community Amendment (2016)

The University Community Plan was originally adopted by the City Council on July 7, 1987. The University Community planning area encompasses approximately 8,500 acres. The area is bounded by Los Peñasquitos Lagoon and the toe of the east-facing slopes of Sorrento Valley on the north; the railroad track, the Marine Corps Air Station Miramar and Interstate 805 on the east; state Route 52 on the south; and Interstate 5, Gilman Drive, North Torrey Pines Road, La Jolla Farms and the Pacific Ocean on the west. The City Council adopted an amendment to the University Community Plan on December 5, 2016. This Amendment is the latest approved community wide document that that was prepared and approved by the City of San Diego.

University Community Plan Amendment – Program Environmental Impact Report (2016)

The University Community Plan Amendment – Program Environmental Impact Report was prepared to identify the Community Plan Amendment's significant impacts to the surrounding environment under four roadway network alternatives. An amendment to the Circulation Element of the University Community Plan was approved by City Council to remove the Genesee Avenue widening to 6-lanes and Regents Road Bridge over Rose Canyon from the Community Plan.

University Public Facilities Financing Plan (2016)

Potential improvements to the local street system are planned under the auspices of the City of San Diego's Public Facilities Financing Plan (PFFP). Under the PFFP, development projects within the North University (NUC) planning area pay Developer Impact Fees (DIF), which are then used to help pay for identified infrastructure improvements to accommodate planned development in the planning area. Annual reports are published detailing the funding and construction status of these improvement projects, which in terms of roadway infrastructure, range from restriping of lanes and additional turn lanes, to complete interchange improvements.

City of San Diego General Plan – Mobility Element (2008)

The City of San Diego General Plan Mobility Element identifies transportation planning goals and policies related to pedestrian, transit, street and freeway systems, Intelligent Transportation Systems

(ITS), Transportation Demand Management (TDM), bicycling, parking management, airports, passenger rail, goods movement/freight, and regional coordination and financing. The element discusses several key topics related to pedestrian-oriented planning, traffic calming techniques, bicycle network improvements, and transit priorities.

SANDAG San Diego Regional Bike Plan (2010)

The Regional Bike Plan identifies a vision for a diverse regional bicycle system of interconnected bicycle corridors, support facilities, and programs to make cycling more practical and desirable to a broader range of the population. The document includes recommendations and goals that seek to increase bicycle ridership and the frequency of bicycle trips for all purposes. It also encourages the development of Complete Streets, to improve safety for bicyclists, and to increase public awareness and support for bicycling in the region.

City of San Diego Bicycle Master Plan (2013)

The City of San Diego Bicycle Master Plan provides a framework for making cycling a more practical and convenient transportation option for all users. The plan is comprised of a proposed bicycle network, projects, policies and programs aimed at improving bicycling through 2030 and beyond. The City has continued development of the plan to address urban core communities as well as other communities.

City of San Diego Pedestrian Master Plan (2006)

The Pedestrian Master Plan provides guidance for the implementation of pedestrian projects. The document also includes a prioritization process used to identify high priority pedestrian routes within Community Planning areas and a methodology to determine potential pedestrian improvement projects along identified routes. The guidance aims to establish a level of consistency among the plans and analysis methodologies utilized.

Technical Advisory on Evaluating Transportation Impacts in CEQA (2018)

The Governor's Office of Planning and Research (OPR) has prepared a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures under SB 743. The most recent version of this document is dated December 2018.

Proposed Updates to the CEQA Guidelines (2017)

Per Section 21083 of the Public Resources Code, which requires regular updates to the Guidelines Implementing the California Environmental Quality Act. The Governor's Office of Planning and Research (OPR) has proposed updates to the Guidelines per SB 743.

Traffic Signal Communications Master Plan (2014)

In 2014, the City of San Diego completed the Traffic Signal Communications Master Plan as a means to modernize the traffic signal system. The resulting improved coordination is intended to increase public safety, shorten commutes, reduce greenhouse gas emissions, and enhance mobility at

intersections for all modes of travel. The Traffic Signal Communication Master Plan identified traffic signal communication gaps within the City's traffic signal network.

Mid Coast Corridor Transit Project EIR (2014)

The Mid Coast Trolley project, which is currently under construction, proposes the extension Blue Line connecting Downtown San Diego to UCSD to University. The Mid-Coast Trolley has been identified as a high-priority project by SANDAG and is part of the *TransNet* Early Action Program. The project cost will be approximately $2.1 billion, including financing costs. Preliminary construction activities began in early Year 2016, with service anticipated to begin in late Year 2021.

Costa Verde Center Revitalization Project Traffic Impact Study DEIR (2018)

A Draft Environmental Impact Study was prepared and circulated for the Costa Verde Center for a prior project application, which included redevelopment of the existing shopping center, an additional 125,00 SF of retail space, a 200-room hotel and 120 dwelling units of multi-family residential use. The current proposed project supersedes this project application.

University Towne Centre Revitalization Project Traffic Impact Study (2008)

The Traffic Impact Study documents the traffic impacts associated with the *University Towne Centre (UTC) Revitalization Project*. UTC is a regional shopping center located in the University community of the City of San Diego. The project proposed a Community Plan Amendment (CPA) to increase the density beyond the Community Plan allotment, since the site was currently built near to its development allocation. The project proposed the development of 750,000 additional square feet of commercial retail and 250 multi-family residential units. The UTC project identified mitigation measures within the study area.

University Community Plan Update (Ongoing)

The City of San Diego is currently updating the University Community Plan, adopted in 1987. The updated Community Plan will consider current conditions, Citywide goals in the Climate Action Plan and the General Plan, and community specific goals to provide direction for the long-term development of the community.

In addition to the documents listed above, the City of San Diego's *Traffic Impact Study Manual, Significance Determination Thresholds* and the Caltrans *Guide for the Preparation of Traffic Impact Studies* were used in the preparation of this transportation study.

3.2 Report Organization

The remainder of this report is divided into the following sections:

Impact Analysis

Section 4.0 – Analysis Methodology: This section describes in detail the specific project study area and methodology used to produce the analyses contained in the study (signalized and unsignalized intersections, street and freeway segments, metered freeway onramps, pedestrian, bike and transit). A discussion of the concept of Level of Service (LOS) is also provided in this section.

Section 5.0 – Existing Vehicular Mobility: A description of the study area, existing roadway geometrics and traffic counts and are provided in this section.

Section 6.0 –Significance Criteria: The analysis uses the City of San Diego's published significance criteria to determine potential impacts. These criteria are described in detail in this section.

Section 7.0 – Analysis of Existing Vehicular Conditions: The existing traffic volumes are analyzed for the purposes of providing baseline conditions within the project study area. *Section 7.0* contains a summary of the existing analyses.

Section 8.0 – Trip Generation, Distribution and Assignment: The trip generation, trip distribution and assignment associated with the proposed project is shown and discussed in this section.

Section 9.0 – Existing + Project Vehicular Analysis: The impacts of the addition of project traffic on Existing Conditions are presented in this chapter.

Section 10.0 – Cumulative Setting: This section provides a discussion of other reasonably foreseeable projects expected to be operational by the project's expected opening day of Year 2023.

Section 11.0 – Near-Term (Opening Day – Year 2023) Vehicular Analysis: This section provides information on the Near-Term (Opening Day – Year 2023) roadway conditions and traffic volumes. The results of the Near-Term (Opening Day – Year 2023) traffic analyses both without and with the project are presented in this section.

Section 12.0 – Year 2035 (Community Buildout) Vehicular Analysis: This section provides information on the Year 2035 roadway conditions and traffic volumes. The results of the Year 2035 traffic analyses both without and with the project are presented in this section.

Section 13.0 – Existing + Project Impacts and Mitigation Measures: This section presents the findings of significance of the project impacts under the Existing + Project analysis.

Section 14.0 – Near-Term (Opening Day – Year 2023) Project Impacts and Mitigation Measures: This section presents the findings of significance of the project impacts under Near-Term (Opening Day) + Project analysis.

Section 15.0 – Year 2035 (Community Buildout) Impacts and Mitigation Measures: This section presents the findings of significance of the project impacts under Year 2035 (Community Buildout) analysis.

Section 16.0 – Site Access and Circulation: This section describes the site access points to the project site and the internal circulation within the project site.

Multi-Modal Review

Section 17.0 – Pedestrian Mobility: This section describes existing pedestrian mobility, future pedestrian mobility in the community, pedestrian walkshed analysis and the project's proposed pedestrian improvements.

Section 18.0 – Bicycle Mobility: This section describes existing bicycle mobility, future bicycle mobility in the community, bikeshed analysis and the project's proposed bicycle improvements.

Section 19.0 – Transit Mobility: This section describes existing transit mobility, future transit conditions and ridership projections at the University Towne Center (UTC) transit station as well as project improvements to transit access.

VMT Analysis

Section 20.0 – Vehicle Miles Traveled (VMT) Assessment: This section presents background on VMT, SB 743, Proposed CEQA Guidelines and Proposed Technical Guidance.

Section 21.0 – VMT Significance Criteria and Methodology: This section presents the project's proposed VMT Significance Criteria and VMT Methodology to evaluate transportation impacts.

Section 22.0 – Project VMT Analysis: This section presents the project's VMT Analysis and findings under SB 743. This section presents a summary of the project's VMT Impacts, if any.

Construction Analysis

Section 23.0 – Construction Analysis: This section presents the traffic implications during the project's construction.

Parking Analysis

Section 24.0 – Parking Analysis: This section presents the parking analyses which includes the project's parking requirement and proposed parking supply.

Transportation Demand Management Plan

Section 25.0 – Transportation Demand Management (TDM) Plan: This section presents the project's TDM measures.

4.0 EXISTING CONDITIONS

Evaluation of the transportation impacts associated with the proposed project requires an understanding of the existing transportation system within the project area. ***Figure 4–1*** shows an existing conditions diagram.

4.1 Project Study Area

The study area for this project was developed with the City of San Diego staff per the *City of San Diego Traffic Impact Study Manual* and regional guidelines. The study area is generally shown in *Figure 4–1* also includes known congested or potentially congested locations that may be impacted by the project. A preliminary project distribution and the "50 directional peak-hour trips" per the City's guidelines and a review of approved traffic studies in the project area, and a working knowledge of the local transportation system were conducted as a part of the process. Based on the above guidelines, this study analyzes thirty-four (34) intersections, twenty-eight (28) street segments, seven (7) freeway segments and six (6) metered freeway on-ramps. The study area includes the following major roadways: La Jolla Village Drive, Nobel Drive, Regents Road and Genesee Avenue.

STUDY INTERSECTIONS

1. Eastgate Mall / Genesee Avenue
2. I-5 SB Off Ramp / La Jolla Village Drive
3. I-5 NB Off Ramp / La Jolla Village Drive
4. La Jolla Village Drive / Lebon Drive
5. La Jolla Village Drive / Regents Road
6. La Jolla Village Drive / Costa Verde Boulevard
7. La Jolla Village Drive / Genesee Avenue
8. La Jolla Village Drive / Executive Way
9. La Jolla Village Drive / Towne Center Drive
10. I-805 SB Ramps / La Jolla Village Drive
11. I-805 NB Ramps / Miramar Road
12. Costa Verde Boulevard / Costa Verde Shopping Center (South)
13. Costa Verde Boulevard / Costa Verde Shopping Center (North)
14. Genesee Avenue / Esplanade Court
15. Genesee Avenue / Costa Verde Shopping Center
16. I-5 SB On Ramp / Nobel Drive
17. I-5 NB Off Ramp / Nobel Drive
18. Nobel Drive / Lebon Drive
19. Nobel Drive / Regents Road
20. Nobel Drive / Costa Verde Boulevard – Cargill Drive
21. Nobel Drive / Costa Verde Shopping Center
22. Nobel Drive / Genesee Avenue
23. Nobel Drive / Towne Center Drive
24. Nobel Drive / Shoreline Drive
25. Nobel Drive / Judicial Drive
26. I-805 On Ramp / Nobel Drive
27. I-805 NB Off Ramp / Nobel Drive
28. Genesee Avenue / Decoro Street
29. Genesee Avenue / Governor Drive
30. Genesee Avenue / SR 52 WB Ramps
31. Genesee Avenue / SR 52 EB Ramps
32. Genesee Avenue / Centurion Square
33. Genesee Avenue / Executive Drive
34. Nobel Drive / Lombard Place

STUDY SEGMENTS

La Jolla Village Drive

1. I-5 Ramps to Lebon Drive
2. Lebon Drive to Regents Road
3. Regents Road to Costa Verde Boulevard
4. Costa Verde Boulevard to Genesee Avenue
5. Genesee Avenue to Executive Way
6. Executive Way to Towne Center Drive
7. Towne Center Drive to I-805 Ramps

Nobel Drive

8. I-5 Ramps to Lebon Drive
9. Lebon Drive to Regents Road
10. Regents Road to Costa Verde Boulevard
11. Costa Verde Boulevard to Genesee Avenue
12. Genesee Avenue to Lombard Place
13. Lombard Place to Towne Center Drive
14. Towne Center Drive to Shoreline Drive
15. Shoreline Drive to Judicial Drive
16. Judicial Drive to I-805 Ramps

Lebon Drive

17. La Jolla Village Drive to Nobel Drive

Regents Road

18. Executive Drive to La Jolla Village Drive
19. La Jolla Village Drive to Nobel Drive
20. South of Nobel Drive

Genesee Avenue

21. Eastgate Mall to Executive Drive
22. Executive Drive to La Jolla Village Drive
23. La Jolla Village Drive to Esplanade Court
24. Esplanade Court to Nobel Drive
25. Nobel Drive to Decoro Street
26. Decoro Street to Centurion Square
27. Centurion Square to Governor Drive
28. Governor Drive to SR 52

STUDY FREEWAY MAINLINE SEGMENTS

Interstate 5

1. Gilman Drive to Nobel Drive
2. Nobel Drive to La Jolla Village Drive
3. La Jolla Village Drive to Genesee Avenue

Interstate 805

4. Governor Drive to Nobel Drive
5. Nobel Drive to La Jolla Village Drive
6. La Jolla Village Drive to Mira Mesa Boulevard

State Route 52

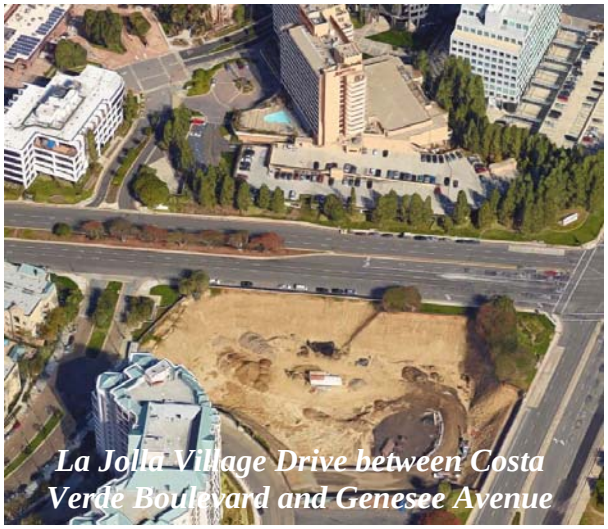
7. Genesee Avenue to I-805

STUDY METERED FREEWAY ON-RAMPS

1. WB La Jolla Village Drive to NB I-5
2. WB La Jolla Village Drive to SB I-5
3. EB La Jolla Village Drive to NB I-805
4. EB La Jolla Village Drive to SB I-805
5. Nobel Drive to SB I-5
6. Nobel Drive to SB I-805

4.2 Existing Roadway Network

The following is a description of the existing roadway network in the study area.


La Jolla Village Drive between Costa Verde Boulevard and Genesee Avenue

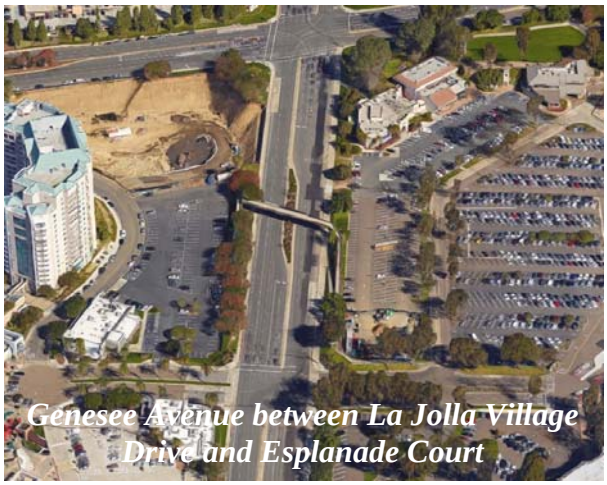
La Jolla Village Drive is an east-west roadway and is currently constructed as a six-lane divided roadway between I-5 and Towne Centre Drive, and as an eight-lane divided roadway between Towne Centre Drive and I-805. Per the adopted University Community Plan, La Jolla Village Drive is classified as a six-lane Primary Arterial between I-5 and Towne Centre Drive, and as an eight-lane Primary Arterial between Towne Centre Drive and I-805. Bike lanes are not provided along La Jolla Village Drive. On-street parking is allowed on both sides of the roadway intermittently between I-5 and Executive Way. Bus stops are provided at Lebon Drive, Regents Road, Genesee Avenue, Executive Way, and Towne Center Drive. A contiguous sidewalk is provided on both the north and south side of La Jolla Village Drive between the I-5 and I-805 freeways with exception to the portion fronting the UTC mall which is mostly noncontiguous. A pedestrian bridge currently exists east of the La Jolla Village Drive / Genesee Avenue intersection connecting the office uses on the north side with the UTC mall on the south side. The posted speed limit is 45 mph.

Nobel Drive between Costa Verde Boulevard and Genesee Avenue

Nobel Drive is an east-west roadway which forms the southern boundary of the project site between Costa Verde Boulevard and Genesee Avenue. Nobel Drive is currently constructed as a six-lane divided roadway between I-5 and Genesee Avenue, as a four-lane divided roadway between Genesee Avenue and Towne Centre Drive, as a six-lane divided roadway between Towne Centre Drive and Judicial Drive, and as a five-lane divided roadway between Judicial Drive and I-805. Per the adopted University Community Plan, Nobel Drive is classified as a six-lane Major Street between I-5 and Genesee Avenue, and as a six-lane Primary Arterial between Genesee Avenue and I-805. Bike lanes are provided intermittently between Lebon Drive and Danica Mae Drive, between Regents Road and Genesee Avenue, and between Towne Center Drive and I-805. On-street parking is allowed on both sides of the roadway between I-5 and Regents Road. Bus stops are provided at Lebon Drive, Regents Road, Genesee Avenue and Towne Center Drive. A contiguous sidewalk is provided on both the north and south side of Nobel Drive between

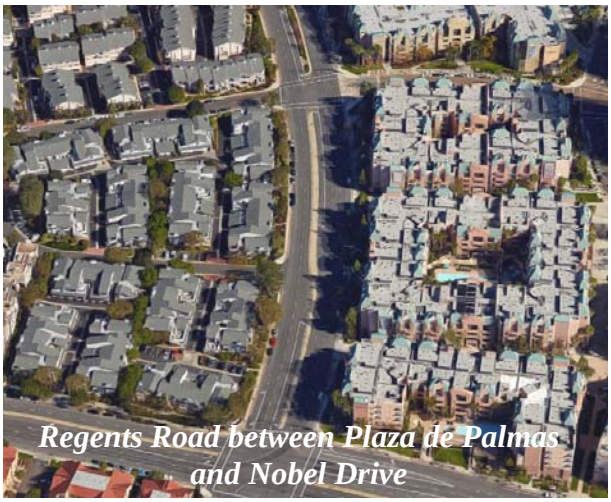
the I-5 and I-805 freeways with exception to portions between Lebon Drive and Regents Road where noncontiguous sidewalks are provided intermittently, and the north side between Towne Centre Drive and Shoreline Drive which is mostly noncontiguous. The posted speed limit is 40 mph between I-5 and Genesee Avenue, 35 mph between Genesee Avenue and Towne Centre Drive, and 45 mph between Towne Centre Drive and I-805.

Genesee Avenue is a north-south roadway which forms the eastern boundary of the project site between La Jolla Village Drive and Nobel Drive. Genesee Avenue was a six-lane divided roadway between Eastgate Mall and Nobel Drive but with the construction of the Mid-Coast trolley, Genesee Avenue is currently a four-lane divided roadway between Campus Point Drive and Decoro Street. Genesee Avenue between La Jolla Village Drive and Esplanade Court is expected to revert back to 6-lanes upon completion of the Mid Coast project. Per the adopted University Community Plan, Genesee Avenue has an ultimate classification of a six-lane Major Street between I-5 and La Jolla Village Drive, a six-lane Prime Arterial between La Jolla Village Drive and Esplanade Court, a six-lane Major Arterial between Esplanade Court and Nobel Drive and a four-lane Major Street south of Nobel Drive. Bike lanes are provided along Genesee Avenue, except south of Nobel Drive, which includes a Class III bike route. However, during the Mid-Coast trolley construction, a Class III bike route is provided throughout the study area of Genesee Avenue. On-street parking is prohibited, except on southbound Genesee Avenue from Nobel Drive to Decoro Street. A contiguous sidewalk is provided on both the east and west side of Genesee Avenue between Eastgate Mall and SR 52 with exception to the portion fronting the UTC mall and south of Governor Drive on the west side which is mostly noncontiguous. The posted speed limit is 45 mph.



Genesee Avenue between La Jolla Village Drive and Esplanade Court

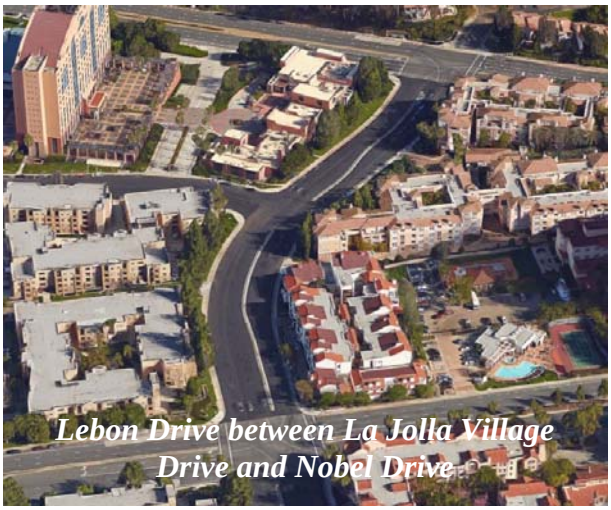
Regents Road is currently constructed as a four-lane roadway with a continuous left-turn lane between Executive Drive and La Jolla Village Drive, as a five-lane divided roadway (3 lanes northbound, 2 lanes southbound) between La Jolla Village Drive and Nobel Drive, and as a four-lane divided roadway south of Nobel Drive. The third northbound lane between La Jolla Village Drive and Nobel Drive traps into a right-turn only lane at the La Jolla Village Drive intersection. Per the adopted University Community Plan, Regents Road is classified as a four-lane Major Street throughout the study area. Bike lanes are not provided along



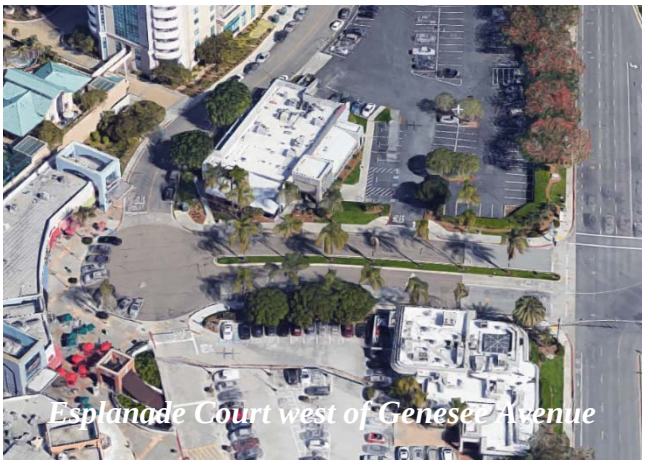
Regents Road between Plaza de Palmas and Nobel Drive

Regents Road, except north of La Jolla Village Drive. On-street parking is allowed only from Plaza De Palmas to south of Nobel Drive. Bus stops are provided at La Jolla Village Drive and Nobel Drive. A contiguous sidewalk is provided on both the east and west side of Regents Road between Eastgate Mall and just south of Nobel Drive. The posted speed limit is 40 mph.

Lebon Drive is currently constructed as a five-lane divided roadway (2 lanes northbound, 3 lanes southbound) between La Jolla Village Drive and Nobel Drive. Per the adopted University Community Plan, Lebon Drive is classified as a four-lane Major Street throughout the study area. Bike lanes are not provided along Lebon Drive. On-street parking is generally prohibited. Currently no bus facilities exist on Lebon Drive. A contiguous sidewalk is provided on both the east and west side of Lebon Drive between La Jolla Village Drive and Nobel Drive. The posted speed limit is 35 mph.



Lebon Drive between La Jolla Village Drive and Nobel Drive



Esplanade Court west of Genesee Avenue

Esplanade Court is a five-lane divided cul-de-sac (2 lanes westbound, 3 lanes eastbound) west of Genesee Avenue, and serves as the main entrance to the project site. On-street parking is prohibited, except at the end of the cul-de-sac, which includes short-term (30 minute) parking spaces for the shopping center. A contiguous sidewalk is provided on both the north and south side of Esplanade Court.

4.3 Existing Traffic Volumes

Peak Hour Volumes– Existing weekday AM and PM peak hour (7:00-9:00 AM and 4:00-6:00 PM) traffic volumes were commissioned at all the study area intersections. AM and PM peak hour manual turning movement counts were taken on Tuesday, October 2, 2018; Wednesday, October 3, 2018 while UCSD and nearby schools were in session.

It should be noted that the Mid Coast trolley was under construction on the Genesee Avenue corridor at the time the existing counts were conducted that affected traffic patterns on La Jolla Village Drive and Genesee Avenue corridors. To establish an accurate baseline existing condition, the peak hour volumes along all the intersections along Genesee Avenue and La Jolla Village Drive corridor were compared to the traffic counts collected in Year 2015 for the same project. As shown in ***Appendix A***, the 2018 traffic counts were calculated to be lower by 17% on La Jolla Village Drive and 29% on

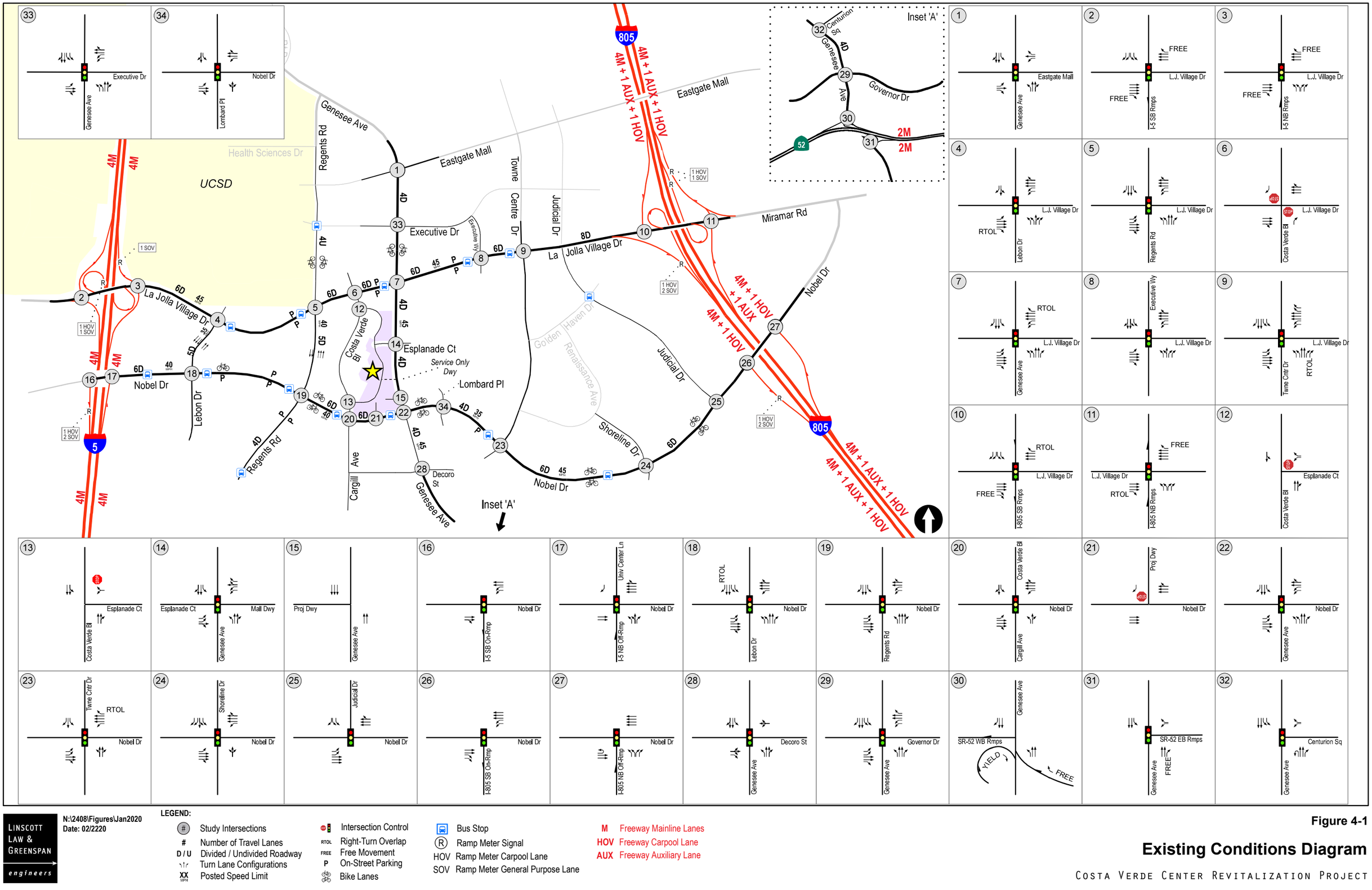
Genesee Avenue, which is primarily due to the construction activities. Therefore, to establish an accurate baseline and be conservative, the Year 2015 peak hour intersection counts were used on Genesee Avenue and La Jolla Drive corridor. The peak hour counts on other roadways such as Nobel Drive are unlikely to have been measurably affected and therefore 2018 traffic counts were used.

Daily Volumes– Existing weekday street segment Average Daily Traffic (ADT) volumes were taken between Tuesday, October 2, 2018 and Thursday, October 4, 2018 while UCSD and nearby schools were in session. As discussed previously, to be conservative, Year 2015 average daily traffic volumes were used on Genesee Avenue and La Jolla Village Drive corridor given that the Year 2018 counts were lower due to construction activity. Year 2018 traffic counts were used on all other roadways in the project area as they were overall higher than Year 2015 counts.

Freeway Volumes – Existing Freeway traffic volumes were obtained from *Caltrans 2017 Volumes on California State Highways*, which is the latest freeway volume publication at the time this report was prepared.

In addition to obtain traffic volumes, "K" and "D" factors were obtained from *Caltrans 2017 Peak Hour Volume Data*. K factor is the percentage of ADT during the peak hour for both directions of travel. D factor is the percentage of the peak hour travel in the peak direction. The truck factor is the percentage of average daily truck traffic, which was obtained from *Caltrans 2017 Annual Average Daily Truck Traffic on the California State Highway System*.

Figure 4–2 illustrates the existing AM and PM peak hour turning movement counts and average daily traffic volumes. *Appendix A* contains copies of the intersection and segment counts sheets.



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LEGEND:

- (#) Study Intersections
- # Number of Travel Lanes
- D / U Divided / Undivided Roadway
- Turn Lane Configurations
- XX MPH Posted Speed Limit
- Intersection Control
- RTOL Right-Turn Overlap
- FREE Free Movement
- P On-Street Parking
- Bike Lanes
- Bus Stop
- (R) Ramp Meter Signal
- HOV Ramp Meter Carpool Lane
- SOV Ramp Meter General Purpose Lane
- M Freeway Mainline Lanes
- HOV Freeway Carpool Lane
- AUX Freeway Auxiliary Lane

Figure 4-1

Existing Conditions Diagram

COSTA VERDE CENTER REVITALIZATION PROJECT

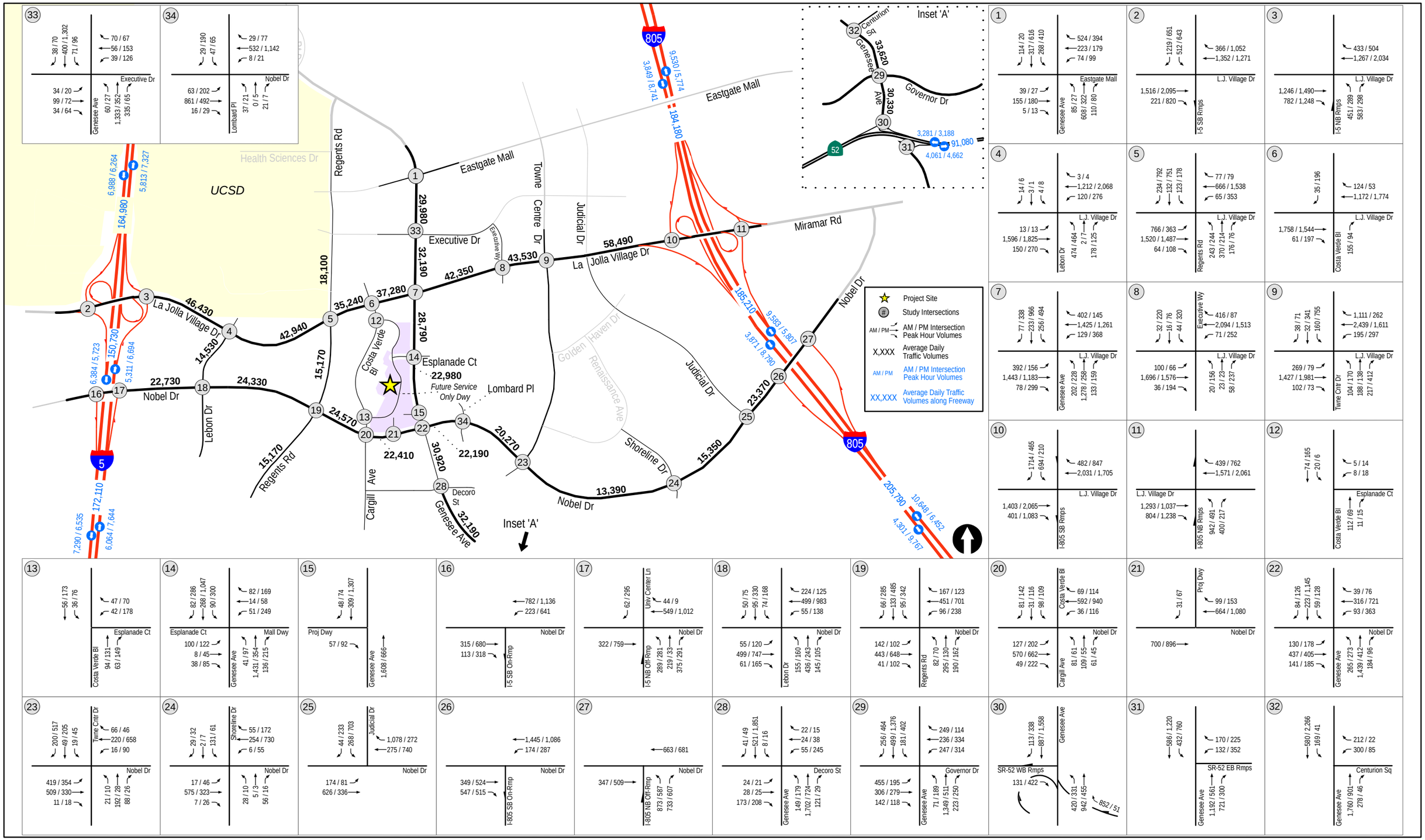

Figure 4-2

Existing Traffic Volumes

Costa Verde Center Revitalization Project

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5.0 ANALYSIS APPROACH AND METHODOLOGY

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis considering factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

5.1 Intersections

Signalized intersections were analyzed under weekday 7:00-9:00 AM and 4:00-6:00 PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 19 of the *2016 Highway Capacity Manual (HCM 6th Edition),* with the assistance of the *Synchro* (version 10) computer software. Synchro provides the option to report methodologies for both 6th and 2000 editions of the HCM. The 6th Edition of the HCM is similar to the 2000 HCM methodologies but is focused more on specific controller set ups. Due to the changes in the HCM 6th Edition, there are several limitations within Synchro that do not allow results to be produced for an intersection. Some of these limitations include:

- Exclusive pedestrian phases
- Exclusive U-turn phases
- Right turn overlaps with through movements
- Permissive left turns yielding to pedestrians at a T-intersection
- Split phasing

Six (6) of the intersections within the study area would not be able to produce results using the HCM 6th Edition methodology:

- I-5 SB Ramps / La Jolla Village Drive (Right turn overlaps with through movement)
- I-5 NB Ramps / La Jolla Village Drive (Right turn overlaps with through movement)
- I-805 SB Ramps / La Jolla Village Drive (Right turn overlaps with through movement)
- I-805 NB Ramps / Miramar Road (Right turn overlaps with through movement)
- I-5 NB Off Ramp / Nobel Drive (Right turn overlaps with through movement)
- I-805 NB On Ramp / Nobel Drive (Right turn overlaps with through movement)

Therefore, HCM 2000 methodology was used in the analysis of the above intersections. HCM 6th Edition methodology was used in the analysis of the remaining twenty-two (22) signalized intersections.

The delay values (represented in seconds) were qualified with a corresponding intersection LOS. A more detailed explanation of the methodology is attached in ***Appendix B***. ***Table 5–1*** shows the signalized intersection delay categorized for each level of service (LOS).

Unsignalized intersections were analyzed under weekday 7:00-9:00 AM and 4:00-6:00 PM peak hour conditions. Average vehicle delay and Levels of Service (LOS) were determined based upon the procedures found in Chapters 20 and 21 of the *HCM 6th Edition,* with the assistance of the *Synchro* (version 10) computer software. A more detailed explanation of the methodology is attached in *Appendix B. Table 5–1* shows the unsignalized intersection delay categorized for each level of service (LOS).

Three (3) unsignalized intersections within the study area would not be able to produce results for minor-street stop-controlled intersections with major arterials due to the geometry using the HCM 6th Edition methodology. Therefore, HCM 2000 methodology was used in the analysis of the below unsignalized intersections.

- La Jolla Village Drive / Costa Verde Boulevard
- Genesee Avenue / Costa Verde Center Driveway
- Genesee Avenue / SR 52 WB Ramps

TABLE 5–1
INTERSECTION LOS & DELAY RANGES

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	**Unsignalized Intersections**
A	≤ 10.0	≤ 10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	≥ 80.1	≥ 50.1

Source: Highway Capacity Manual

5.2 Street Segments

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of San Diego's *Roadway Classification, Level of Service, and ADT Table*. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The University Circulation Element, City of San Diego's *Roadway Classification, Level of Service,*

and ADT Table is attached in ***Appendix C***. ***Table 5–2*** shows the City of San Diego's Roadway Classification.

TABLE 5–2
CITY OF SAN DIEGO ROADWAY SEGMENT DAILY CAPACITY AND LEVEL OF SERVICE STANDARDS

Roadway Functional Classification	Lanes	Level of Service				
		A	B	C	D	E
Prime Arterial	8	35,000	50,000	70,000	75,000	80,000
Prime Arterial	6	25,000	35,000	50,000	55,000	60,000
Major Arterial	6	20,000	28,000	40,000	45,000	50,000
Major Arterial	5	17,500	24,500	35,000	40,000	45,000
Major Arterial	4	15,000	21,000	30,000	35,000	40,000
Collector (w/ two-way left-turn lane)	4	10,000	14,000	20,000	25,000	30,000

General Notes:

a. Roadway Capacity and Classification based on *University CPA Traffic Impact Study.*

5.3 Freeway Segments

Freeway segments were analyzed under AM and PM peak hour based on the standards outlined in the *Caltrans Guide for the Preparation of Traffic Impact Studies using Highway Capacity Manual* (HCM 6th Edition). The freeway analyses were conducted using the *Highway Capacity Software* (HCS version 7.3). The freeway analysis is based on assessing freeway operations based on traffic volumes, freeway lane configurations and other segment specific characteristics and reporting freeway volume to capacity ratio, speed and density. ***Table 5–3*** presents the freeway segment criteria based on density.

TABLE 5–3
FREEWAY SEGMENT LOS CRITERIA

LOS	Density Range (pc/mi/ln)
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45

General Notes:

1. *Source: HCM 6th Edition*
2. pc/mi/ln– Passenger car per mile per lane

The freeway analyses significance criteria uses "Volume to Capacity ratio (v/c)" or "Speed" as the measures of effectiveness (MOE) to determine impacts on freeways. While Freeway Density has been reported in the analyses, v/c was used as the MOE to determine significant project impacts on freeways given the software limitations in reporting speeds at congested conditions (i.e. LOS F).

5.4 Metered Freeway On-Ramps

Ramp meter delays and queues are reported using the Fixed Rate approach. Based on Caltrans' most restrictive ramp meter rate, the fixed rate approach is based solely on the specific time intervals at which the ramp meter is programmed to release traffic based on a meter rate identified by Caltrans, and does not account for downstream freeway conditions in its calculations. Because ramp meter rates are not constant within the peak hours, the analysis was conducted using the most restrictive meter rates. The meter rates dynamically adjust based on the level of traffic on the freeway mainlines. The meter rates were obtained from Caltrans and included in *Appendix F*.

The fixed rate approach generally may produce unrealistic queue lengths and delays since this approach does not take into account driver behavior such as "ramp shopping" or trip diversion. As a result, field observations were conducted to observe maximum delays and queues at the ramp meters at I-5 / Nobel Drive as the theoretical ramp meter calculation deviated from field observations and from the approved UCPA analysis results. The Existing and Near-Term (Opening Day 2023) analyses were calibrated at such locations to best match field conditions. No adjustments were made to the Year 2035 (Community Buildout) analysis as it is difficult to predict future operations based on existing performance.

5.5 Pedestrian Mobility

The project's pedestrian network connectivity was evaluated by analyzing the pedestrian network and performing a pedestrian travelshed analysis for the study area.

The pedestrian travelshed analysis evaluates the level of connectivity provided at each study intersection within the pedestrian study area. The walkshed analysis requires first creating a 0.25-mile "crow flies" buffer and then a 0.25-mile pedestrian walkshed buffer based on the location of each project access point and the associated walkability infrastructure such as pedestrian crosswalks, sidewalks, pathways, trails etc.

5.6 Bicycle Mobility

The project's bicycle network connectivity was evaluated by analyzing the bicycle network and performing a bicycle travelshed analysis for the study area.

The bicycle travelshed analysis evaluates the level of connectivity provided at each study intersection within the bicycle study area. The bikeshed analysis requires first creating a 1.0-mile "crow flies" buffer and then a 1.0-mile bikeshed buffer based on the location of each project access point and associated existing bicycle infrastructure.

5.7 Transit Mobility

An extensive Transit Mobility evaluation was also conducted in the vicinity of the Costa Verde Center Revitalization project site. This evaluation identified Light Rail and Bus service routes and headways and preparing a Transit Priority Area, which included Major Transit Stops and High-Quality Transit Corridors in the project vicinity. The SANDAG Screening Map includes baseline year of 2012 which does not include the Mid Coast Trolley project. The Mid Coast project is under construction and is expected to open in late 2021 while the Opening Day of the project is anticipated to be in Year 2023.

5.8 Vehicle Miles Traveled

In compliance with Senate Bill 743 (SB 743), this Transportation Impact Study also evaluates the Costa Verde Center Revitalization Project's potential vehicular impacts using a Vehicle Miles Traveled (VMT) metric. Public Resources Code section 20199, enacted pursuant to SB 743, identifies Vehicle Miles Traveled (VMT) as an appropriate metric for measuring transportation impacts. VMT Analysis focuses on the number and length of vehicle trips made by project's employees and residents.

The methodology used for the project is based on the City of San Diego Draft VMT guidelines and Governor's Office of Planning and Research (OPR) update to the CEQA Guidelines and Technical Advisory released in December 2018. The City's VMT guidelines are still being developed for adoption prior to the state's deadline.

6.0 SIGNIFICANCE CRITERIA

According to the City of San Diego's *Significance Determination Thresholds* dated July 2016, a project is considered to have a significant impact if project traffic would decrease the operations of surrounding roadways by a defined threshold. The City defined thresholds are shown in ***Table 6–1***.

The impact is designated either a "direct" or "cumulative" impact. According to the City's *Significance Determination Thresholds*,

> *"Direct* traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term)."
>
> *"Cumulative* traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan area reaches full planned buildout (long-term cumulative)."
>
> It is possible that a project's near term (direct) impacts may be reduced in the long term, as future projects develop and provide additional roadway improvements (for instance, through implementation of traffic phasing plans). In such a case, the project may have direct impacts but not contribute considerably to a cumulative impact."
>
> For intersections and roadway segments affected by a project, level of service (LOS) D or better is considered acceptable under both direct and cumulative conditions."

If the project exceeds the thresholds in *Table 6–1*, then the project is considered to have a significant "direct" or "cumulative" project impact. A significant impact can also occur if a project causes the Level of Service to degrade from D to E, even if the allowable increases in *Table 6–1* are not exceeded. A feasible mitigation measure will need to be identified to return the impact within the City thresholds, or the impact will be considered significant and unmitigated.

TABLE 6–1
CITY OF SAN DIEGO
TRAFFIC IMPACT SIGNIFICANT THRESHOLDS

Level of Service with Project[b]	Allowable Increase Due to Project Impacts[a]				
	Freeways		Roadway Segments	Intersections	Ramp Metering[c]
	V/C	Speed (mph)	V/C	Delay (sec.)	Delay (min.)
E	0.010	1.0	0.02	2.0	2.0
F	0.005	0.5	0.01	1.0	1.0

Footnotes:

a. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note b), or if the project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.

b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

c. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E is 2 minutes. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F is 1 minute.

General Notes:

1. Delay = Average control delay per vehicle measured in seconds for intersections or minutes for ramp meters
2. LOS = Level of Service
3. V/C = Volume to Capacity ratio

7.0 ANALYSIS OF EXISTING VEHICULAR CONDITIONS

The analysis of existing conditions includes the assessment of the study area intersections, street segments, freeway mainline segments and metered freeway on-ramps using the methodologies described in ***Section 5.0***.

7.1 Intersection Operations

Intersection capacity analyses were conducted for the study intersections under existing conditions. ***Table 7–1*** reports the intersection operations during the peak hour conditions. The following intersections are calculated to currently operate at LOS E or F:

1. Eastgate Mall / Genesee Avenue (LOS F during the AM peak hour, LOS E during the PM peak hour)
5. La Jolla Village Drive / Regents Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
7. La Jolla Village Drive / Genesee Avenue (LOS F during the AM peak hour, LOS E during the PM peak hour)
9. La Jolla Village Drive / Towne Centre Drive (LOS F during the PM peak hour)
10. I-805 SB Ramps / La Jolla Village Drive (LOS F during the AM peak hour, LOS E during the PM peak hour)
14. Genesee Avenue / Esplanade Court (LOS E during the PM peak hour)
19. Nobel Drive / Regents Road (LOS E during the PM peak hour)
29. Genesee Avenue / Governor Drive (LOS F during the AM peak hour, LOS E during the PM peak hour)
30. Genesee Avenue / SR 52 WB Ramps (LOS F during the PM peak hour)
31. Genesee Avenue / SR 52 EB Ramps (LOS F during the PM peak hour)

Appendix D contains the intersection analysis worksheets for the Existing scenario.

TABLE 7–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
1. Eastgate Mall / Genesee Avenue	Signal	AM PM	**90.5** **64.2**	**F** **E**
2. I-5 SB Ramps / La Jolla Village Drive	Signal	AM PM	23.5 34.2	C C
3. I-5 NB Ramps / La Jolla Village Drive	Signal	AM PM	22.0 27.4	C C
4. La Jolla Village Drive / Lebon Drive	Signal	AM PM	29.0 38.7	C D
5. La Jolla Village Drive / Regents Road	Signal	AM PM	**70.1** **86.2**	**E** **F**
6. La Jolla Village Drive / Costa Verde Boulevard	MSSC[c]	AM PM	11.2 10.8	B B
7. La Jolla Village Drive / Genesee Avenue	Signal	AM PM	**102.0** **67.5**	**F** **E**
8. La Jolla Village Drive / Executive Way	Signal	AM PM	22.3 37.9	C D
9. La Jolla Village Drive / Towne Centre Drive	Signal	AM PM	36.5 **97.7**	D **F**
10. I-805 SB Ramps / La Jolla Village Drive	Signal	AM PM	**88.7** **70.2**	**F** **E**
11. I-805 NB Ramps / Miramar Road	Signal	AM PM	31.3 47.0	C D
12. Costa Verde Boulevard / Loop Road (North)	MSSC[c]	AM PM	10.7 10.9	B B
13. Costa Verde Boulevard / Loop Road (South)	MSSC[c]	AM PM	10.4 18.6	B C
14. Genesee Avenue / Esplanade Court	Signal	AM PM	31.4 **61.7**	C **E**
15. Genesee Avenue / Costa Verde Center Driveway	MSSC[c]	AM PM	9.6 14.4	A B

TABLE 7–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
16. I-5 SB On Ramp / Nobel Drive	Signal	AM PM	6.7 8.4	A A
17. I-5 NB Off Ramp / Nobel Drive	Signal	AM PM	22.8 22.0	C C
18. Nobel Drive / Lebon Drive	Signal	AM PM	30.9 43.1	C D
19. Nobel Drive / Regents Road	Signal	AM PM	34.2 **56.1**	C **E**
20. Nobel Drive / Costa Verde Boulevard / Cargill Avenue	Signal	AM PM	41.4 33.7	D C
21. Nobel Drive / Costa Verde Center Driveway	MSSC[c]	AM PM	9.5 9.5	A A
22. Nobel Drive / Genesee Avenue	Signal	AM PM	39.1 45.2	D D
23. Nobel Drive / Towne Centre Drive	Signal	AM PM	25.8 42.3	C D
24. Nobel Drive / Shoreline Drive	Signal	AM PM	13.9 12.2	B B
25. Nobel Drive / Judicial Drive	Signal	AM PM	51.4 17.4	D B
26. I-805 SB On Ramp / Nobel Drive	Signal	AM PM	3.3 4.7	A A
27. I-805 NB On Ramp / Nobel Drive	Signal	AM PM	25.5 23.8	C C
28. Genesee Avenue / Decoro Street	Signal	AM PM	13.8 46.1	B D
29. Genesee Avenue / Governor Drive	Signal	AM PM	**225.8** **57.1**	**F** **E**
30. Genesee Avenue / SR 52 WB Ramps	MSSC[c]	AM PM	18.7 **71.9**	C **F**
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM PM	44.4 **152.4**	D **F**

TABLE 7–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
32. Genesee Avenue / Centurion Square	Signal	AM PM	31.2 10.5	C B
33. Genesee Avenue / Executive Drive	Signal	AM PM	27.1 26.3	C C
34. Nobel Drive / Lombard Place	Signal	AM PM	8.2 22.4	A C

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. MSSC – Minor-Street Stop Controlled intersection.

General Notes:
1. **Bold** typeface indicates intersections operating at LOS E or F.
2. N/A – not applicable.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

7.2 Street Segment Operations

Existing street segment analyses were conducted for roadways in the study area. ***Table 7–2*** reports existing street segment operations on a daily basis. As shown in *Table 7–2*, the following segment is calculated to currently operate at LOS E:

- La Jolla Village Drive: I-5 to Lebon Drive (LOS E)

TABLE 7–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	ADT [b]	LOS [c]	V/C [d]
La Jolla Village Drive					
I-5 to Lebon Drive	6-Lane Major Arterial	50,000	**46,430**	**E**	**0.929**
Lebon Drive to Regents Road	6-Lane Major Arterial	50,000	42,940	D	0.859
Regents Road to Costa Verde Boulevard	6-Lane Major Arterial	50,000	35,240	C	0.705
Costa Verde Boulevard to Genesee Avenue	6-Lane Major Arterial	50,000	37,280	C	0.746
Genesee Avenue to Executive Way	6-Lane Major Arterial	50,000	42,350	D	0.847
Executive Way to Towne Centre Drive	6-Lane Prime Arterial	60,000	43,530	C	0.726
Towne Centre Drive to I-805	8-Lane Prime Arterial	80,000	58,490	C	0.731
Nobel Drive					
I-5 to Lebon Drive	6-Lane Major Arterial	50,000	22,730	B	0.455
Lebon Drive to Regents Road	6-Lane Major Arterial	50,000	24,330	B	0.487
Regents Road to Costa Verde Boulevard	6-Lane Major Arterial	50,000	24,570	B	0.491
Costa Verde Boulevard to Genesee Avenue	6-Lane Major Arterial	50,000	22,410	B	0.448
Genesee Avenue to Lombard Place	4-Lane Major Arterial	40,000	22,190	C	0.555
Lombard Place to Towne Center Drive	4-Lane Major Arterial	40,000	20,270	B	0.507
Towne Center Drive to Shoreline Drive	6-Lane Prime Arterial	60,000	13,390	A	0.223
Shoreline Drive to Judicial Drive	6-Lane Prime Arterial	60,000	15,350	A	0.256
Judicial Drive to I-805	6-Lane Major Arterial	50,000	23,370	B	0.467
Lebon Drive					
La Jolla Village Drive to Nobel Drive	5-Lane Major Arterial	45,000	14,530	A	0.323
Regents Road					
Executive Drive to La Jolla Village Drive	4-Lane Collector *(continuous left-turn lane)*	30,000	18,100	C	0.603
La Jolla Village Drive to Nobel Drive	5-Lane Major Arterial	45,000	15,170	A	0.337

TABLE 7–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	ADT [b]	LOS [c]	V/C [d]
South of Nobel Drive	4-Lane Major Arterial	40,000	15,170	B	0.379
Genesee Avenue					
Eastgate Mall to Executive Drive	4-Lane Major Arterial	40,000	29,980	C	0.750
Executive Drive to La Jolla Village Drive	4-Lane Major Arterial	40,000	32,190	D	0.805
La Jolla Village Drive to Esplanade Court	4-Lane Major Arterial	40,000	28,790	C	0.720
Esplanade Court to Nobel Drive	4-Lane Major Arterial	40,000	22,980	C	0.575
Nobel Drive to Decoro Street	4-Lane Major Arterial	40,000	30,920	D	0.773
Decoro Street to Centurion Square	4-Lane Major Arterial	40,000	32,190	D	0.805
Centurion Square to Governor Drive	4-Lane Major Arterial	40,000	33,620	D	0.841
Governor Drive to SR 52	4-Lane Major Arterial	40,000	30,330	D	0.758

Footnotes:
a. Capacities based on City of San Diego Roadway Classification Table.
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.

General Notes:
1. **Bold** typeface indicates segments operating at LOS E or F.

7.3 Freeway Mainline Segment Operations

Freeway segments were analyzed under existing conditions. ***Appendix E*** contains the detailed calculations sheets for the existing scenario. As shown in ***Table 7–3***, the following segments were calculated to currently operate at LOS E or F:

I-5

- I-5 between Gilman Drive and Nobel Drive, *LOS E–AM (SB) and LOS E/F–PM (NB/SB)*
- I-5 between Nobel Drive and La Jolla Village Drive, *LOS F–PM (SB)*
- I-5 between La Jolla Village Drive and Genesee Avenue, *LOS E–AM (SB) and LOS F–PM (SB)*

I-805

- I-805 between Governor Drive and Nobel Drive, *LOS F–AM (NB) and LOS F–PM (SB)*
- I-805 between Nobel Drive and La Jolla Village Drive, *LOS E–AM (NB) and LOS F–PM (SB)*
- I-805 between La Jolla Village Drive and Mira Mesa Boulevard, *LOS F–PM (SB)*

SR 52

- SR 52 between Genesee Avenue and I-805, *LOS F/E–AM (EB/WB) and LOS F–PM (EB)*

TABLE 7–3
EXISTING FREEWAY SEGMENT OPERATIONS

Freeway and Segment	ADT[a]	Direction & Number of Lanes		AM Peak Hour			PM Peak Hour		
				V/C[b]	Density	LOS[c]	V/C[b]	Density	LOS[c]
I-5									
Gilman Drive to Nobel Drive	178,000	NB Mainlines	4M	0.697	27.00	D	**0.880**	**35.70**	**E**
		SB Mainlines	4M	**0.913**	**37.90**	**E**	**0.854**	**>45.00**	**F**
Nobel Drive to La Jolla Village Drive	156,000	NB Mainlines	4M	0.606	23.60	C	0.781	30.60	D
		SB Mainlines	4M	0.784	30.60	D	**0.774**	**>45.00**	**F**
La Jolla Village Drive to Genesee Avenue	171,000	NB Mainlines	4M	0.663	25.70	C	0.863	34.80	D
		SB Mainlines	4M	**0.971**	**42.40**	**E**	**0.829**	**>45.00**	**F**
I-805									
Governor Drive to Nobel Drive	206,000	NB Mainlines	4M+ 1A	**1.001**	**>45.00**	**F**	0.660	23.90	C
		SB Mainlines	4M+ 1A	0.534	19.30	C	**1.160**	**>45.00**	**F**
Nobel Drive to La Jolla Village Drive	186,000	NB Mainlines	4M+ 1A	**0.893**	**35.40**	**E**	0.595	21.40	C
		SB Mainlines	4M	0.548	21.40	C	**1.246**	**>45.00**	**F**
La Jolla Village Drive to Mira Mesa Boulevard	185,000	NB Mainlines	4M+ 1A	0.885	34.80	D	0.589	21.00	C
		SB Mainlines	4M+ 1A	0.483	17.30	B	**1.019**	**>45.00**	**F**
SR 52									
Genesee Avenue to I-805	91,000	EB Mainlines	2M	**1.032**	**>45.00**	**F**	**1.068**	**>45.00**	**F**
		WB Mainlines	2M	**0.975**	**42.70**	**E**	0.652	25.00	C

Footnotes:
a. Existing ADT volumes from *Caltrans' 2017 Traffic Volumes on California State Highways*.
b. Volume to Capacity.
c. Level of Service.

LOS	Density Range (pc/mi/ln)
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45

General Notes:
1. See *Appendix E* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.
3. The above analyses were conducted for the General-Purpose Lanes only. The associated capacities of the HOV lanes were not included.

7.4 Metered Freeway On-Ramp Operations

Freeway on-ramps that currently have ramp meters installed and in operation were analyzed under existing conditions based on the most restrictive meter rates provided by Caltrans. ***Table 7-4*** shows the ramp meter calculations. As shown in ***Table 7–4***, the following two (2) metered freeway on-ramps would incur a delay exceeding 15 minutes under Existing conditions:

- WB La Jolla Village Drive to SB I-5 (PM peak hour)
- Nobel Drive to SB I-805 (PM peak hour)

TABLE 7–4
EXISTING RAMP METER OPERATIONS

Location	Peak Hour	Existing					
		Peak Hour Demand	SOV[a] Demand (veh/hr/lane)	Ramp Meter Rate (Flow)[b] (veh/hr/lane)	Excess Demand (veh/hr/lane)	SOV Delay (minutes/lane)	SOV Queue[c] (feet/lane)
I-5 / La Jolla Village Drive Interchange							
Westbound La Jolla Village Drive to Northbound I-5 (1 SOV lane)	*AM*	*Ramp meter not activated*					
	PM	504	504	555	0	0	0
Westbound La Jolla Village Drive to Southbound I-5 (1 SOV lane + 1 HOV lane)	*AM*	*Ramp meter not activated*					
	PM	1052	842	643	199	19	4,975
I-805 / La Jolla Village Drive Interchange							
Eastbound La Jolla Village Drive to Northbound I-805 (1 SOV lane + 1 HOV lane)	AM	804	643	559	84	9	2,100
	PM	*Ramp meter not activated*					
Eastbound La Jolla Village Drive to Southbound I-805 (2 SOV lanes + 1 HOV lane)	*AM*	*Ramp meter not activated*					
	PM	1083	433	593	0	0	0
I-5 / Nobel Drive Interchange							
Nobel Drive to Southbound I-5[b] (2 SOV lanes + 1 HOV lane)	*AM*	*Ramp meter not activated*					
	PM	959	384	374	10	2	250
I-805 / Nobel Drive Interchange							
Nobel Drive to Southbound I-805 (2 SOV lanes + 1 HOV lane)	*AM*	*Ramp meter not activated*					
	PM	802	321	229	92	24	2,300

Footnotes:

a. SOV = Single-Occupancy Vehicle.

b. Meter rates obtained from Caltrans were utilized with the exception of the I-5/Nobel Drive ramp, which was calibrated based on field observations and reduced further from the most restrictive rate of 528 vehicles/hour/lane. ***Appendix F*** includes the ramp meter rates obtained from Caltrans.

c. Queue length calculated as excess demand * 25 feet per vehicle.

8.0 PROJECT TRIP GENERATION, DISTRIBUTION AND ASSIGNMENT

The following is a discussion of the existing land uses, project trip generation and the project traffic distribution and assignment to the local and regional network.

8.1 Existing Land Use Setting

The Costa Verde Center is an existing neighborhood/community-serving shopping center located west of Genesee Avenue between La Jolla Village Drive and Nobel Drive in the University community of the City of San Diego. The shopping center is located on a 13.2-acre site and is comprised of a gross floor area of approximately 178,000 square feet (sf) of commercial retail space along with associated parking (968 existing spaces). Constructed in 1989, it is one of the few neighborhood/community shopping centers in the University community.

The shopping center currently has more than 30 tenants, including retail businesses, restaurants, fitness and service facilities, a grocery store, a post office, a dry cleaner, banks, an optometrist office, and a gas station. Surrounding uses include a senior housing facility and multi-family residential uses to the west, multi-family residential uses to the south, a surface parking lot and the approved Monte Verde residential project currently under construction to the north, and the Westfield UTC regional shopping center, which was approved for a Community Plan Amendment (CPA) in July 2008 and is currently undergoing expansion to the east.

8.2 Project Trip Generation

8.2.1 *Research and Development*

The project proposes to develop 360,000 sf of Scientific Research and Development (R&D) on the project site. The R&D development would include subterranean parking to accommodate both employee and retail visitor parking. The City of San Diego trip rate of 8 weekday trips per 1,000 SF was used for the Research and Development land use.

8.2.2 *Office*

The project proposes to develop Office on the project site. A 40,000 sf Office building is proposed south of the Esplanade Court circular roadway. This building would include the existing ground-floor retail with office space on the upper levels. The City of San Diego trip rate for Commercial Office was used.

8.2.3 *Hotel*

As a part of project revitalization, a hotel is also proposed. The 200-room hotel would serve residents, visitors and the community's research, business and educational hub. The hotel is proposed in the northern most position of the site. Vehicular access to the hotel is proposed via Esplanade Court. The parking for the hotel is proposed to be dedicated and for use by hotel guests only and is provided at 1 space per room totaling 200 spaces. The City of San Diego trip rate of 10 trips per room was used for the hotel land use.

8.3 MXD Model Trip Generation Credits

Mixed-use and transit credits for smart growth developments in certain areas of the City of San Diego have been determined by applying a vehicle trip reduction of 3-5 percent (on a daily basis) for locations within one-quarter mile of transit and 3-10 percent (on a daily basis) for mixed-use to the trip generation rates, as outlined in *The City of San Diego Traffic Impact Study Manual*. This traditional methodology currently recommends generic, across-the-board trip reduction percentages of 5% for locations within ¼ mile of transit, and 10% for mixed use.

SANDAG has developed a Mixed-Use Development (MXD) methodology to test vehicle trip generation forecasts for mixed-use and smart growth developments in areas with high quality transit service such as the proposed project. This MXD methodology accounts for site-specific characteristics such as the development density, walking and transit options, the mix of land uses on the site (commercial, office and residential), site context and regional accessibility. Therefore, trip generation reductions for the Costa Verde project were calculated using the MXD model.

The characteristics and validation of the MXD methodology is provided below.

8.3.1 *Background of Mixed-Use Development (MXD) Model*

The Costa Verde project includes land uses (such as retail, research and development, office and hotel uses) that promote interaction and synergy between the on-site land uses. In addition, the project is in the City of San Diego Transit Priority Area (TPA) given its adjacency to the under-construction Mid-Coast trolley station. Mixed-use developments near high quality transit such as the proposed project generally generate fewer vehicle trips and less demand for parking as compared to conventional suburban developments due to the synergy of land uses and increased activity of transit, pedestrian and bicycle trips.

8.3.2 *Development of MXD*

In order to provide a straightforward and empirically validated method for estimating vehicle trip generation at mixed-use developments, United States Environmental Protection Agency (EPA) sponsored a national study. Travel survey data was gathered from 239 mixed-use developments (MXDs) in six major metropolitan regions, correlated with the characteristics of the sites and their surroundings, and validated through cordon traffic counts at 16 additional sites (six sites in San Diego). The findings determined that the amount of external traffic generated by mixed-use and smart growth developments is affected by many factors, each pertaining to one or more of the following "D" characteristics:

- Density and Development Scale
- Diversity of uses
- Design
- Destination Accessibility and Distance to transit

These characteristics were shown to be statistically related to the vehicle trip reductions observed at the subject mixed-used developments.

In the EPA study, vehicle trip reduction is defined as a percentage reduction that can be applied to trip generation estimates for individual land uses to account for trips internal to the site and trips taken to nearby sites by walking, bicycling or transit. The statistical relationships between the "D" characteristics and the trip reductions observed in the surveys produced equations, collectively known as the Mixed-Use Method (MXD), which allow the user to predict the vehicle trip reduction as a function of the D characteristics.

8.3.3 *MXD Method Validation*

To validate the MXD method for use in the San Diego region, a series of tests were performed by SANDAG comparing the method's estimations with actual traffic count data from six sites within the region. Four mixed-use / transit-oriented development (TOD) sites, which are very similar to the Costa Verde Center Revitalization Project in terms of land use mix, location, transit proximity, that are located within the City of San Diego were identified for comparing the MXD method estimates to actual vehicle counts for the purpose of testing the MXD method. ***Appendix G*** summarizes these four sites. Two additional sites outside the City of San Diego were also used in the original SANDAG validation study, but not considered in this report, since they are located outside the City of San Diego.

8.3.4 *Project Mixed-Use and Transit Credits*

The Costa Verde project site is a multi-use development (TOD) with easy access to transit and within walking distance to the UTC Mall transit center. The UTC Mall transit center is within a 5-minute walking distance (900 ft) from the project site. Furthermore, the project site is also adjacent to the planned Mid-Coast Trolley line that would extend along Genesee Avenue. The planned Mid-Coast Trolley project proposes a dedicated overhead light-rail trolley station at the south side of the Genesee Avenue/Esplanade Court intersection fronting the Costa Verde Center and UTC Mall. Construction of the Mid-Coast project is expected to be

complete by late 2021, which would be prior the proposed project's Opening Day, which is anticipated in Year 2023.

To determine future mixed-use and transit credits for the project, a Mixed-Use Trip Generation (MXD) Model was conducted by SANDAG for the project-specific land uses. The MXD model calculated a daily mixed-use and transit credit of 13%, AM peak hour credit of 10% and PM peak hour credit of 13%. *Appendix G* includes the MXD model calculations.

8.3.5 *Total Project Trip Generation*

Using the MXD recommended reductions, the total project is calculated to generate a net trip total of 4,981 ADT with 621 total (527 inbound / 94 outbound) primary trips during the AM peak hour and 592 total (139 inbound / 453 outbound) primary trips during the PM peak hour. ***Table 8–1*** tabulates the total project trip generation.

8.4 Project Traffic Distribution and Assignment

LLG coordinated with City of San Diego staff regarding the project trip distribution. The project trip distribution and assignment was based on a Series 12 Select Zone Assignment (SZA for TAZ 2139) conducted by SANDAG. *Appendix G* includes the select zone plot.

Figure 8–1 shows the project traffic distribution, and ***Figure 8–2*** shows the project traffic volumes.

TABLE 8–1
PROJECT TRIP GENERATION

Land Use & Size	Daily Trip Ends (ADT) [a]		AM Peak Hour					PM Peak Hour				
	Rate	Volume	% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
					In	Out	Total			In	Out	Total
Scientific Research and Development *360,000 SF*	*Trip Rate: 8 / KSF [b]*	2,880	16%	90:10	415	46	461	14%	10:90	40	363	403
Office *40,000 SF*	*Trip Rate: Ln Formula [c]*	845	13%	90:10	99	11	110	14%	20:80	24	94	118
Hotel *200 rooms*	*Trip Rate: 10 / Room [d]*	2,000	6%	60:40	72	48	120	8%	60:40	96	64	160
	Subtotal	*5,725*			*586*	*105*	*691*			*160*	*521*	*681*
	MXD Credit [e] (13% ADT, 10% AM, 13% PM)	*744*			*59*	*11*	*70*			*21*	*68*	*89*
	Total Primary Trips	***4,981***			***527***	***94***	***621***			***139***	***453***	***592***

Footnotes:

a. Trip-ends are one-way traffic movements, either entering or leaving.

b. Per the City's Trip Generation Manual, the scientific research and development trip rate of 8 weekday trips/ KSF was used.

c. Per the City's Trip Generation Manual, the commercial office ln formula of Ln(T) = 0.756 Ln(x) + 3.95 was used, where X = office KSF and T = total trips.

d. Per the City's Trip Generation Manual, the hotel trip rate of 10 weekday trips/ room was used.

e. Per SANDAG MXD Model for the project site, 13% ADT, 10% AM and 13% PM credits were taken as shown in *Appendix G*.

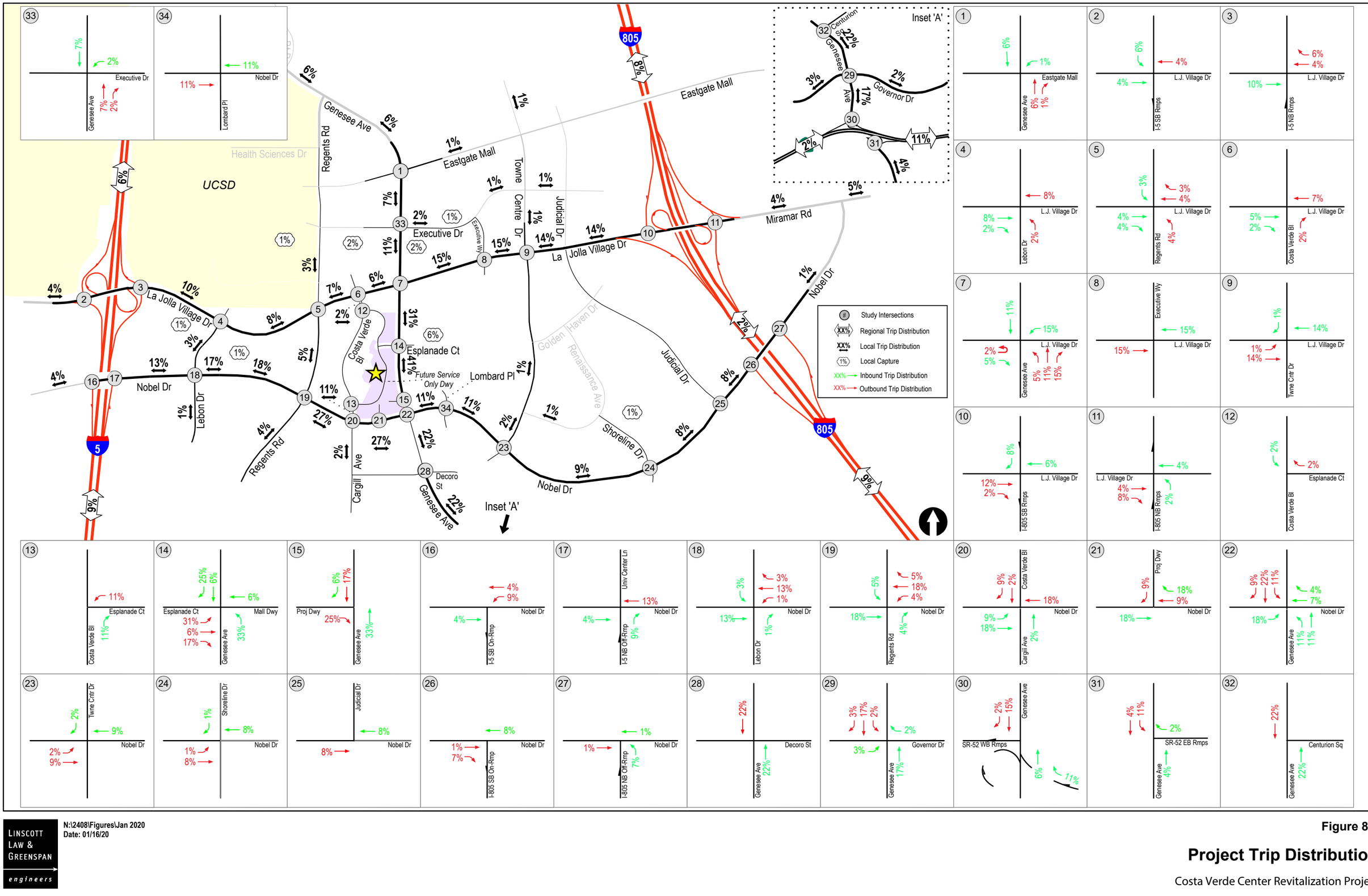

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Figure 8-1

Project Trip Distribution

Costa Verde Center Revitalization Project

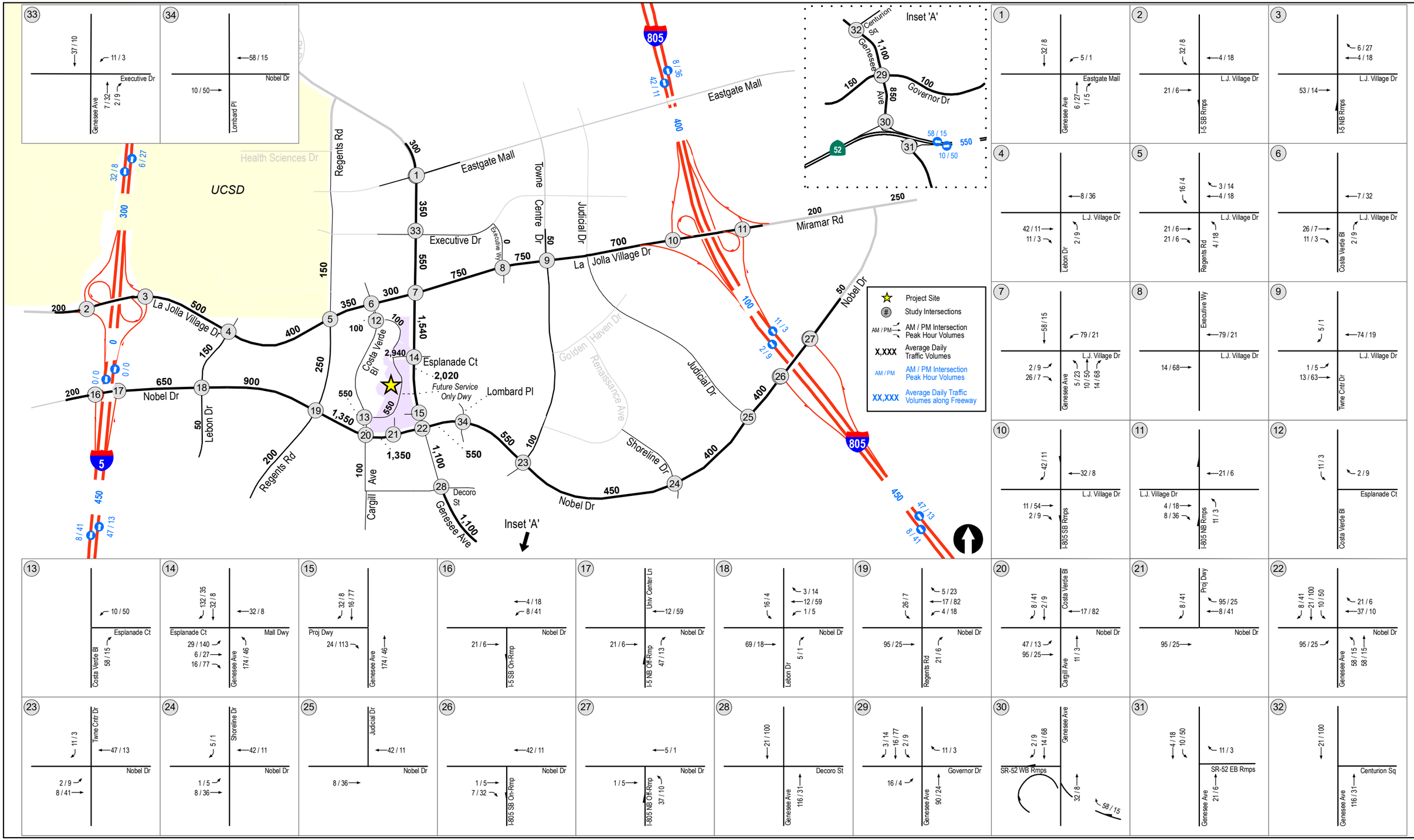

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Figure 8-2

Project Traffic Volumes

Costa Verde Center Revitalization Project

9.0 CUMULATIVE PROJECTS

Cumulative projects represent reasonably foreseeable planned development that contributes to background traffic conditions and that would be expected to be open and operating prior to the project's expected opening day, but not open at the time the project's existing count data was collected. The following discusses the Near-Term and Year 2035 cumulative projects.

9.1 Cumulative Project Research

With assistance from the City and our experience working on other projects in the area, LLG has identified twenty-four (24) cumulative projects in the near-term, and two (2) cumulative projects in the long-term. Each project was reviewed to determine its occupancy/ construction status and timing of construction relative to the date of the project's existing count data. ***Table 9–1*** and ***Table 9–2*** contain cumulative projects to be considered. ***Figure 9–1*** shows the location of each cumulative project.

9.2 Cumulative Project Forecast

LLG coordinated with City Staff regarding near-term cumulative project traffic. The near-term cumulative traffic was obtained and manually assigned for each project.

Long-Term cumulative traffic conditions were evaluated using the *SANDAG Series 12 Model* for the Year 2035 (Community Buildout) scenario. The buildout of the Scripps Hospital and UCSD LRDP were assumed in the long-term scenario.

TABLE 9–1
CUMULATIVE PROJECTS – NEAR-TERM (OPENING DAY 2023)

Project Name (PTS #)	Type of Development	Project Size	ADT	Status[a]
N-1. La Jolla Commons (79804 / 324553)	Office	224,000 SF	10,319[b]	Complete and occupied in 2008 and 2014
N-2. Nexus Center (353845)	R&D/Office	78,000 SF	1,915	Approved
N-3. Scripps Green Hospital (96361)	Hospital	39,024 SF	780	Approved
N-4. Salk Institute (54535)	Science Complex	210,182 SF 12 dwelling units	1,788	Approved
N-5. Genesee Avenue Executive Plaza (9939 Genesee Ave) (624155)	Medical Office conversion	29,000 SF	788	Pending
N-6. University City Village (164984)	Retirement Housing	1,189 Senior units	4,596	Outside study area
N-7. UCSD East Campus Bed Tower	Medical	245 beds	4,900	Approved, opened in Year 2016
N-8. Coast Income Properties (218594)	Office	51,086 SF	1,688[c]	Approved
N-9. UTC Revitalization (491675)	Shopping Center Residential	750,000 SF 250 dwelling units	17,800	Retail opened in Year 2017. Residential opened in July 2019.
N-10. La Jolla Centre 3 (324553)	Commercial Office	340,000 SF	4,162 [d]	Complete
N-11. Monte Verde (6563)	High density residential	560 dwelling units[e]	3,360	1st building opened in Year 2018
N-12. Torrey Pines City Park Expansion (Glider Port) (92693)	City Park, Glider Port	5 Acres	180	Pending
N-13. Scripps Hospital – La Jolla (Amendment 8) (127564)	Medical Office (Ximed II – floors 1 through 5)	115,900 SF	2,318	Approved
N-14. Scripps Hospital – La Jolla – Phase 1 (Amendment 9) (217934)	Hospital Medical Office	-26 beds 159,223 SF	3,097	Approved
N-15. UCSD Center for Novel Therapeutics (CNT)	Science Research Park	121,000 SF	968	Approved, opened in Year 2019
N-16. Alexandria Campus Pointe (549731)	Scientific Research Amenity Space	328,383 SF 10,000 SF	2,555	Under construction
N-17. UCSD Mesa Housing	Faculty/staff Housing High density residential	252 dwelling units 853 micro-apartments	2,786	Under construction
N-18. UCSD Outpatient Pavilion	Medical Office	156,000 SF	3,588	Approved, opened in Year 2018
N-19. UCSD Clinical & Translational Research Institute (CTRI)	Academic Research Facility	360,000 SF	2,880	Approved, opened in Year 2016

TABLE 9–1
CUMULATIVE PROJECTS – NEAR-TERM (OPENING DAY 2023)

Project Name (PTS #)	Type of Development	Project Size	ADT	Status[a]
N-20. The Scripps Research Institute (TSRI) (424480)	Scientific Research	204,000 SF	1,145	Outside study area
N-21. 9455 Towne Centre Drive (291342)	Scientific Research	150,000 SF	1,200	Under construction
N-22. La Jolla Crossroads (258190)	Multi-Family Residential	309 dwelling units	1,854	Completed
N-23. Illumina (498142)	Scientific Research	351,466 SF	2,812[f]	Completed
N-24: La Jolla Canyon (531066)	Multi-Family Residential	48 dwelling units	288	Approved

Footnotes:

a. The status of these cumulative projects was included at the time of the preparation of this report. However, given that the existing counts of the proposed project includes a combination of the Year 2015 and Year 2018 traffic counts, all of the above cumulative projects were included to be conservative.

b. The La Jolla Commons processed an all Office option of 224,000 SF generating 7,971 ADT, which was approved by Planning Commission in January 2014. To be conservative, 10,319 ADT from the original La Jolla Commons project EIR has been included in the cumulative analysis.

c. The project was approved for a 51,086 SF office building generating 408 ADT, However, the cumulative analysis included an earlier project description of 100,000 SF office generating 1,688 ADT to be conservative.

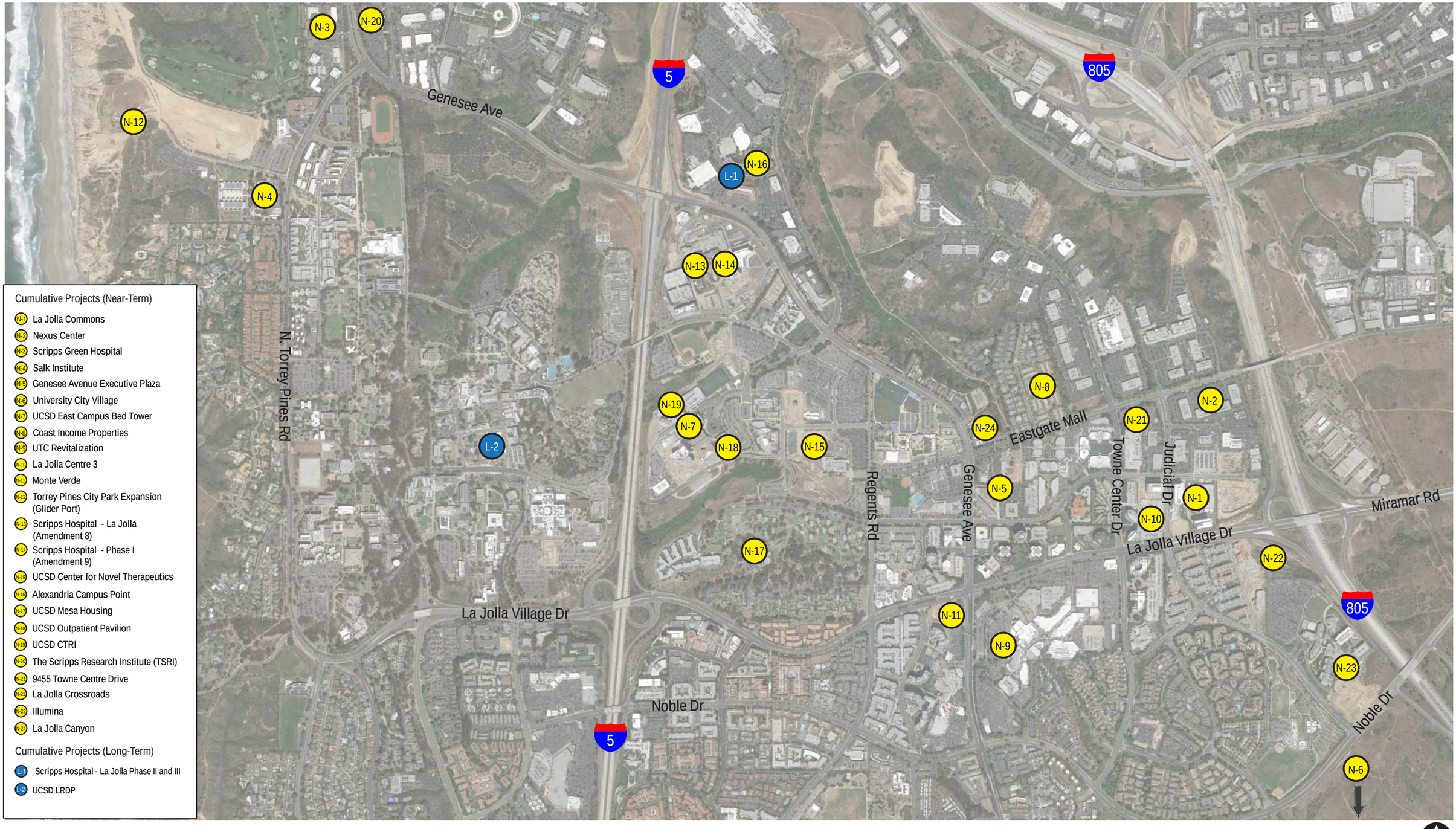
d. The project was approved to generate 3,142 ADT; however, 4,162 ADT was included to be conservative.

e. In 2007, the UCP and CVSP were amended as part of the Monte Verde Residential Project. The amendments redesignated the Visitor Commercial Site to High Density Residential and converted the 400-room hotel into 560 (2,740 proposed minus 2,180 existing) dwelling units for a total of 2,740 dwelling units within the Costa Verde Specific Plan Area. There are 2,180 residential units and 178,000 square feet of neighborhood and community commercial uses existing today. As of February 2019, 115 residential units have been built to-date. A total of 445 residential units are proposed for the project. However, relative to the date of the existing counts, to be conservative, 560 dwelling units that were analyzed in the DEIR were included.

f. The project proposes to amend the existing Planned Industrial permit. The project will process and transfer 987 ADT from sub-area 47 to the Illumina campus, sub-area 37. The 987 ADT will transfer the equivalent of 123,375 SF of additional Scientific Research on the Illumina campus. However, to be conservative, information provided by City staff included 351,466 SF of Scientific Research, which was included and analyzed.

TABLE 9–2
CUMULATIVE PROJECTS – YEAR 2035 (COMMUNITY BUILDOUT)

Project Name (PTS #)	Type of Development	Project Size	ADT	Status
L-1.Scripps Hospital – La Jolla – Phase II and III (217934)	Hospital Medical Office Scientific Research	168 beds 216,500 SF 26,000 SF	7,898	Approved
L-2: UCSD LRDP	Campus Expansion	Campus population: 16,750 Resident Housing: 8,807 beds Outpatient: 217,072 SF Science Research 1,380,020 SF Aquarium: 50,000 SF	23,041	Approved



SOURCE: Google Earth

LINSCOTT LAW & GREENSPAN engineers

N:\2408\Figures\Feb 2019
Date: 03/06/19

Figure 9-1

Cumulative Projects Location Map

COSTA VERDE CENTER REVITALIZATION PROJECT

10.0 EXISTING + PROJECT VEHICULAR ANALYSIS

The Existing + Project (total) analysis presumes the build out of the project under the existing environmental conditions (existing traffic volumes, existing transportation infrastructure, and existing surrounding land uses).

Figure 10–1 illustrates the Existing + Project traffic volumes.

10.1 Intersection Operations

Intersection capacity analyses were conducted for the study intersections under Existing + Project conditions. ***Table 10–1*** reports the intersection operations during the peak hour conditions. With the addition of project traffic, the following ten (10) intersections are calculated to operate at LOS E or F similar to existing conditions:

1. Eastgate Mall / Genesee Avenue (LOS F during the AM peak hour, LOS E during the PM peak hour)
5. La Jolla Village Drive / Regents Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
7. La Jolla Village Drive / Genesee Avenue (LOS F during the AM peak hour, LOS E during the PM peak hour)
9. La Jolla Village Drive / Towne Centre Drive (LOS F during the PM peak hour)
10. I-805 SB Ramps / La Jolla Village Drive (LOS F during the AM peak hour, LOS E during the PM peak hour)
14. Genesee Avenue / Esplanade Court (LOS E during the AM peak hour, LOS F during the PM peak hour)
19. Nobel Drive / Regents Road (LOS E during the PM peak hour)
29. Genesee Avenue / Governor Drive (LOS F during the AM peak hour, LOS E during the PM peak hour)
30. Genesee Avenue / SR 52 WB Ramps (LOS F during the PM peak hour)
31. Genesee Avenue / SR 52 EB Ramps (LOS F during the PM peak hour)

Appendix H contains the intersection analysis worksheets for the Existing + Project scenario.

Based on the City of San Diego's significance criteria, **significant direct project impacts** are identified at the following intersections as the increase in delay due to the project exceeds the allowable threshold:

14. Genesee Avenue / Esplanade Court (LOS E during the AM peak hour, LOS F during the PM peak hour)
29. Genesee Avenue / Governor Drive (LOS F during the AM peak hour)
30. Genesee Avenue / SR 52 WB Ramps (LOS F during the PM peak hour)

31. Genesee Avenue / SR 52 EB Ramps (LOS F during the PM peak hour)

Mitigation measures for these impacts are discussed in detail in *Section 13.2*.

TABLE 10–1
EXISTING + PROJECT INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
1. Eastgate Mall / Genesee Avenue	Signal	AM	**90.5**	**F**	**91.3**	**F**	0.8	No
		PM	**64.2**	**E**	**65.1**	**E**	0.9	No
2. I-5 SB Ramps / La Jolla Village Drive	Signal	AM	23.5	C	24.1	C	0.6	No
		PM	34.2	C	34.7	C	0.5	No
3. I-5 NB Ramps / La Jolla Village Drive	Signal	AM	22.0	C	22.6	C	0.6	No
		PM	27.4	C	28.0	C	0.6	No
4. La Jolla Village Drive / Lebon Drive	Signal	AM	29.0	C	29.0	C	0.0	No
		PM	38.7	D	39.2	D	0.5	No
5. La Jolla Village Drive / Regents Road	Signal	AM	**70.1**	**E**	**72.0**	**E**	1.9	No
		PM	**86.2**	**F**	**86.8**	**F**	0.6	No
6. La Jolla Village Drive / Costa Verde Boulevard	MSSC[d]	AM	11.2	B	11.4	B	0.2	No
		PM	10.8	B	10.8	B	0.0	No
7. La Jolla Village Drive / Genesee Avenue	Signal	AM	**102.0**	**F**	**102.8**	**F**	0.8	No
		PM	**67.5**	**E**	**69.1**	**E**	1.6	No
8. La Jolla Village Drive / Executive Way	Signal	AM	22.3	C	23.1	C	0.8	No
		PM	37.9	D	39.6	D	1.7	No
9. La Jolla Village Drive / Towne Centre Drive	Signal	AM	36.5	D	36.8	D	0.3	No
		PM	**97.7**	**F**	**98.3**	**F**	0.6	No
10. I-805 SB Ramps / La Jolla Village Drive	Signal	AM	**88.7**	**F**	**88.9**	**F**	0.2	No
		PM	**70.2**	**E**	**70.3**	**E**	0.1	No
11. I-805 NB Ramps / Miramar Road	Signal	AM	31.3	C	34.2	C	2.9	No
		PM	47.0	D	54.4	D	7.4	No
12. Costa Verde Boulevard / Loop Road (North)	MSSC[d]	AM	10.7	B	11.0	B	0.3	No
		PM	10.9	B	11.0	B	0.1	No
13. Costa Verde Boulevard / Loop Road (South)	MSSC[d]	AM	10.4	B	11.0	B	0.6	No
		PM	18.6	C	23.4	C	4.8	No
14. Genesee Avenue / Esplanade Court	Signal	AM	31.4	C	**75.2**	**E**	**43.8**	**Yes**
		PM	**61.7**	**E**	**93.5**	**F**	**31.8**	**Yes**

TABLE 10–1
EXISTING + PROJECT INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
15. Genesee Avenue / Costa Verde Center Driveway	MSSC[d]	AM	9.6	A	9.9	A	0.3	No
		PM	14.4	B	19.6	C	5.2	No
16. I-5 SB On Ramp / Nobel Drive	Signal	AM	6.7	A	6.7	A	0.0	No
		PM	8.4	A	8.8	A	0.4	No
17. I-5 NB Off Ramp / Nobel Drive	Signal	AM	22.8	C	23.4	C	0.6	No
		PM	22.0	C	22.4	C	0.4	No
18. Nobel Drive / Lebon Drive	Signal	AM	30.9	C	31.2	C	0.3	No
		PM	43.1	D	43.4	D	0.3	No
19. Nobel Drive / Regents Road	Signal	AM	34.2	C	41.8	D	7.6	No
		PM	**56.1**	**E**	**57.4**	**E**	1.3	No
20. Nobel Drive / Costa Verde Boulevard / Cargill Avenue	Signal	AM	41.4	D	51.6	D	10.2	No
		PM	33.7	C	38.3	D	4.6	No
21. Nobel Drive / Costa Verde Center Driveway	MSSC[d]	AM	9.5	A	9.6	A	0.1	No
		PM	9.5	A	9.7	A	0.2	No
22. Nobel Drive / Genesee Avenue	Signal	AM	39.1	D	49.1	D	10.0	No
		PM	45.2	D	52.7	D	7.5	No
23. Nobel Drive / Towne Centre Drive	Signal	AM	25.8	C	26.5	C	0.7	No
		PM	42.3	D	43.0	D	0.7	No
24. Nobel Drive / Shoreline Drive	Signal	AM	13.9	B	13.9	B	0.0	No
		PM	12.2	B	12.2	B	0.0	No
25. Nobel Drive / Judicial Drive	Signal	AM	51.4	D	51.9	D	0.5	No
		PM	17.4	B	17.5	B	0.1	No
26. I-805 SB On Ramp / Nobel Drive	Signal	AM	3.3	A	3.4	A	0.1	No
		PM	4.7	A	4.8	A	0.1	No
27. I-805 NB Off Ramp / Nobel Drive	Signal	AM	25.5	C	25.9	C	0.4	No
		PM	23.8	C	23.9	C	0.1	No
28. Genesee Avenue / Decoro Street	Signal	AM	13.8	B	13.9	B	0.1	No
		PM	46.1	D	49.0	D	2.9	No
29. Genesee Avenue / Governor Drive	Signal	AM	**225.8**	**F**	**241.6**	**F**	**15.8**	**Yes**
		PM	**57.1**	**E**	**57.7**	**E**	0.6	No

TABLE 10–1
EXISTING + PROJECT INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
30. Genesee Avenue / SR 52 WB Ramps	MSSC[d]	AM	18.7	C	19.2	C	0.5	No
		PM	**71.9**	**F**	**91.8**	**F**	**19.9**	**Yes**
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	44.4	D	48.1	D	3.7	No
		PM	**152.4**	**F**	**173.6**	**F**	**21.2**	**Yes**
32. Genesee Avenue / Centurion Square	Signal	AM	31.2	C	33.5	C	2.3	No
		PM	10.5	B	11.0	B	0.5	No
33. Genesee Avenue / Executive Drive	Signal	AM	27.1	C	27.2	C	0.1	No
		PM	26.3	C	26.4	C	0.1	No
34. Nobel Drive / Lombard Place	Signal	AM	8.2	A	8.3	A	0.1	No
		PM	22.4	C	22.5	C	0.1	No

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. "Δ" denotes the project-induced increase in delay.
d. MSSC – Minor-street Stop-controlled intersection.

General Notes:
1. **Bold** typeface indicates intersections operating at LOS E or F.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

10.2 Street Segment Operations

Existing + Project street segment analyses were conducted for roadways in the study area. ***Table 10–2*** reports the Existing + Project street segment operations on a daily basis. With the addition of the project traffic, the following segment is calculated to operate at LOS E:

- La Jolla Village Drive: I-5 to Lebon Drive (LOS E)

Based on City of San Diego's significance criteria, ***no*** **significant direct project impacts** are identified on the above segments since the project traffic contribution is below the allowable threshold.

TABLE 10–2
EXISTING + PROJECT STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	Existing			Existing + Project			V/C Increase	Sig[e]
			ADT[b]	LOS[c]	V/C[d]	ADT[b]	LOS[c]	V/C[d]		
La Jolla Village Drive										
I-5 to Lebon Drive	6-Lane Major Arterial	50,000	**46,430**	**E**	**0.929**	**46,930**	**E**	**0.939**	0.010	No
Lebon Drive to Regents Road	6-Lane Major Arterial	50,000	42,940	D	0.859	43,340	D	0.867	0.008	No
Regents Road to Costa Verde Boulevard	6-Lane Major Arterial	50,000	35,240	C	0.705	35,590	C	0.712	0.007	No
Costa Verde Boulevard to Genesee Avenue	6-Lane Major Arterial	50,000	37,280	C	0.746	37,580	C	0.752	0.006	No
Genesee Avenue to Executive Way	6-Lane Major Arterial	50,000	42,350	D	0.847	43,100	D	0.862	0.015	No
Executive Way to Towne Centre Drive	6-Lane Prime Arterial	60,000	43,530	C	0.726	44,280	C	0.738	0.012	No
Towne Centre Drive to I-805	8-Lane Prime Arterial	80,000	58,490	C	0.731	59,190	C	0.740	0.009	No
Nobel Drive										
I-5 to Lebon Drive	6-Lane Major Arterial	50,000	22,730	B	0.455	23,380	B	0.468	0.013	No
Lebon Drive to Regents Road	6-Lane Major Arterial	50,000	24,330	B	0.487	25,230	B	0.505	0.018	No
Regents Road to Costa Verde Boulevard	6-Lane Major Arterial	50,000	24,570	B	0.491	25,920	B	0.518	0.027	No
Costa Verde Boulevard to Genesee Avenue	6-Lane Major Arterial	50,000	22,410	B	0.448	23,760	B	0.475	0.027	No
Genesee Avenue to Lombard Place	4-Lane Major Arterial	40,000	22,190	C	0.555	22,740	C	0.569	0.014	No
Lombard Place to Towne Centre Drive	4-Lane Major Arterial	40,000	20,270	B	0.507	20,820	B	0.521	0.014	No
Towne Centre Drive to Shoreline Drive	6-Lane Prime Arterial	60,000	13,390	A	0.223	13,840	A	0.231	0.008	No
Shoreline Drive to Judicial Drive	6-Lane Prime Arterial	60,000	15,350	A	0.256	15,750	A	0.263	0.007	No
Judicial Drive to I-805	6-Lane Major Arterial	50,000	23,370	B	0.467	23,770	B	0.475	0.008	No

TABLE 10–2
EXISTING + PROJECT STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	Existing			Existing + Project			V/C Increase	Sig[e]
			ADT[b]	LOS[c]	V/C[d]	ADT[b]	LOS[c]	V/C[d]		
Lebon Drive										
La Jolla Village Drive to Nobel Drive	5-Lane Major Arterial	45,000	14,530	A	0.323	14,680	A	0.326	0.003	No
Regents Road										
Executive Drive to La Jolla Village Drive	4-Lane Collector *(continuous left-turn lane)*	30,000	18,100	C	0.603	18,250	C	0.608	0.005	No
La Jolla Village Drive to Nobel Drive	5-Lane Major Arterial	45,000	15,170	A	0.337	15,420	A	0.343	0.006	No
South of Nobel Drive	4-Lane Major Arterial	40,000	15,170	B	0.379	15,370	B	0.384	0.005	No
Genesee Avenue										
Eastgate Mall to Executive Drive	4-Lane Major Arterial	40,000	29,980	C	0.750	30,330	D	0.758	0.008	No
Executive Drive to La Jolla Village Drive	4-Lane Major Arterial	40,000	32,190	D	0.805	32,740	D	0.819	0.014	No
La Jolla Village Drive to Esplanade Court	4-Lane Major Arterial	40,000	28,790	C	0.720	30,330	D	0.758	0.038	No
Esplanade Court to Nobel Drive	4-Lane Major Arterial	40,000	22,980	C	0.575	25,000	C	0.625	0.050	No
Nobel Drive to Decoro Street	4-Lane Major Arterial	40,000	30,920	D	0.773	32,020	D	0.801	0.028	No
Decoro Street to Centurion Square	4-Lane Major Arterial	40,000	32,190	D	0.805	33,290	D	0.832	0.027	No
Centurion Square to Governor Drive	4-Lane Major Arterial	40,000	33,620	D	0.841	34,720	D	0.868	0.027	No
Governor Drive to SR 52	4-Lane Major Arterial	40,000	30,330	D	0.758	31,180	D	0.780	0.022	No

Footnotes:

a. Capacities based on City of San Diego Roadway Classification Table.
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.

General Notes:

1. **Bold** typeface indicates intersections operating at LOS E or F.

10.3 Freeway Mainline Segment Operations

Freeway segments were analyzed under Existing + Project conditions. ***Appendix I*** contains the detailed calculations sheets. ***Tables 10–3a and 10–3b*** report the Existing + Project freeway segment operations. With the addition of the project traffic, the following seven (7) segments were calculated to operate at LOS E or F:

I-5

- I-5 between Gilman Drive and Nobel Drive, *LOS E–AM (SB) and LOS E/F–PM (NB/SB)*
- I-5 between Nobel Drive and La Jolla Village Drive, *LOS F–PM (SB)*
- I-5 between La Jolla Village Drive and Genesee Avenue, *LOS E–AM (SB) and LOS F–PM (SB)*

I-805

- I-805 between Governor Drive and Nobel Drive, *LOS F–AM (NB) and LOS F–PM (SB)*
- I-805 between Nobel Drive and La Jolla Village Drive, *LOS E–AM (NB) and LOS F–PM (SB)*
- I-805 between La Jolla Village Drive and Mira Mesa Boulevard, *LOS F–PM (SB)*

SR 52

- SR 52 between Genesee Avenue and I-805, *LOS F/E–AM (EB/WB) and LOS F–PM (EB)*

Based on the City of San Diego's significance criteria, **significant direct project impacts** are identified at the following freeway segments as the project contribution to these freeway segments exceeds the allowable threshold:

I-5

- I-5 between Gilman Drive and Nobel Drive, *LOS F–PM (SB)*

I-805

- I-805 between Governor Drive and Nobel Drive, *LOS F–AM (NB)*

SR 52

- SR 52 between Genesee Avenue and I-805, *LOS E–AM (WB) and LOS F–PM (EB)*

TABLE 10–3A
EXISTING + PROJECT FREEWAY SEGMENT OPERATIONS—AM PEAK HOUR

Freeway and Segment	Existing ADT	Existing + Project ADT	Direction & Number of Lanes		Existing			Existing + Project			V/C Delta	Significant
					V/C[a]	Density	LOS[b]	V/C[a]	Density	LOS[b]		
I-5												
Gilman Drive to Nobel Drive	178,000	178,450	NB Mainlines	4M	0.697	27.00	D	0.702	27.20	D	0.005	No
			SB Mainlines	4M	**0.913**	**37.90**	**E**	**0.914**	**37.90**	**E**	0.001	No
Nobel Drive to La Jolla Village Drive	156,000	156,000	NB Mainlines	4M	0.606	23.60	C	0.606	23.60	C	0.000	No
			SB Mainlines	4M	0.784	30.60	D	0.784	30.60	D	0.000	No
La Jolla Village Drive to Genesee Avenue	171,000	171,300	NB Mainlines	4M	0.663	25.70	C	0.663	25.70	C	0.000	No
			SB Mainlines	4M	**0.971**	**42.40**	**E**	**0.976**	**42.80**	**E**	0.005	No
I-805												
Governor Drive to Nobel Drive	206,000	206,450	NB Mainlines	4M+ 1A	**1.001**	**>45.00**	**F**	**1.006**	**>45.00**	**F**	0.005	**Yes [c]**
			SB Mainlines	4M+ 1A	0.534	19.30	C	0.535	19.30	C	0.001	No
Nobel Drive to La Jolla Village Drive	186,000	186,100	NB Mainlines	4M+ 1A	**0.893**	**35.40**	**E**	**0.895**	**35.50**	**E**	0.002	No
			SB Mainlines	4M	0.548	21.40	C	0.548	21.40	C	0.000	No
La Jolla Village Drive to Mira Mesa Boulevard	185,000	185,400	NB Mainlines	4M+ 1A	0.885	34.80	D	0.886	34.90	D	0.001	No
			SB Mainlines	4M+ 1A	0.483	17.30	B	0.487	17.40	B	0.004	No
SR 52												
Genesee Avenue to I-805	91,000	91,550	EB Mainlines	2M	**1.032**	**>45.00**	**F**	**1.034**	**>45.00**	**F**	0.002	No
			WB Mainlines	2M	**0.975**	**42.70**	**E**	**0.988**	**43.80**	**E**	**0.013**	**Yes**

Footnotes:
a. Volume to Capacity.
b. Level of Service.
c. A significant impact is identified at this location since the reduction in speed due to the project exceeds the allowable threshold.

LOS	Density Range (pc/mi/ln)
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45

General Notes:
1. See *Appendix I* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.
3. The above analyses were conducted for the General-Purpose Lanes only. The associated capacities of the HOV lanes were not included.

TABLE 10–3B
EXISTING + PROJECT FREEWAY SEGMENT OPERATIONS—PM PEAK HOUR

Freeway and Segment	Existing ADT	Existing + Project ADT	Direction, &Number of Lanes		Existing			Existing + Project			V/C Delta	Significant
					V/C[a]	Density	LOS[b]	V/C[a]	Density	LOS[b]		
I-5												
Gilman Drive to Nobel Drive	178,000	178,450	NB Mainlines	4M	**0.880**	**35.70**	**E**	**0.881**	**35.90**	**E**	0.001	No
			SB Mainlines	4M	**0.854**	**>45.00**	**F**	**0.859**	**>45.00**	**F**	**0.005**	**Yes [c]**
Nobel Drive to La Jolla Village Drive	156,000	156,000	NB Mainlines	4M	0.781	30.60	D	0.781	30.60	D	0.000	No
			SB Mainlines	4M	**0.774**	**>45.00**	**F**	**0.774**	**>45.00**	**F**	0.000	No
La Jolla Village Drive to Genesee Avenue	171,000	171,300	NB Mainlines	4M	0.863	34.80	D	0.866	34.90	D	0.003	No
			SB Mainlines	4M	**0.829**	**>45.00**	**F**	**0.830**	**>45.00**	**F**	0.001	No
I-805												
Governor Drive to Nobel Drive	206,000	206,450	NB Mainlines	4M+ 1A	0.660	23.90	C	0.661	23.90	C	0.001	No
			SB Mainlines	4M+ 1A	**1.160**	**>45.00**	**F**	**1.165**	**>45.00**	**F**	0.005	No
Nobel Drive to La Jolla Village Drive	186,000	186,100	NB Mainlines	4M+ 1A	0.595	21.40	C	0.595	21.40	C	0.000	No
			SB Mainlines	4M	**1.246**	**>45.00**	**F**	**1.247**	**>45.00**	**F**	0.001	No
La Jolla Village Drive to Mira Mesa Boulevard	185,000	185,400	NB Mainlines	4M+ 1A	0.589	21.00	C	0.593	21.10	C	0.004	No
			SB Mainlines	4M+ 1A	**1.019**	**>45.00**	**F**	**1.021**	**>45.00**	**F**	0.002	No
SR 52												
Genesee Avenue to I-805	91,000	91,550	EB Mainlines	2M	**1.068**	**>45.00**	**F**	**1.080**	**>45.00**	**F**	**0.012**	**Yes**
			WB Mainlines	2M	0.652	25.00	C	0.656	25.10	C	0.004	No

Footnotes:
a. Volume to Capacity.
b. Level of Service.
c. A significant impact is identified at this location since the reduction in speed due to the project exceeds the allowable threshold.

LOS	Density Range (pc/mi/ln)
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45

General Notes:
1. See *Appendix I* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.
3. The above analyses were conducted for the General-Purpose Lanes only. The associated capacities of the HOV lanes were not included.

10.4 Metered Freeway On-Ramp Operations

Freeway on-ramps that currently have ramp meters installed and in operation were analyzed under Existing + Project conditions based on the most restrictive meter rates provided by Caltrans. As shown in ***Table 10–4*****,** the following two (2) metered freeway on-ramps would incur a delay exceeding 15 minutes under Existing + Project conditions:

- WB La Jolla Village Drive to SB I-5 (PM peak hour)
- Nobel Drive to SB I-805 (PM peak hour)

Based on the City of San Diego's significance criteria, **significant "**direct" project impacts are identified on the following ramp meters as the project contribution to this ramp meter exceeds the allowable thresholds:

- Nobel Drive to SB I-805 (PM peak hour)

TABLE 10–4
EXISTING + PROJECT RAMP METER OPERATIONS

Location/Condition	Peak Hour	Peak Hour Demand	SOV Demand (veh/hr/lane)	Ramp Meter Rate (Flow)[a] (veh/hr/lane)	Excess Demand (veh/hr/lane)	Delay per Lane [b]	Queue per Lane [c]
WB La Jolla Village Drive to NB I-5 (1 SOV lane)							
Existing	PM	504	504	555	0	0	0
Existing + Project	PM	531	531	555	0	0	0
Project Increase	PM	27	27	555	0	0	0
WB La Jolla Village Drive to SB I-5 (1 SOV lane + 1 HOV lane)							
Existing	PM	1052	842	643	199	19	4975
Existing + Project	PM	1052	842	643	199	19	4975
Project Increase	PM	0	0	643	0	0	0
EB La Jolla Village Drive to NB I-805 (1 SOV lane + 1 HOV lane)							
Existing	AM	804	643	559	84	9	2100
Existing + Project	AM	812	650	559	91	10	2275
Project Increase	AM	8	7	559	7	1	175
EB La Jolla Village Drive to SB I-805 (2 SOV lanes + 1 HOV lane)							
Existing	PM	1083	433	593	0	0	0
Existing + Project	PM	1092	437	593	0	0	0
Project Increase	PM	9	4	593	0	0	0
Nobel Drive to SB I-5 (2 SOV lanes + 1 HOV lane)							
Existing	PM	959	384	374	10	2	250
Existing + Project	PM	1000	400	374	26	4	650
Project Increase	PM	41	16	374	16	2	400
Nobel Drive to SB I-805 (2 SOV lanes + 1 HOV lane)							
Existing	PM	802	321	229	92	**24**	2300
Existing + Project	PM	834	334	229	105	**27**	2625
Project Increase	PM	32	13	229	13	**3**	325

Footnotes:

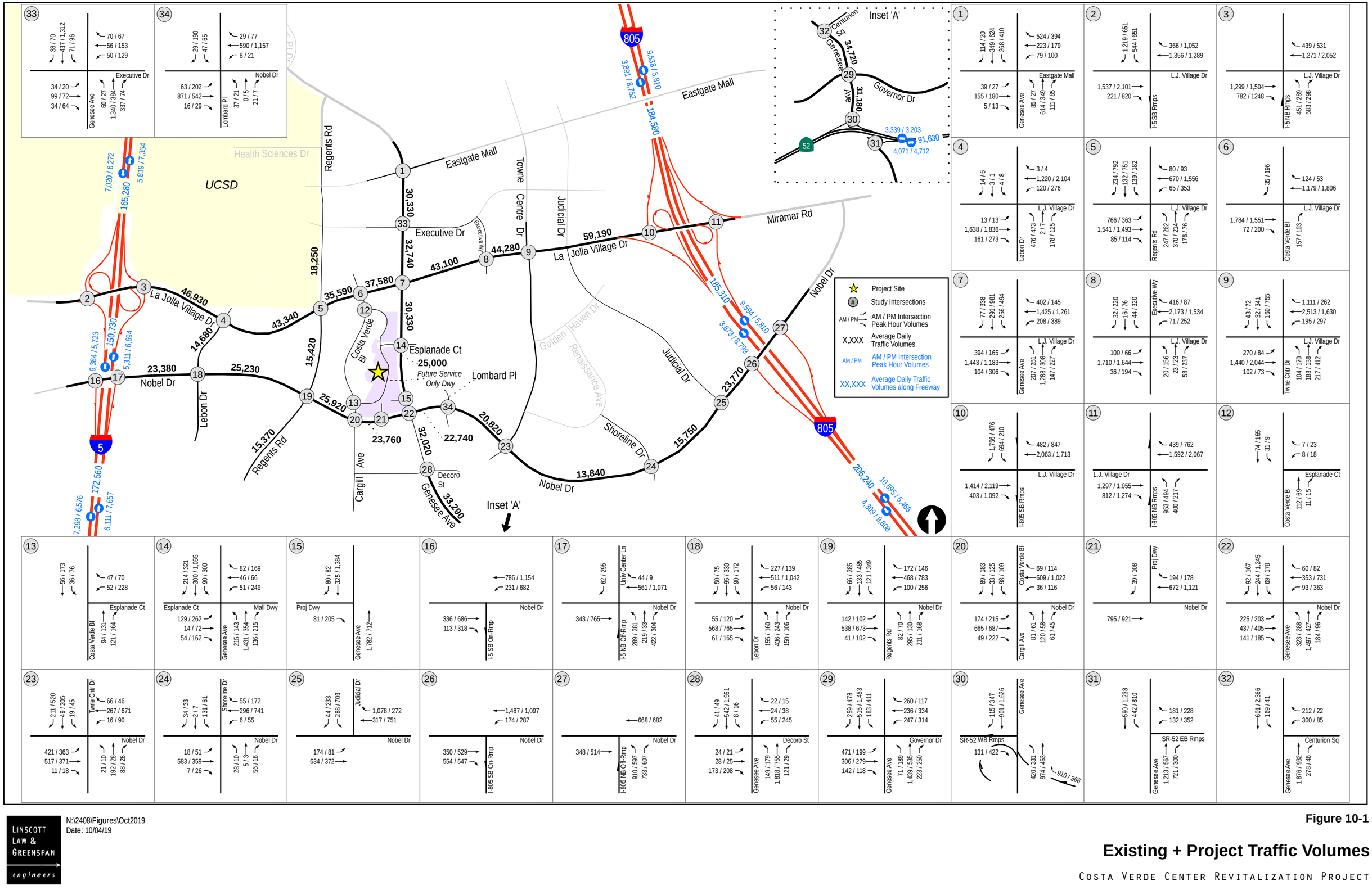
a. Meter rates obtained from Caltrans were utilized with the exception of the I-5/Nobel Drive ramp, which was calibrated based on field observations (see *Appendix F*) and reduced further from the most restrictive rate of 528 vehicles/hour/lane.

b. Delay expressed in minutes per lane.

c. Queue expressed in feet per lane calculated as excess demand * 25 feet per vehicle.

General Notes:

1. **Bold** typeface indicates a significant ramp meter impact.
2. NA = Not Applicable.



LINSCOTT LAW & GREENSPAN engineers

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Figure 10-1

Existing + Project Traffic Volumes

COSTA VERDE CENTER REVITALIZATION PROJECT

11.0 NEAR-TERM (OPENING DAY 2023) VEHICULAR ANALYSIS

The following section presents the analysis of study area intersections, street segments, freeway mainline segments and metered freeway on-ramps under Near-Term conditions, which include development projects which are reasonably foreseeable by the project's expected opening day in 2023, as well as programmed, scheduled, and fully funded network improvement projects.

11.1 Network Conditions

For the purposes of this transportation study, the implementation of a number of local and regional roadway improvements were reviewed based on information provided in the *North University Public Facilities Financing Plan (PFFP), Fiscal Year 2013,* the recently completed *University Community Plan Amendment*, the *2050 Regional Transportation Plan* (RTP), *City of San Diego Pedestrian and Bicycle Master Plans*, the *Mid Coast Trolley EIR* and other developer transportation improvements (i.e., UTC Revitalization and Monte Verde).

11.1.1 *Planned Local Improvements*

Table 11–1 identifies the local improvements assumed in the analysis. An improvement was assumed only if it is currently under construction or if the improvement will be completed prior to the project's opening day. This was assumed for the Near-Term and Year 2035 (Community Buildout) baseline analysis. Additionally, if the scope of the improvement included in the PFFP was in conflict with the recently approved 2016 *University Community Plan Amendment (UCPA*) recommendation or the Mid Coast Trolley project (currently under construction), the improvement was not assumed.

It should be noted that the Regents Road Bridge project, consisting of the extension of Regents Road as a four-lane major road over Rose Canyon, and the increased through lanes on Genesee Avenue between State Route 52 and Nobel Drive were not included as these projects were rejected by the City Council as a part of the *UCPA.*

Table 11–2 identifies local improvements considered but not assumed. These improvements were considered per above; however, these improvements were <u>not</u> assumed in the analysis.

TABLE 11–1
ASSUMED PLANNED LOCAL IMPROVEMENTS

Project Name	Improvements	Schedule / Funding / Notes
Public Facilities Financing Plan (PFFP)		
La Jolla Village Drive / I-805 interchange ramps (NUC-C)	This improvement includes conversion of the existing La Jolla Village Drive/I-805 full cloverleaf interchange configuration to a partial cloverleaf interchange configuration, to include the widening of the overpass structure.	This project was funded through the FBA-NUC and DEV/SUBD and has been **completed**.
La Jolla Village Drive and Regents Road (NUC-41)	This improvement includes construction of a southbound-to-westbound right-turn lane at La Jolla Village Drive and Regents Road Intersection.	This project was funded through the FBA-NUC and has been **completed**.
La Jolla Village Drive and Towne Centre Drive (NUC-42)	This improvement includes construction of eastbound and westbound right turn lanes at the intersection of La Jolla Village Drive and Towne Centre Drive. Six (6) through-lanes on La Jolla Village Drive are also proposed.	This project was funded through the DEV/SUBD (Westfield UTC) and has been **completed**.
Approved Project's Mitigation		
Genesee Avenue between Eastgate Mall to Nobel Drive	This improvement includes temporary restriping of Genesee Avenue between Eastgate Mall and Nobel Drive to a four-lane divided roadway as a part of the Mid Coast Trolley construction. The Mid-Coast will restripe back to 6-lanes upon completion of the Mid Coast Trolley.	For the purposes of the traffic analysis, six lanes on Genesee Avenue were assumed in the Near-Term analysis.
Genesee Avenue / Esplanade Court Intersection	This improvement includes reconfiguration of the EB approach to include a left-turn lane, a shared left-through lane and a dedicated right-turn lane.	The reconfiguration of the EB approach is a condition of approval of the Monte Verde project, which is currently under construction and the signal modification is permitted and bonded.

TABLE 11–2
CONSIDERED BUT NOT ASSUMED PLANNED LOCAL IMPROVEMENTS

Project Name	Improvements	Schedule/ Funding / Notes
Public Facilities Financing Plan (PFFP)		
Genesee Avenue - northbound dual left turn lanes at Eastgate Mall (NUC-52)	This improvement includes providing dual northbound left-turn lanes at Genesee Avenue/Eastgate Mall intersection.	This project is funded through the FBA-NUC. Even though this project was funded, the Mid Coast Trolley project precludes this improvement from being implemented.
Genesee Avenue - Nobel Drive to SR-52 (NUC-A)	This improvement includes repurposing the right-of-way to provide for a six-lane Major Arterial from Nobel drive to Decoro Street, a six-lane Prime Arterial from Decoro Street to Centurion Square, and a six-lane Major Arterial between Centurion Square and State Route 52 on Genesee Avenue.	The project was planned to be funded through FBA-NUC and STATE. The 2016 *UCPA* concluded the repurposing of Genesee Avenue would not be implemented.
Nobel Drive between Lebon Drive to Regents Road and Genesee Avenue to Towne Centre Drive (NUC-J)	This improvement includes providing a Six-lane Major street on Nobel Drive from Danica Mae Road to Regents Road, and a modified Six-lane Primary Arterial from Genesee to Towne Centre Drive. Dual left turn lanes on Nobel Drive at Genesee Avenue and Towne Centre Drive are also proposed.	This project is funded through FBA-NUC. However, the UCPA does not recommend widening of Nobel Drive.
Approved Project's Mitigation		
Nobel Drive – Genesee Avenue to Towne Centre Drive	This improvement includes construction of an additional WB lane.	The construction of the additional WB lane is a condition of approval for the Westfield UTC project.
La Jolla Village Drive / Regents Road Intersection	This improvement includes construction of a WB right-turn lane.	The construction of the WB right-turn lane is a condition of approval for the UTC Revitalization project. However, this improvement was not assumed.
La Jolla Village Drive / Genesee Avenue Intersection	This improvement includes construction of a second WB right-turn lane.	The construction of the WB right-turn lane is a condition of approval of the Monte Verde project. However, this improvement was not assumed.
I-5/La Jolla Village Drive NB on-ramp	This improvement includes construction of a HOV on-ramp lane.	The construction of the HOV lane is a condition of approval for the Westfield UTC project. However, this improvement was not assumed.

TABLE 11–2
CONSIDERED BUT NOT ASSUMED PLANNED LOCAL IMPROVEMENTS

Project Name	Improvements	Schedule/ Funding / Notes
Community Plan Amendment Recommendations		
Genesee Avenue / Decoro Street	This improvement includes providing an exclusive right-turn lane on the westbound approach.	2016 UCPA concluded this improvement as feasible. However, this improvement was not assumed.
Genesee Avenue / Governor Drive	This improvement includes providing a grade separation by removing the NB and SB thru movements and creating an undercrossing for two (2) northbound and southbound thru lanes.	2016 UCPA concluded this improvement as infeasible.
Genesee Avenue – La Jolla Village Drive to Esplanade Court	This improvement includes the repurposing the right-of-way to provide for a 6-lane Prime Arterial.	2016 UCPA concluded this improvement as feasible. However, this was not assumed due to the loading dock entrance on the UTC side
Genesee Avenue – Nobel Drive to Centurion Square	This improvement includes repurposing the right-of-way to provide for a 6-lane Major Arterial between Nobel Drive and Decoro Street and modified 6-lane Prime Arterial between Decoro Street and Centurion Square.	2016 UCPA concluded this improvement as infeasible.
Genesee Avenue – Centurion Square to Governor Drive	This improvement includes repurposing the right-of-way to provide for a 6-lane Major Arterial.	2016 UCPA concluded this improvement as infeasible.
Genesee Avenue – Governor Drive to SR52 WB Ramps	This improvement includes repurposing the right-of-way to provide for a 6-lane Major Arterial.	2016 UCPA concluded this improvement as infeasible.
La Jolla Village Drive – I-5 NB Ramps to Executive Way	This improvement includes repurposing of the roadway to a 6-lane Prime.	2016 UCPA concluded this improvement as infeasible as it was determined that the on-street parking would remain.

11.1.2 *Planned Regional Improvements*

Table 11–3 identifies the regional improvements assumed in the analysis. These improvements are considered secured and/or in progress.

Table 11–4 identifies regional improvements considered but not assumed in the analysis due to a lack of funding, assured timing, or infeasibility.

TABLE 11–3
ASSUMED PLANNED REGIONAL IMPROVEMENTS

Project Name	Improvements	Schedule/ Funding / Notes
Mid Coast Trolley	This improvement includes construction of a new trolley line connecting Downtown San Diego to the University Community. In the project area, six (6) stations are proposed at Nobel Drive, VA Medical Center, UC San Diego west, UC San Diego east, Executive Drive, and Westfield UTC. As a part of the new trolley line, several intersections along Genesee Avenue will include removal of turn lanes.	The Mid-Coast Trolley was identified as a high-priority project by SANDAG and is a part of the *TransNet* Early Action Program. This project is fully funded, **under construction** and expected to be in service by late 2021.

TABLE 11–4
CONSIDERED BUT NOT ASSUMED PLANNED REGIONAL IMPROVEMENTS

Project Name	Improvements	Schedule/ Funding / Notes
I-5 Express Lanes Project	This Caltrans improvement includes adding two Express Lanes in each direction from La Jolla Village Drive in San Diego to Harbor Drive in Oceanside, separated from the existing general-purpose lanes by a painted, striped buffer. These improvements include the construction of four HOV/ Express Lanes (two lanes in each direction). Direct Access Ramps (DAR) are proposed at Voigt Drive and Manchester Avenue to provide commuters direct access to the HOV and Express Lanes.	The project is consistent with the SANDAG 2050 RTP and will be constructed in phases from 2016 through 2040. Per the SANDAG 2050 RTP, under the Revenue Constrained scenario, the addition of managed lanes on I-5 between La Jolla Village Drive and I-805 is programmed in the Year 2020. Given the long-term nature of the project and funding status as unknown, this improvement was not assumed.
I-5 Managed Lanes Project	This Caltrans I-5 improvement includes widening of I-5 between I-8 and La Jolla Village Drive to provide a managed lane in each direction.	Per the SANDAG 2050 RTP, under the Revenue Constrained scenario, the addition of managed lanes on I-5 is programmed in the Year 2050. Given the long-term nature of the project and funding status as unknown, this improvement was not assumed.
I-805 North Express Lanes Project	This Caltrans I-805 improvement includes widening of the freeway to accommodate four High Occupancy Vehicle (HOV) lanes from SR 52 to La Jolla Village Drive and two HOV lanes from La Jolla Village Drive to I-5. These improvements include the construction of four HOV/ Express Lanes, Direct Access Ramps (DAR) at Nobel Drive to provide commuters direct access to the HOV and Express Lanes, and Park and Ride facilities, which will provide commuters with access to a planned Bus Rapid Transit (BRT) System.	Per the SANDAG 2050 RTP, under the Revenue Constrained scenario, the addition of managed lanes on I-805 is programmed in the Year 2020. Stage 1 has been partially completed with one carpool lane in each direction currently open between Governor Drive and I-5. Stages II through proposes to construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. The construction start date for these improvements are pending as there is no funding in place currently and there is no guarantee that this improvement would be completed. Given the long-term nature of the project and funding status as unknown, this improvement was not assumed.
SR 52 Widening	This Caltrans SR 52 improvement includes widening State Route 52 between I-5 and I-805 by one additional mainline in each direction (4-lanes to 6-lanes).	This improvement is programmed in the RTP under the Revenue Constrained scenario in the Year 2050. Given the long-term nature of the project and funding status as unknown, this improvement was not assumed.

Figure 11–1 shows the assumed local and regional improvements for the study area street segments and intersections under Near-Term (Opening Day 2023).

Excerpts from the documents pertaining to the study area can be found in ***Appendix J.***

11.2 Near-Term (Opening Day 2023) Traffic Volumes

Near-Term (Opening Day 2023) traffic volumes were calculated for the study area by adding the Near-Term cumulative project volumes onto the existing volumes. The traffic volumes represent LLG's and the City's best efforts of forecasting Near-Term (Opening Day 2023) conditions with the most recent information available at the time this report was prepared.

Figure 11–2 shows the Near-Term (Opening Day 2023) without Project traffic volumes. ***Figure 11–3*** shows the Near-Term (Opening Day 2023) + Project traffic volumes.

11.3 Intersection Operations

Intersection capacity analyses were conducted for the study intersections under Near-Term (Opening Day 2023) without and with Project conditions. ***Table 11–5*** reports the intersection operations during the peak hour conditions. The following seventeen (17) intersections are calculated to operate at LOS E or F in the without and with Project conditions:

1. Eastgate Mall / Genesee Avenue (LOS E during the AM peak hour)
5. La Jolla Village Drive / Regents Road (LOS F during the AM and PM peak hours)
7. La Jolla Village Drive / Genesee Avenue (LOS E during the AM and PM peak hours)
8. La Jolla Village Drive / Executive Way (LOS F during the PM peak hour)
9. La Jolla Village Drive / Towne Centre Drive (LOS F during the AM and PM peak hours)
10. I-805 SB Ramps / La Jolla Village Drive (LOS F during the AM peak hour, LOS E during the PM peak hour)
11. I-805 NB Ramps / Miramar Road (LOS E during the PM peak hour)
14. Genesee Avenue / Esplanade Court (LOS E during the PM peak hour in the without project scenario; LOS F during the PM peak hour in the with project scenario)
19. Nobel Drive / Regents Road (LOS E during the PM peak hour)
20. Nobel Drive / Costa Verde Boulevard (LOS E during the AM peak hour)
25. Nobel Drive / Judicial Drive (LOS F during the AM peak hour)
28. Genesee Avenue / Decoro Street (LOS F during the PM peak hour)
29. Genesee Avenue / Governor Drive (LOS F during the AM peak hour, LOS E during the PM peak hour)
30. Genesee Avenue / SR 52 WB Ramps (LOS F during the PM peak hour)
31. Genesee Avenue / SR 52 EB Ramps (LOS F during the PM peak hour in the without project scenario; LOS E during the AM peak hour and LOS F during the PM peak hour in the with project scenario)
32. Genesee Avenue / Centurion Square (LOS E during the AM peak hour)

34. Nobel Drive / Lombard Place (LOS E during the PM peak hour)

Appendix K contains the intersection analysis worksheets for the Near-Term (Opening Day 2023) without and with Project scenario.

Based on the City of San Diego's significance criteria, **significant direct project impacts** are identified at the following intersections as the increase in delay due to the project exceeds the allowable threshold or the project's traffic takes the facility from acceptable to unacceptable level of service:

14. Genesee Avenue / Esplanade Court (LOS F during the PM peak hour)
28. Genesee Avenue / Decoro Street (LOS F during the PM peak hour)
29. Genesee Avenue / Governor Drive (LOS F during the AM peak hour)
30. Genesee Avenue / SR 52 WB Ramps (LOS F during the PM peak hour)
31. Genesee Avenue / SR 52 EB Ramps (LOS E during the AM peak hour and LOS F during the PM peak hour)

Mitigation measures for these impacts are discussed in detail in *Section 14.2*.

TABLE 11–5
NEAR-TERM (OPENING DAY 2023) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Near-Term		Near-Term + Project (Opening Day 2023)		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
1. Eastgate Mall / Genesee Avenue	Signal	AM	**75.1**	**E**	**75.6**	**E**	0.5	No
		PM	46.7	D	47.3	D	0.6	No
2. I-5 SB Ramps / La Jolla Village Drive	Signal	AM	24.2	C	24.6	C	0.4	No
		PM	34.5	C	35.2	D	0.7	No
3. I-5 NB Ramps / La Jolla Village Drive	Signal	AM	43.5	D	44.0	D	0.5	No
		PM	39.7	D	41.3	D	1.6	No
4. La Jolla Village Drive / Lebon Drive	Signal	AM	29.9	C	30.0	C	0.1	No
		PM	41.7	D	42.2	D	0.5	No
5. La Jolla Village Drive / Regents Road	Signal	AM	**82.5**	**F**	**83.1**	**F**	0.6	No
		PM	**114.5**	**F**	**115.4**	**F**	0.9	No
6. La Jolla Village Drive / Costa Verde Boulevard	MSSC[d]	AM	12.7	B	13.0	B	0.3	No
		PM	11.4	B	11.6	B	0.2	No
7. La Jolla Village Drive / Genesee Avenue	Signal	AM	**61.2**	**E**	**62.7**	**E**	1.5	No
		PM	**57.5**	**E**	**57.8**	**E**	0.3	No
8. La Jolla Village Drive / Executive Way	Signal	AM	23.6	C	23.7	C	0.1	No
		PM	**95.7**	**F**	**96.0**	**F**	0.3	No
9. La Jolla Village Drive / Towne Centre Drive	Signal	AM	**140.3**	**F**	**140.7**	**F**	0.4	No
		PM	**196.0**	**F**	**196.4**	**F**	0.4	No
10. I-805 SB Ramps / La Jolla Village Drive	Signal	AM	**150.0**	**F**	**150.8**	**F**	0.8	No
		PM	**75.5**	**E**	**77.4**	**E**	1.9	No
11. I-805 NB Ramps / Miramar Road	Signal	AM	40.8	D	43.0	D	2.2	No
		PM	**72.7**	**E**	**74.3**	**E**	1.6	No
12. Costa Verde Boulevard / Loop Road (North)	MSSC[d]	AM	13.0	B	13.5	B	0.5	No
		PM	14.4	B	14.6	B	0.2	No
13. Costa Verde Boulevard / Loop Road (South)	MSSC[d]	AM	10.6	B	11.2	B	0.6	No
		PM	20.5	C	26.7	D	6.2	No
14. Genesee Avenue / Esplanade Court	Signal	AM	27.4	C	54.2	D	26.8	No
		PM	**67.4**	**E**	**96.7**	**F**	**29.3**	**Yes**

TABLE 11–5
NEAR-TERM (OPENING DAY 2023) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Near-Term		Near-Term + Project (Opening Day 2023)		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
15. Genesee Avenue / Costa Verde Center Driveway (South)	MSSC[d]	AM	9.9	A	10.2	B	0.3	No
		PM	11.2	B	12.3	B	1.1	No
16. I-5 SB On Ramp / Nobel Drive	Signal	AM	7.6	A	7.7	A	0.1	No
		PM	10.0	A	10.5	B	0.5	No
17. I-5 NB Off Ramp / Nobel Drive	Signal	AM	24.2	C	25.0	C	0.8	No
		PM	24.9	C	25.5	C	0.6	No
18. Nobel Drive / Lebon Drive	Signal	AM	31.3	C	31.8	C	0.5	No
		PM	43.5	D	43.8	D	0.3	No
19. Nobel Drive / Regents Road	Signal	AM	36.9	D	43.8	D	6.9	No
		PM	**58.9**	**E**	**60.7**	**E**	1.8	No
20. Nobel Drive / Costa Verde Boulevard / Cargill Avenue	Signal	AM	**55.8**	**E**	**57.2**	**E**	1.4	No
		PM	38.0	D	39.7	D	1.7	No
21. Nobel Drive / Costa Verde Center Driveway	MSSC[d]	AM	9.5	A	9.6	A	0.1	No
		PM	9.7	A	9.9	A	0.2	No
22. Nobel Drive / Genesee Avenue	Signal	AM	43.9	D	54.1	D	10.2	No
		PM	42.3	D	43.9	D	1.6	No
23. Nobel Drive / Towne Centre Drive	Signal	AM	26.9	C	27.6	C	0.7	No
		PM	45.7	D	46.6	D	0.9	No
24. Nobel Drive / Shoreline Drive	Signal	AM	13.9	B	14.0	B	0.1	No
		PM	12.2	B	12.3	B	0.1	No
25. Nobel Drive / Judicial Drive	Signal	AM	**120.7**	**F**	**121.5**	**F**	0.8	No
		PM	19.9	B	19.9	B	0.0	No
26. I-805 SB On Ramp / Nobel Drive	Signal	AM	3.5	A	3.7	A	0.2	No
		PM	4.8	A	4.9	A	0.1	No
27. I-805 NB Off Ramp / Nobel Drive	Signal	AM	29.4	C	30.9	C	1.5	No
		PM	24.6	C	24.7	C	0.1	No
28. Genesee Avenue / Decoro Street	Signal	AM	30.9	C	44.7	D	13.8	No
		PM	**279.3**	**F**	**300.4**	**F**	**21.1**	**Yes**

TABLE 11–5
NEAR-TERM (OPENING DAY 2023) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Near-Term		Near-Term + Project (Opening Day 2023)		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
29. Genesee Avenue / Governor Drive	Signal	AM	**368.4**	**F**	**386.1**	**F**	**17.7**	**Yes**
		PM	**65.1**	**E**	**66.7**	**E**	1.6	No
30. Genesee Avenue / SR 52 WB Ramps	MSSC[d]	AM	26.8	D	28.0	D	1.2	No
		PM	**135.0**	**F**	**166.3**	**F**	**31.3**	**Yes**
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	53.3	D	**59.4**	**E**	**6.1**	**Yes**
		PM	**152.6**	**F**	**173.8**	**F**	**21.2**	**Yes**
32. Genesee Avenue / Centurion Square	Signal	AM	**77.4**	**E**	**79.1**	**E**	1.7	No
		PM	21.8	C	28.0	C	6.2	No
33. Genesee Avenue / Executive Drive	Signal	AM	27.4	C	27.5	C	0.1	No
		PM	34.1	C	34.2	C	0.1	No
34. Nobel Drive / Lombard Place	Signal	AM	9.4	A	9.5	A	0.1	No
		PM	**71.0**	**E**	**71.4**	**E**	0.4	No

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. "Δ" denotes the project-induced increase in delay.
d. MSSC – Minor-street Stop-controlled intersection.
e. Intersection #15 is proposed as part of the project and therefore is only analyzed in the "with project" scenarios.

General Notes:

1. **Bold** typeface indicates intersections operating at LOS E or F.
2. N/A – not applicable.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

11.4 Street Segment Operations

Street segment analyses were conducted for roadways in the study area under Near-Term (Opening Day 2023) without and with Project conditions. ***Table 11–6*** reports the street segment operations on a daily basis. As shown in *Table 11–6,* majority of the study area segments are calculated to operate at LOS D or better. The following five (5) segments are calculated to operate at LOS E or LOS F in the without and with Project conditions:

- La Jolla Village Drive: I-5 to Lebon Drive (LOS F)
- La Jolla Village Drive: Lebon Drive to Regents Road (LOS E)
- La Jolla Village Drive: Genesee Avenue to Executive Way (LOS E)
- Genesee Avenue: Decoro Street to Centurion Square (LOS E)
- Genesee Avenue: Centurion Square to Governor Drive (LOS E)

Based on the City of San Diego's significance criteria, **significant direct project impacts** are identified on the following segments as the project traffic contribution exceeds the allowable threshold or the project's traffic takes the facility from acceptable to unacceptable level of service.

- Genesee Avenue: Decoro Street to Centurion Square (LOS E)
- Genesee Avenue: Centurion Square to Governor Drive (LOS E)

Mitigation measures for these impacts are discussed in detail in *Section 14.2.*

TABLE 11–6
NEAR-TERM (OPENING DAY 2023) STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	Near-Term			Near-Term + Project (Opening Day 2023)			V/C Increase	Sig
			ADT[b]	LOS[c]	V/C[d]	ADT[b]	LOS[c]	V/C[d]		
La Jolla Village Drive										
I-5 to Lebon Drive	6-Lane Major Arterial	50,000	**51,620**	**F**	**1.032**	**52,120**	**F**	**1.042**	0.010	No
Lebon Drive to Regents Road	6-Lane Major Arterial	50,000	**48,970**	**E**	**0.979**	**49,370**	**E**	**0.987**	0.008	No
Regents Road to Costa Verde Boulevard	6-Lane Major Arterial	50,000	40,280	D	0.806	40,630	D	0.813	0.007	No
Costa Verde Boulevard to Genesee Avenue	6-Lane Major Arterial	50,000	42,640	D	0.853	42,940	D	0.859	0.006	No
Genesee Avenue to Executive Way	6-Lane Major Arterial	50,000	**49,220**	**E**	**0.984**	**49,970**	**E**	**0.999**	0.015	No
Executive Way to Towne Centre Drive	6-Lane Prime Arterial	60,000	51,540	D	0.859	52,290	D	0.872	0.013	No
Towne Centre Drive to I-805	8-Lane Prime Arterial	80,000	68,560	C	0.857	69,260	C	0.866	0.009	No
Nobel Drive										
I-5 to Lebon Drive	6-Lane Major Arterial	50,000	24,960	B	0.499	25,610	B	0.512	0.013	No
Lebon Drive to Regents Road	6-Lane Major Arterial	50,000	26,810	B	0.536	27,710	B	0.554	0.018	No
Regents Road to Costa Verde Boulevard	6-Lane Major Arterial	50,000	26,560	B	0.531	27,910	B	0.558	0.027	No
Costa Verde Boulevard to Genesee Avenue	6-Lane Major Arterial	50,000	24,420	B	0.488	25,770	B	0.515	0.027	No
Genesee Avenue to Lombard Place	4-Lane Major Arterial	40,000	24,420	C	0.611	24,970	C	0.624	0.013	No
Lombard Place to Towne Centre Drive	4-Lane Major Arterial	40,000	22,500	C	0.563	23,050	C	0.576	0.013	No
Towne Centre Drive to Shoreline Drive	6-Lane Prime Arterial	60,000	15,980	A	0.266	16,430	A	0.274	0.008	No
Shoreline Drive to Judicial Drive	6-Lane Prime Arterial	60,000	18,580	A	0.310	18,980	A	0.316	0.006	No

TABLE 11–6
NEAR-TERM (OPENING DAY 2023) STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	Near-Term			Near-Term + Project (Opening Day 2023)			V/C Increase	Sig
			ADT[b]	LOS[c]	V/C[d]	ADT[b]	LOS[c]	V/C[d]		
Judicial Drive to I-805	6-Lane Major Arterial	50,000	29,820	C	0.596	30,220	C	0.604	0.008	No
Lebon Drive										
La Jolla Village Drive to Nobel Drive	5-Lane Major Arterial	45,000	15,750	A	0.350	15,900	A	0.353	0.003	No
Regents Road										
Executive Drive to La Jolla Village Drive	4-Lane Collector *(continuous left-turn lane)*	30,000	23,270	D	0.776	23,420	D	0.781	0.005	No
La Jolla Village Drive to Nobel Drive	5-Lane Major Arterial	45,000	17,440	A	0.388	17,690	B	0.393	0.005	No
South of Nobel Drive	4-Lane Major Arterial	40,000	16,740	B	0.419	16,940	B	0.424	0.005	No
Genesee Avenue										
Eastgate Mall to Executive Drive	6-Lane Major Arterial	50,000	34,860	C	0.697	35,210	C	0.704	0.007	No
Executive Drive to La Jolla Village Drive	6-Lane Major Arterial	50,000	37,070	C	0.741	37,620	C	0.752	0.011	No
La Jolla Village Drive to Esplanade Court	6-Lane Major Arterial	50,000	32,470	C	0.649	34,010	C	0.680	0.031	No
Esplanade Court to Nobel Drive	6-Lane Major Arterial	50,000	29,590	C	0.592	31,610	C	0.632	0.040	No
Nobel Drive to Decoro Street	4-Lane Major Arterial	40,000	33,840	D	0.846	34,940	D	0.874	0.028	No
Decoro Street to Centurion Square	4-Lane Major Arterial	40,000	**35,110**	**E**	**0.878**	**36,210**	**E**	**0.905**	**0.027**	**Yes**
Centurion Square to Governor Drive	4-Lane Major Arterial	40,000	**36,540**	**E**	**0.914**	**37,640**	**E**	**0.941**	**0.027**	**Yes**

TABLE 11–6
NEAR-TERM (OPENING DAY 2023) STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	Near-Term			Near-Term + Project (Opening Day 2023)			V/C Increase	Sig
			ADT[b]	LOS[c]	V/C[d]	ADT[b]	LOS[c]	V/C[d]		
Governor Drive to SR 52	4-Lane Major Arterial	40,000	33,250	D	0.831	34,100	D	0.853	0.022	No

Footnotes:
a. Capacities based on City of San Diego Roadway Classification Table.
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.

General Notes:
1. **Bold** typeface indicates segments operating at LOS E or F.

11.5 Freeway Mainline Segment Operations

Freeway segments were analyzed under Near-Term (Opening Day 2023) without and with Project conditions. ***Appendix L*** contains the detailed calculations sheets. As shown in ***Tables 11–7a*** and ***11–7b***, the following seven (7) segments were calculated to operate at LOS E or F in the without and with Project conditions:

I-5

- I-5 between Gilman Drive and Nobel Drive, *LOS E–AM (SB) and LOS E/F–PM (NB/SB)*
- I-5 between Nobel Drive and La Jolla Village Drive, *LOS F–PM (SB)*
- I-5 between La Jolla Village Drive and Genesee Avenue, *LOS E–AM (SB) and LOS E/F–PM (NB/SB)*

I-805

- I-805 between Governor Drive and Nobel Drive, *LOS F–AM (NB) and LOS F–PM (SB)*
- I-805 between Nobel Drive and La Jolla Village Drive, *LOS E–AM (NB) and LOS F–PM (SB)*
- I-805 between La Jolla Village Drive and Mira Mesa Boulevard, *LOS E–AM (NB) and LOS F–PM (SB)*

SR 52

- SR 52 between Genesee Avenue and I-805, *LOS F/F–AM (EB/WB) and LOS F–PM (EB)*

Based on the City of San Diego's significance criteria, **significant direct project impacts** identified at the following freeway segments as the project contribution to these freeway segments exceeds the allowable threshold or the project's traffic takes the facility from acceptable to unacceptable level of service.

I-5

- I-5 between Gilman Drive and Nobel Drive, *LOS F–PM (SB)*

I-805

- I-805 between Governor Drive and Nobel Drive, *LOS F–AM (NB)*

SR 52

- SR 52 between Genesee Avenue and I-805, *LOS F–AM (WB) and LOS F–PM (EB)*

TABLE 11–7A
NEAR-TERM (OPENING DAY 2023) FREEWAY SEGMENT OPERATIONS—AM PEAK HOUR

Freeway and Segment	Near-Term (Opening Day 2023) ADT	Near-Term (Opening Day 2023) + Project ADT	Direction & Number of Lanes		Near-Term (Opening Day 2023)			Near-Term + Project (Opening Day 2023)			V/C Delta	Significant
					V/C[a]	Density	LOS[b]	V/C[a]	Density	LOS[b]		
I-5												
Gilman Drive to Nobel Drive	183,880	184,330	NB Mainlines	4M	0.740	28.70	D	0.745	28.90	D	0.005	No
			SB Mainlines	4M	**0.929**	**39.10**	**E**	**0.930**	**39.10**	**E**	0.001	No
Nobel Drive to La Jolla Village Drive	160,200	160,200	NB Mainlines	4M	0.633	24.60	C	0.633	24.60	C	0.000	No
			SB Mainlines	4M	0.795	31.10	D	0.795	31.10	D	0.000	No
La Jolla Village Drive to Genesee Avenue	175,220	175,520	NB Mainlines	4M	0.677	26.20	D	0.678	26.20	D	0.001	No
			SB Mainlines	4M	**0.990**	**44.10**	**E**	**0.995**	**44.50**	**E**	0.005	No
I-805												
Governor Drive to Nobel Drive	212,890	213,340	NB Mainlines	4M+ 1A	**1.054**	**>45.00**	**F**	**1.059**	**>45.00**	**F**	0.005	**Yes [c]**
			SB Mainlines	4M+ 1A	0.556	20.10	C	0.557	20.10	C	0.001	No
Nobel Drive to La Jolla Village Drive	189,160	189,260	NB Mainlines	4M+ 1A	**0.922**	**37.50**	**E**	**0.923**	**37.70**	**E**	0.001	No
			SB Mainlines	4M	0.553	21.60	C	0.554	21.70	C	0.001	No
La Jolla Village Drive to Mira Mesa Boulevard	189,240	189,640	NB Mainlines	4M+ 1A	**0.894**	**35.40**	**E**	**0.895**	**35.50**	**E**	0.001	No
			SB Mainlines	4M+ 1A	0.519	18.60	C	0.523	18.70	C	0.004	No
SR 52												
Genesee Avenue to I-805	102,130	102,680	EB Mainlines	4M	**1.149**	**>45.00**	**F**	**1.151**	**>45.00**	**F**	0.002	No
			WB Mainlines	4M	**1.082**	**>45.00**	**F**	**1.096**	**>45.00**	**F**	**0.014**	**Yes**

Footnotes:
a. Volume to Capacity.
b. Level of Service.
c. A significant impact is identified at this location since the reduction in speed due to the project exceeds the allowable threshold.

LOS	Density Range (pc/mi/ln)
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45

General Notes:
1. See *Appendix L* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.
3. The above analyses were conducted for the General-Purpose Lanes only. The associated capacities of the HOV lanes were not included.

TABLE 11–7B
NEAR-TERM (OPENING DAY 2023) FREEWAY SEGMENT OPERATIONS—PM PEAK HOUR

Freeway and Segment	Near-Term (Opening Day 2023) ADT	Near-Term (Opening Day 2023) + Project ADT	Direction & Number of Lanes		Near-Term (Opening Day 2023)			Near-Term (Opening Day 2023) + Project			V/C Delta	Significant
					V/C[a]	Density	LOS[b]	V/C[a]	Density	LOS[b]		
I-5												
Gilman Drive to Nobel Drive	183,880	184,330	NB Mainlines	4M	**0.905**	**37.40**	**E**	**0.907**	**37.50**	**E**	0.002	No
			SB Mainlines	4M	**0.906**	**>45.00**	**F**	**0.912**	**>45.00**	**F**	0.006	**Yes**
Nobel Drive to La Jolla Village Drive	160,200	160,200	NB Mainlines	4M	0.796	31.30	D	0.796	31.30	D	0.000	No
			SB Mainlines	4M	**0.809**	**>45.00**	**F**	**0.809**	**>45.00**	**F**	0.000	No
La Jolla Village Drive to Genesee Avenue	175,220	175,520	NB Mainlines	4M	**0.881**	**35.90**	**E**	**0.884**	**36.00**	**E**	0.003	No
			SB Mainlines	4M	**0.851**	**>45.00**	**F**	**0.852**	**>45.00**	**F**	0.001	No
I-805												
Governor Drive to Nobel Drive	212,890	213,340	NB Mainlines	4M+ 1A	0.690	25.00	C	0.692	25.00	C	0.002	No
			SB Mainlines	4M+ 1A	**1.223**	**>45.00**	**F**	**1.227**	**>45.00**	**F**	0.004	No
Nobel Drive to La Jolla Village Drive	189,160	189,260	NB Mainlines	4M+ 1A	0.609	21.90	C	0.609	21.90	C	0.000	No
			SB Mainlines	4M	**1.275**	**>45.00**	**F**	**1.276**	**>45.00**	**F**	0.001	No
La Jolla Village Drive to Mira Mesa Boulevard	189,240	189,640	NB Mainlines	4M+ 1A	0.631	22.50	C	0.634	22.60	C	0.003	No
			SB Mainlines	4M+ 1A	**1.035**	**>45.00**	**F**	**1.036**	**>45.00**	**F**	0.001	No
SR 52												
Genesee Avenue to I-805	102,130	102,680	EB Mainlines	2M	**1.206**	**>45.00**	**F**	**1.218**	**>45.00**	**F**	**0.012**	**Yes**
			WB Mainlines	2M	0.738	28.30	D	0.742	28.40	D	0.004	No

Footnotes:
a. Volume to Capacity.
b. Level of Service.
c. A significant impact is identified at this location since the reduction in speed due to the project exceeds the allowable threshold.

LOS	Density Range (pc/mi/ln)
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45

General Notes:
1. See *Appendix L* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.
3. The above analyses were conducted for the General-Purpose Lanes only. The associated capacities of the HOV lanes were not included.

11.6 Metered Freeway On-Ramp Operations

Freeway on-ramps that currently have ramp meters installed and in operation were analyzed under Near-Term (Opening Day 2023) without and with Project conditions based on the most restrictive meter rates provided by Caltrans. As shown in ***Table 11–8*****,** the following two (2) metered freeway on-ramps would incur a delay exceeding 15 minutes in the without and with Project conditions:

- WB La Jolla Village Drive to SB I-5 (PM peak hour)
- Nobel Drive to SB I-805 (PM peak hour)

Based on the City of San Diego's significance criteria, **significant "**direct" project impacts are identified on the following ramp meters as the project contribution to this ramp meter exceeds the allowable thresholds:

- Nobel Drive to SB I-805 (PM peak hour)

TABLE 11–8
NEAR-TERM (OPENING DAY 2023) RAMP METER OPERATIONS

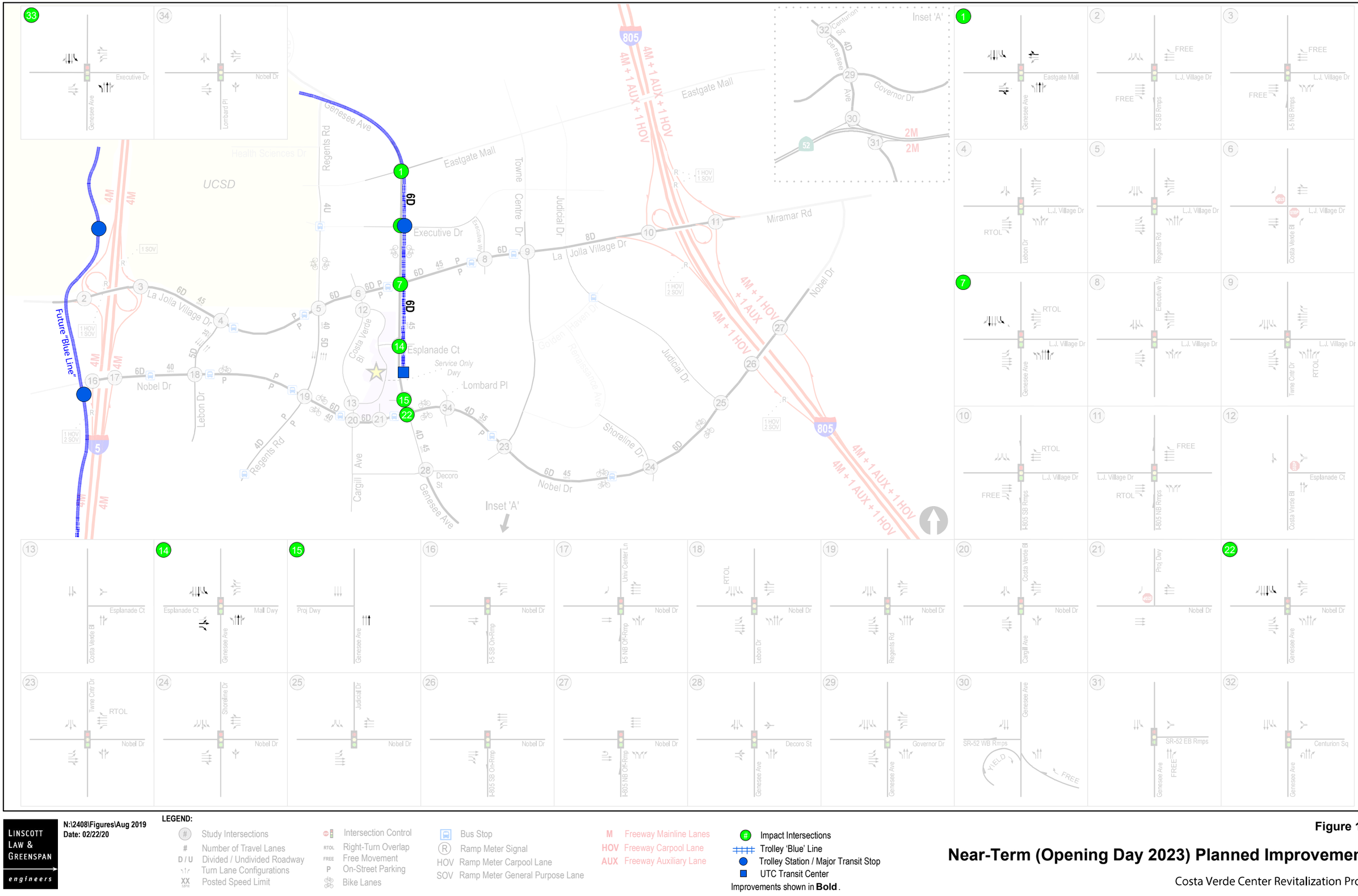
Location/Condition	Peak Hour	Peak Hour Demand	SOV Demand (veh/hr/lane)	Ramp Meter Rate (Flow)[a] (veh/hr/lane)	Excess Demand (veh/hr/lane)	Delay per Lane [b]	Queue per Lane [c]
WB La Jolla Village Drive to NB I-5 (1 SOV lane)							
Near-Term (Opening Day 2023)	PM	651	651	555	96	10	2400
Near-Term (Opening Day 2023) + Project	PM	678	678	555	123	13	3075
Project Increase	PM	27	27	555	27	3	675
WB La Jolla Village Drive to SB I-5 (1 SOV lane + 1 HOV lane)							
Near-Term (Opening Day 2023)	PM	1245	996	643	353	33	8825
Near-Term (Opening Day 2023) + Project	PM	1245	996	643	353	33	8825
Project Increase	PM	0	0	643	0	0	0
EB La Jolla Village Drive to NB I-805 (1 SOV lane + 1 HOV lane)							
Near-Term (Opening Day 2023)	AM	869	695	559	136	15	3400
Near-Term (Opening Day 2023) + Project	AM	877	702	559	143	15	3575
Project Increase	AM	8	7	559	7	0	175
EB La Jolla Village Drive to SB I-805 (2 SOV lanes + 1 HOV lane)							
Near-Term (Opening Day 2023)	PM	1320	528	593	0	0	0
Near-Term (Opening Day 2023) + Project	PM	1329	532	593	0	0	0
Project Increase	PM	9	4	593	0	0	0
Nobel Drive to SB I-5 (2 SOV lanes + 1 HOV lane)							
Near-Term (Opening Day 2023)	PM	1118	447	374	73	12	1,825
Near-Term (Opening Day 2023) + Project	PM	1159	464	374	90	14	2,250
Project Increase	PM	41	17	374	17	2	425
Nobel Drive to SB I-805 (2 SOV lanes + 1 HOV lane)							
Near-Term (Opening Day 2023)	PM	1093	437	229	208	**54**	5200
Near-Term (Opening Day 2023) + Project	PM	1125	450	229	221	**58**	5525
Project Increase	PM	32	13	229	13	**4**	325

Footnotes:

a. Meter rates obtained from Caltrans were utilized with the exception of the I-5/Nobel Drive ramp, which was calibrated based on field observations and reduced further from the most restrictive rate of 528 vehicles/hour/lane.
b. Delay expressed in minutes per lane.
c. Queue expressed in feet per lane calculated as excess demand * 25 feet per vehicle.

General Notes:

1. **Bold** typeface indicates a significant ramp meter impact.
2. NA = Not Applicable.



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LEGEND:

- # Study Intersections
- # Number of Travel Lanes
- D / U Divided / Undivided Roadway
- Turn Lane Configurations
- XX Posted Speed Limit
- Intersection Control
- RTOL Right-Turn Overlap
- FREE Free Movement
- P On-Street Parking
- Bike Lanes
- Bus Stop
- R Ramp Meter Signal
- HOV Ramp Meter Carpool Lane
- SOV Ramp Meter General Purpose Lane
- M Freeway Mainline Lanes
- HOV Freeway Carpool Lane
- AUX Freeway Auxiliary Lane
- Impact Intersections
- Trolley 'Blue' Line
- Trolley Station / Major Transit Stop
- UTC Transit Center

Improvements shown in **Bold**.

Figure 11-1

Near-Term (Opening Day 2023) Planned Improvements

Costa Verde Center Revitalization Project

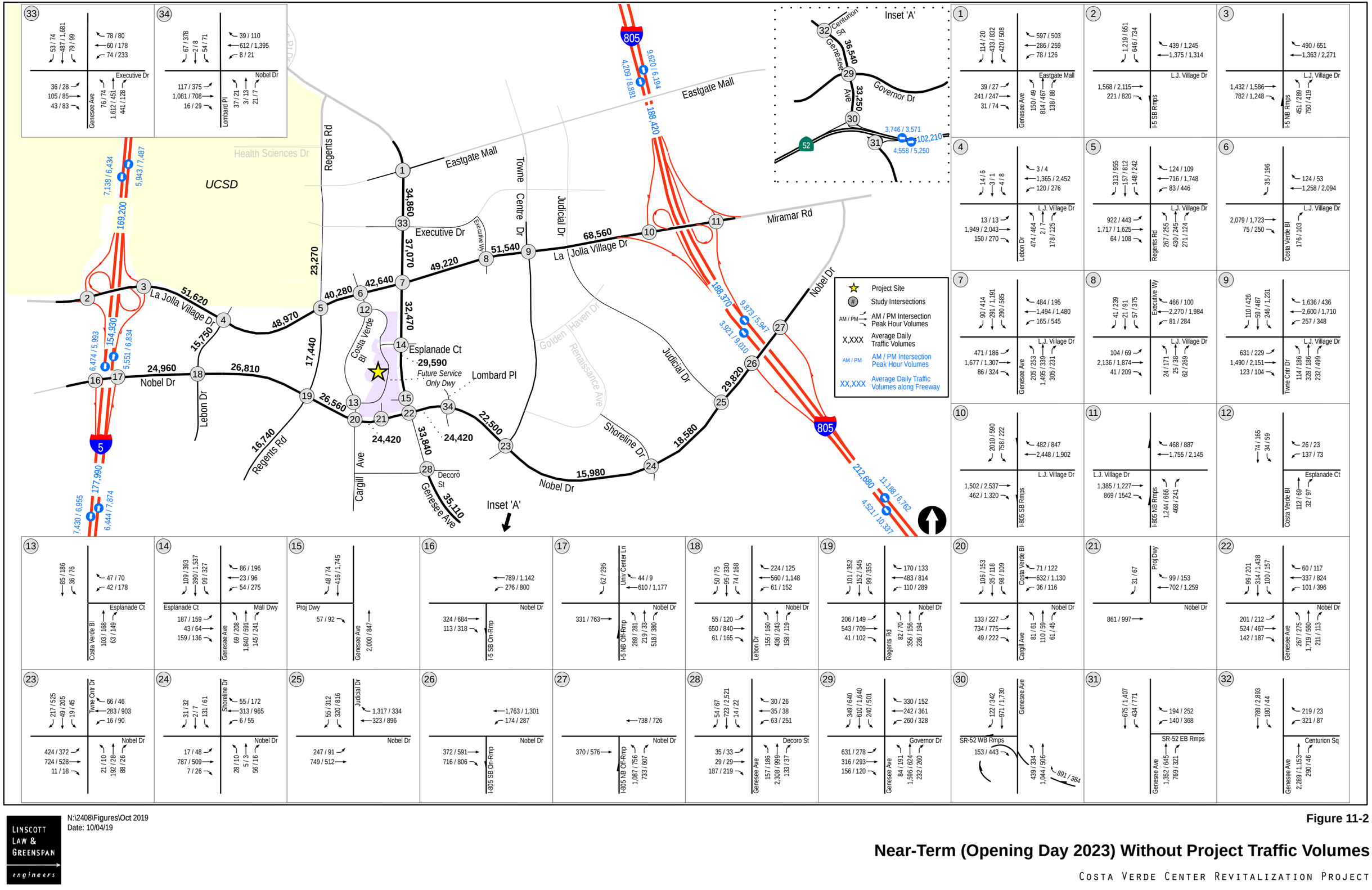

Figure 11-2

Near-Term (Opening Day 2023) Without Project Traffic Volumes

Costa Verde Center Revitalization Project

Linscott Law & Greenspan engineers

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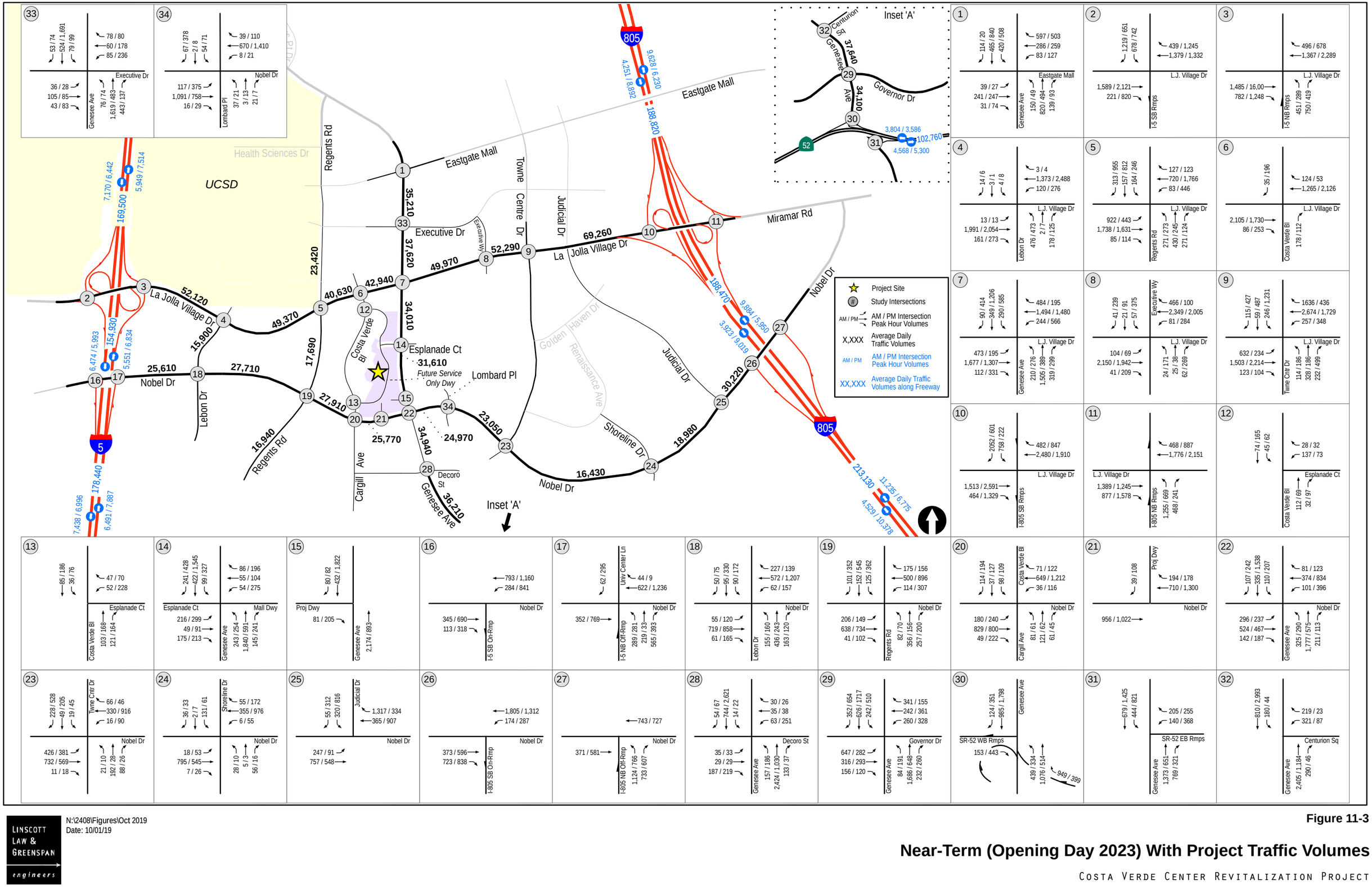

Figure 11-3

Near-Term (Opening Day 2023) With Project Traffic Volumes

COSTA VERDE CENTER REVITALIZATION PROJECT

LINSCOTT LAW & GREENSPAN engineers

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12.0 YEAR 2035 (COMMUNITY BUILDOUT) ANALYSIS

The following section presents the analysis of study area intersections, street segments, and freeway segments under Year 2035 (Community Buildout) conditions.

12.1 Network Conditions

12.1.1 *Planned Local and Regional Improvements*

No additional planned local or regional improvements than those included in the Near-Term (Opening Day 2023) scenario were assumed in the Year 2035 (Community Buildout) analysis.

Figure 12–1 shows the assumed local and regional improvements for the study area street segments and intersections under Year 2035 (Community Buildout).

12.1.2 *Traffic Volumes*

The Year 2035 without Project forecast volumes were obtained from the *Costa Verde Revitalization Center DEIR* (2016), which were based on a SANDAG Series 12 model. The Year 2035 represent the buildout of the community and the buildout land uses were captured as a part of the UCPA. The Costa Verde DEIR included forecast volumes for four (4) roadway network alternatives that included a combination of Regents Road 4-lane bridge crossing over Rose Canyon linking north and south University and/or additional through lanes (to 6-lanes) on Genesee Avenue between State Route 52 and Nobel Drive.

Based on the December 2016 City Council vote, the Regents Road bridge and the widening of Genesee Avenue was rejected. Therefore, the *Alternative D: Genesee Avenue (4-lanes) with no Regents Road Bridge* forecast volumes were used as the Year 2035 without project. The project trip assignment was added to the Year 2035 without project traffic volumes to obtain Year 2035 with project traffic volumes.

Figure 12–2 shows the Year 2035 (Community Buildout) without project traffic volumes, and ***Figure 12–3*** shows the Year 2035 (Community Buildout) + Project traffic volumes.

12.2 Intersection Operations

Intersection capacity analyses were conducted for the study intersections under Year 2035 (Community Buildout) without and with Project conditions. ***Table 12–1*** reports the intersection operations during the peak hour conditions. The following twenty-one (21) intersections are calculated to operate at LOS E or F in the without and with Project conditions:

1. Eastgate Mall / Genesee Avenue (LOS F during the AM peak hour and LOS E during the PM peak hour)
5. La Jolla Village Drive / Regents Road (LOS F during the AM and PM peak hours)
7. La Jolla Village Drive / Genesee Avenue (LOS F/E during the AM/PM peak hours in the without project scenario; LOS F during the AM and PM peak hours in the with project scenario)
8. La Jolla Village Drive / Executive Way (LOS F during the PM peak hour)

9. La Jolla Village Drive / Towne Centre Drive (LOS F during the AM and PM peak hours)
10. I-805 SB Ramps / La Jolla Village Drive (LOS F during the AM peak hour, LOS E during the PM peak hour)
11. I-805 NB Ramps / Miramar Road (LOS F during the PM peak hour)
13. Costa Verde Boulevard / Loop Road (South) (LOS F during the PM peak hour)
14. Genesee Avenue / Esplanade Court (LOS F during the PM peak hour in the without project scenario; LOS E during the AM peak hour and LOS F during the PM peak hour in the with project scenario)
17. I-5 NB Off Ramp / Nobel Drive (LOS E during the PM peak hour)
19. Nobel Drive / Regents Road (LOS E during the PM peak hour)
20. Nobel Drive / Costa Verde Boulevard (LOS E during the AM peak hour in the without project scenario; LOS E during the AM and PM peak hours in the with project scenario)
22. Nobel Drive / Genesee Avenue (LOS F during the AM peak hour and LOS E during the PM peak hour)
23. Nobel Drive / Towne Centre Drive (LOS F during the PM peak hour)
25. Nobel Drive / Judicial Drive (LOS F during the AM peak hour)
28. Genesee Avenue / Decoro Street (LOS F during the AM and PM peak hours)
29. Genesee Avenue / Governor Drive (LOS F during the AM and PM peak hours)
30. Genesee Avenue / SR 52 WB Ramps (LOS E during the AM peak hour and LOS F during PM peak hour)
31. Genesee Avenue / SR 52 EB Ramps (LOS F during the AM and PM peak hours)
32. Genesee Avenue / Centurion Square (LOS F during the AM and PM peak hours)
34. Nobel Drive / Lombard Place (LOS F during the PM peak hour)

Appendix M contains the intersection analysis worksheets for the Year 2035 (Community Buildout) without and with Project scenario.

Based on the City of San Diego's significance criteria, **significant cumulative impacts** are identified at the following intersections as the increase in delay due to the project exceeds the allowable threshold:

7. La Jolla Village Drive / Genesee Avenue (LOS F during the AM and PM peak hours)
13. Costa Verde Boulevard / Loop Road (South) (LOS F during the PM peak hour)
14. Genesee Avenue / Esplanade Court (LOS E during the AM peak hour and LOS F during the PM peak hour)
20. Nobel Drive / Costa Verde Boulevard (LOS E during the AM and PM peak hours)
22. Nobel Drive / Genesee Avenue (LOS F during the AM peak hour and LOS E during the PM peak hour)
28. Genesee Avenue / Decoro Street (LOS F during the AM and PM peak hours)
29. Genesee Avenue / Governor Drive (LOS F during the AM and PM peak hours)
30. Genesee Avenue / SR 52 WB Ramps (LOS F during PM peak hour)

31. Genesee Avenue / SR 52 EB Ramps (LOS F during the AM and PM peak hours)

Mitigation measures for these impacts are discussed in detail in *Section 15.2*.

TABLE 12–1
YEAR 2035 (COMMUNITY BUILDOUT) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2035 (Community Buildout)		Year 2035 (Community Buildout) + Project		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
1. Eastgate Mall / Genesee Avenue	Signal	AM	**162.3**	**F**	**162.7**	**F**	0.4	No
		PM	**78.5**	**E**	**78.7**	**E**	0.2	No
2. I-5 SB Ramps / La Jolla Village Drive	Signal	AM	48.8	D	51.9	D	3.1	No
		PM	53.9	D	54.2	D	0.3	No
3. I-5 NB Ramps / La Jolla Village Drive	Signal	AM	47.4	D	48.4	D	1.0	No
		PM	44.7	D	45.2	D	0.5	No
4. La Jolla Village Drive / Lebon Drive	Signal	AM	33.5	C	34.1	C	0.6	No
		PM	48.1	D	51.8	D	3.7	No
5. La Jolla Village Drive / Regents Road	Signal	AM	**104.7**	**F**	**105.4**	**F**	0.7	No
		PM	**175.2**	**F**	**175.9**	**F**	0.7	No
6. La Jolla Village Drive / Costa Verde Boulevard	MSSC[d]	AM	16.1	C	16.2	C	0.1	No
		PM	14.1	B	14.1	B	0.0	No
7. La Jolla Village Drive / Genesee Avenue	Signal	AM	**107.1**	**F**	**115.9**	**F**	**8.8**	**Yes**
		PM	**71.7**	**E**	**80.4**	**F**	**8.7**	**Yes**
8. La Jolla Village Drive / Executive Way	Signal	AM	33.1	C	36.7	D	3.6	No
		PM	**225.2**	**F**	**225.8**	**F**	0.6	No
9. La Jolla Village Drive / Towne Centre Drive	Signal	AM	**203.6**	**F**	**203.9**	**F**	0.3	No
		PM	**234.6**	**F**	**235.2**	**F**	0.6	No
10. I-805 SB Ramps / La Jolla Village Drive	Signal	AM	**190.0**	**F**	**190.3**	**F**	0.3	No
		PM	**78.0**	**E**	**78.4**	**E**	0.4	No
11. I-805 NB Ramps / Miramar Road	Signal	AM	45.5	D	46.8	D	1.3	No
		PM	**99.1**	**F**	**99.4**	**F**	0.3	No
12. Costa Verde Boulevard / Loop Road (North)	MSSC[d]	AM	15.0	B	15.7	C	0.7	No
		PM	19.0	C	19.3	C	0.3	No
13. Costa Verde Boulevard / Loop Road (South)	MSSC[d]	AM	18.6	C	21.2	C	2.6	No
		PM	**97.7**	**F**	**170.9**	**F**	**73.2**	**Yes**
14. Genesee Avenue / Esplanade Court	Signal	AM	51.9	D	**77.4**	**E**	**25.5**	**Yes**
		PM	**112.3**	**F**	**138.1**	**F**	**25.8**	**Yes**

TABLE 12–1
YEAR 2035 (COMMUNITY BUILDOUT) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2035 (Community Buildout)		Year 2035 (Community Buildout) + Project		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
15. Genesee Avenue / Costa Verde Center Driveway (South)	MSSC[d]	AM	10.0	B	11.4	B	1.4	No
		PM	11.4	B	13.3	B	1.9	No
16. I-5 SB On Ramp / Nobel Drive	Signal	AM	8.2	A	8.3	A	0.1	No
		PM	12.1	B	13.4	B	1.3	No
17. I-5 NB Off Ramp / Nobel Drive	Signal	AM	25.4	C	26.9	C	1.5	No
		PM	**71.9**	**E**	**72.9**	**E**	1.0	No
18. Nobel Drive / Lebon Drive	Signal	AM	32.7	C	33.1	C	0.4	No
		PM	45.0	D	45.2	D	0.2	No
19. Nobel Drive / Regents Road	Signal	AM	43.4	D	49.7	D	6.3	No
		PM	**60.2**	**E**	**61.3**	**E**	1.1	No
20. Nobel Drive / Costa Verde Boulevard / Cargill Avenue	Signal	AM	**58.3**	**E**	**76.9**	**E**	**18.6**	**Yes**
		PM	54.4	D	**63.7**	**E**	**9.3**	**Yes**
21. Nobel Drive / Costa Verde Center Driveway	MSSC[d]	AM	9.6	A	9.7	A	0.1	No
		PM	10.4	B	10.7	B	0.3	No
22. Nobel Drive / Genesee Avenue	Signal	AM	**93.4**	**F**	**113.5**	**F**	**20.1**	**Yes**
		PM	**73.6**	**E**	**79.0**	**E**	**5.4**	**Yes**
23. Nobel Drive / Towne Centre Drive	Signal	AM	31.0	C	31.9	C	0.9	No
		PM	**88.9**	**F**	**89.7**	**F**	0.8	No
24. Nobel Drive / Shoreline Drive	Signal	AM	17.6	B	17.7	B	0.1	No
		PM	13.9	B	14.0	B	0.1	No
25. Nobel Drive / Judicial Drive	Signal	AM	**130.6**	**F**	**131.0**	**F**	0.4	No
		PM	22.9	C	22.9	C	0.0	No
26. I-805 SB On Ramp / Nobel Drive	Signal	AM	7.8	A	8.1	A	0.3	No
		PM	8.3	A	8.5	A	0.2	No
27. I-805 NB Off Ramp / Nobel Drive	Signal	AM	29.6	C	31.0	C	1.4	No
		PM	24.7	C	26.0	C	1.3	No
28. Genesee Avenue / Decoro Street	Signal	AM	**157.5**	**F**	**174.9**	**F**	**17.4**	**Yes**
		PM	**328.7**	**F**	**347.5**	**F**	**18.8**	**Yes**

TABLE 12–1
YEAR 2035 (COMMUNITY BUILDOUT) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2035 (Community Buildout)		Year 2035 (Community Buildout) + Project		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
29. Genesee Avenue / Governor Drive	Signal	AM	**507.1**	**F**	**530.3**	**F**	**23.2**	**Yes**
		PM	**86.4**	**F**	**92.8**	**F**	**6.4**	**Yes**
30. Genesee Avenue / SR 52 WB Ramps	MSSC[d]	AM	**38.0**	**E**	**39.9**	**E**	1.9	No
		PM	**249.4**	**F**	**294.4**	**F**	**45.0**	**Yes**
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	**87.8**	**F**	**96.3**	**F**	**8.5**	**Yes**
		PM	**179.6**	**F**	**201.9**	**F**	**22.3**	**Yes**
32. Genesee Avenue / Centurion Square	Signal	AM	**158.3**	**F**	**159.1**	**F**	0.8	No
		PM	**86.1**	**F**	**87.0**	**F**	0.9	No
33. Genesee Avenue / Executive Drive	Signal	AM	36.8	D	37.4	D	0.6	No
		PM	47.6	D	47.7	D	0.1	No
34. Nobel Drive / Lombard Place	Signal	AM	10.6	B	10.7	B	0.1	No
		PM	**151.1**	**F**	**151.4**	**F**	0.3	No

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. "Δ" denotes the project-induced increase in delay.
d. MSSC – Minor-street Stop-controlled intersection.

General Notes:
1. **Bold** typeface indicates intersections operating at LOS E or F.
2. N/A – not applicable.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

12.3 Street Segment Operations

Street segment analyses were conducted for roadways in the study area under Year 2035 (Community Buildout) without and with Project conditions. ***Table 12–2*** reports the street segment operations on a daily basis. The following twelve (12) segments are calculated to operate at LOS E or F in the without and with Project conditions:

- La Jolla Village Drive: I-5 Ramps to Lebon Drive (LOS F)
- La Jolla Village Drive: Lebon Drive to Regents Road (LOS F)
- La Jolla Village Drive: Regents Road to Costa Verde Boulevard (LOS E)
- La Jolla Village Drive: Costa Verde Boulevard to Genesee Avenue (LOS F)
- La Jolla Village Drive: Genesee Avenue to Executive Way (LOS F)
- La Jolla Village Drive: Executive Way to Towne Centre Drive (LOS E)
- Genesee Avenue: Executive Drive to La Jolla Village Drive (LOS E)
- Genesee Avenue: La Jolla Village Drive to Esplanade Court (LOS E)
- Genesee Avenue: Nobel Drive to Decoro Street (LOS F)
- Genesee Avenue: Decoro Street to Centurion Square (LOS F)
- Genesee Avenue: Centurion Square to Governor Drive (LOS F)
- Genesee Avenue: Governor Drive to SR 52 (LOS F)

Based on the City of San Diego's significance criteria, **significant cumulative impacts** are identified on the following segments as the project traffic contribution exceeds the allowable threshold:

- La Jolla Village Drive: Genesee Avenue to Executive Way (LOS F)
- Genesee Avenue: La Jolla Village Drive to Esplanade Court (LOS E)
- Genesee Avenue: Nobel Drive to Decoro Street (LOS F)
- Genesee Avenue: Decoro Street to Centurion Square (LOS F)
- Genesee Avenue: Centurion Square to Governor Drive (LOS F)
- Genesee Avenue: Governor Drive to SR 52 (LOS F)

Mitigation measures for these impacts are discussed in detail in *Section 15.2.*

TABLE 12–2
YEAR 2035 (COMMUNITY BUILDOUT) STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	Year 2035 (Community Buildout)			Year 2035 (Community Buildout) + Project			V/C Increase	Sig
			ADT[b]	LOS[c]	V/C[d]	ADT[b]	LOS[c]	V/C[d]		
La Jolla Village Drive										
I-5 to Lebon Drive	6-Lane Major Arterial	50,000	**52,460**	**F**	**1.049**	**52,960**	**F**	**1.059**	0.010	No
Lebon Drive to Regents Road	6-Lane Major Arterial	50,000	**52,410**	**F**	**1.048**	**52,810**	**F**	**1.056**	0.008	No
Regents Road to Costa Verde Boulevard	6-Lane Major Arterial	50,000	**46,190**	**E**	**0.924**	**46,540**	**E**	**0.931**	0.007	No
Costa Verde Boulevard to Genesee Avenue	6-Lane Major Arterial	50,000	**50,320**	**F**	**1.006**	**50,620**	**F**	**1.012**	0.006	No
Genesee Avenue to Executive Way	6-Lane Major Arterial	50,000	**55,400**	**F**	**1.108**	**56,150**	**F**	**1.123**	**0.015**	**Yes**
Executive Way to Towne Centre Drive	6-Lane Prime Arterial	60,000	**55,810**	**E**	**0.930**	**56,560**	**E**	**0.943**	0.013	No
Towne Centre Drive to I-805	8-Lane Prime Arterial	80,000	72,960	D	0.912	73,660	D	0.921	0.009	No
Nobel Drive										
I-5 to Lebon Drive	6-Lane Major Arterial	50,000	31,330	C	0.627	31,980	C	0.640	0.013	No
Lebon Drive to Regents Road	6-Lane Major Arterial	50,000	30,900	C	0.618	31,800	C	0.636	0.018	No
Regents Road to Costa Verde Boulevard	6-Lane Major Arterial	50,000	32,400	C	0.648	33,750	C	0.675	0.027	No
Costa Verde Boulevard to Genesee Avenue	6-Lane Major Arterial	50,000	32,750	C	0.655	34,100	C	0.682	0.027	No
Genesee Avenue to Lombard Place	4-Lane Major Arterial	40,000	31,090	D	0.777	31,640	D	0.791	0.014	No
Lombard Place to Towne Centre Drive	4-Lane Major Arterial	40,000	31,090	D	0.777	31,640	D	0.791	0.014	No
Towne Centre Drive to Shoreline Drive	6-Lane Prime Arterial	60,000	20,130	A	0.336	20,580	A	0.343	0.007	No
Shoreline Drive to Judicial Drive	6-Lane Prime Arterial	60,000	25,670	B	0.428	26,070	B	0.435	0.007	No
Judicial Drive to I-805	6-Lane Major Arterial	50,000	40,720	D	0.814	41,120	D	0.822	0.008	No

TABLE 12–2
YEAR 2035 (COMMUNITY BUILDOUT) STREET SEGMENT OPERATIONS

Street Segment	Functional Classification	Capacity (LOS E) [a]	Year 2035 (Community Buildout)			Year 2035 (Community Buildout) + Project			V/C Increase	Sig
			ADT[b]	LOS[c]	V/C[d]	ADT[b]	LOS[c]	V/C[d]		
Lebon Drive										
La Jolla Village Drive to Nobel Drive	5-Lane Major Arterial	45,000	11,750	A	0.261	11,900	A	0.264	0.003	No
Regents Road										
Executive Drive to La Jolla Village Drive	4-Lane Collector (continuous left-turn lane)	30,000	23,740	D	0.791	23,890	D	0.796	0.005	No
La Jolla Village Drive to Nobel Drive	5-Lane Major Arterial	45,000	21,760	B	0.484	22,010	B	0.489	0.005	No
South of Nobel Drive	4-Lane Major Arterial	40,000	14,300	A	0.358	14,500	A	0.363	0.005	No
Genesee Avenue										
Eastgate Mall to Executive Drive	6-Lane Major Arterial	50,000	39,410	C	0.788	39,760	C	0.795	0.007	No
Executive Drive to La Jolla Village Drive	6-Lane Major Arterial	50,000	**45,330**	**E**	**0.907**	**45,880**	**E**	**0.918**	0.011	No
La Jolla Village Drive to Esplanade Court	6-Lane Major Arterial	50,000	**45,100**	**E**	**0.902**	**46,640**	**E**	**0.933**	**0.031**	**Yes**
Esplanade Court to Nobel Drive	6-Lane Major Arterial	50,000	35,990	C	0.720	38,010	C	0.760	0.040	No
Nobel Drive to Decoro Street	4-Lane Major Arterial	40,000	**45,700**	**F**	**1.143**	**46,800**	**F**	**1.170**	**0.027**	**Yes**
Decoro Street to Centurion Square	4-Lane Major Arterial	40,000	**47,750**	**F**	**1.194**	**48,850**	**F**	**1.221**	**0.027**	**Yes**
Centurion Square to Governor Drive	4-Lane Major Arterial	40,000	**55,850**	**F**	**1.396**	**56,950**	**F**	**1.424**	**0.028**	**Yes**
Governor Drive to SR 52	4-Lane Major Arterial	40,000	**44,750**	**F**	**1.119**	**45,600**	**F**	**1.140**	**0.021**	**Yes**

Footnotes:
a. Capacities based on City of San Diego Roadway Classification Table.
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.

General Notes:
1. **Bold** typeface indicates intersections operating at LOS E or F.

12.4 Freeway Mainline Segment Operations

Freeway segments were analyzed under Year 2035 (Community Buildout) without and with Project conditions. ***Appendix N*** contains the detailed calculations sheets. As shown in ***Tables 12–3a*** and ***12–3b,*** the following seven (7) segments were calculated to operate at LOS E or F in the without and with Project conditions:

I-5

- I-5 between Gilman Drive and Nobel Drive, *LOS E–AM (NB), LOS F–AM (SB), LOS F–PM (NB) and LOS F–PM (SB)*
- I-5 between Nobel Drive and La Jolla Village Drive, *LOS E–AM (SB), LOS E–PM (NB) and LOS F–PM (SB)*
- I-5 between La Jolla Village Drive and Genesee Avenue, *LOS E–AM (NB), LOS F–AM (SB), LOS F–PM (NB) and LOS F–PM (SB)*

I-805

- I-805 between Governor Drive and Nobel Drive, *LOS F–AM (NB) and LOS F–PM (SB)*
- I-805 between Nobel Drive and La Jolla Village Drive, *LOS F–AM (NB) and LOS F–PM (SB)*
- I-805 between La Jolla Village Drive and Mira Mesa Boulevard, *LOS F–AM (NB) and LOS F–PM (SB)*

SR 52

- SR 52 between Genesee Avenue and I-805, *LOS F–AM (EB), LOS F–AM (WB), LOS F–PM (EB), and LOS E–PM (WB)*

Based on the City of San Diego's significance criteria, **significant cumulative impacts** identified at the following freeway segments as the project contribution to these freeway segments exceeds the allowable threshold:

I-5

- I-5 between Gilman Drive and Nobel Drive, *LOS F–PM (SB)*

I-805

- I-805 between Governor Drive and Nobel Drive, *LOS F–AM (NB)*

SR 52

- SR 52 between Genesee Avenue and I-805, *LOS F–AM (WB) and LOS F–PM (EB)*

TABLE 12–3A
YEAR 2035 (COMMUNITY BUILDOUT) FREEWAY SEGMENT OPERATIONS—AM PEAK HOUR

Freeway and Segment	2035 ADT	2035 + Project ADT	Direction & Number of Lanes		Year 2035 (Community Buildout)			Year 2035 (Community Buildout) + Project			V/C Delta	Significant
					V/C[a]	Density	LOS[b]	V/C[a]	Density	LOS[b]		
I-5												
Gilman Drive to Nobel Drive	203,460	203,910	NB Mainlines	4M	**0.873**	**35.30**	**E**	**0.878**	**35.60**	**E**	0.005	No
			SB Mainlines	4M	**1.060**	**51.58**	**F**	**1.061**	**51.69**	**F**	0.001	No
Nobel Drive to La Jolla Village Drive	178,200	178,200	NB Mainlines	4M	0.757	29.50	D	0.757	29.50	D	0.000	No
			SB Mainlines	4M	**0.910**	**37.70**	**E**	**0.910**	**37.70**	**E**	0.000	No
La Jolla village Drive to Genesee Avenue	211,820	212,120	NB Mainlines	4M	**0.899**	**37.00**	**E**	**0.900**	**37.00**	**E**	0.001	No
			SB Mainlines	4M	**1.223**	**84.34**	**F**	**1.227**	**85.80**	**F**	0.004	No
I-805												
Governor Drive to Nobel Drive	286,270	286,720	NB Mainlines	4M+ 1A	**1.456**	**>500.0**	**F**	**1.461**	**>500.0**	**F**	0.005	**Yes [c]**
			SB Mainlines	4M+ 1A	0.594	21.50	C	0.595	21.50	C	0.001	No
Nobel Drive to La Jolla Village Drive	248,110	248,210	NB Mainlines	4M+ 1A	**1.247**	**>500.0**	**F**	**1.248**	**>500.0**	**F**	0.001	No
			SB Mainlines	4M	0.585	22.90	C	0.585	22.90	C	0.000	No
La Jolla Village Drive to Mira Mesa Boulevard	229,330	229,730	NB Mainlines	4M+ 1A	**1.149**	**95.83**	**F**	**1.150**	**96.56**	**F**	0.001	No
			SB Mainlines	4M+ 1A	0.479	17.20	B	0.480	17.30	B	0.001	No
SR 52												
Genesee Avenue to I-805	114,961	115,511	EB Mainlines	2M	**1.205**	**78.94**	**F**	**1.207**	**79.56**	**F**	0.002	No
			WB Mainlines	2M	**1.112**	**59.00**	**F**	**1.126**	**61.34**	**F**	**0.014**	**Yes**

Footnotes:
a. Volume to Capacity.
b. Level of Service.
c. A significant impact is identified at this location since the reduction in speed due to the project exceeds the allowable threshold.

LOS	Density Range (pc/mi/ln)
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45

General Notes:
1. See *Appendix N* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.
3. The above analyses were conducted for the General-Purpose Lanes only. The associated capacities of the HOV lanes were not included.

TABLE 12–3B
YEAR 2035 (COMMUNITY BUILDOUT) FREEWAY SEGMENT OPERATIONS—PM PEAK HOUR

Freeway and Segment	2035 ADT	2035 + Project ADT	Direction & Number of Lanes		Year 2035 (Community Buildout)			Year 2035 (Community Buildout) + Project			V/C Delta	Significant
					V/C[a]	Density	LOS[b]	V/C[a]	Density	LOS[b]		
I-5												
Gilman Drive to Nobel Drive	203,460	203,910	NB Mainlines	4M	**1.071**	**52.97**	**F**	**1.072**	**53.14**	**F**	0.001	No
			SB Mainlines	4M	**0.976**	**128.62**	**F**	**0.981**	**129.28**	**F**	0.005	**Yes [c]**
Nobel Drive to La Jolla Village Drive	178,200	178,200	NB Mainlines	4M	**0.949**	**40.60**	**E**	**0.949**	**40.60**	**E**	0.000	No
			SB Mainlines	4M	**0.885**	**137.04**	**F**	**0.885**	**137.04**	**F**	0.000	No
La Jolla Village Drive to Genesee Avenue	211,820	212,120	NB Mainlines	4M	**1.139**	**63.58**	**F**	**1.143**	**64.33**	**F**	0.004	No
			SB Mainlines	4M	**1.027**	**88.63**	**F**	**1.029**	**88.78**	**F**	0.002	No
I-805												
Governor Drive to Nobel Drive	286,270	286,720	NB Mainlines	4M+ 1A	0.881	34.60	D	0.883	34.70	D	0.002	No
			SB Mainlines	4M+ 1A	**1.492**	**95.87**	**F**	**1.497**	**95.83**	**F**	0.005	No
Nobel Drive to La Jolla Village Drive	248,110	248,210	NB Mainlines	4M+ 1A	0.763	27.90	D	0.763	27.90	D	0.000	No
			SB Mainlines	4M	**1.538**	**169.36**	**F**	**1.539**	**169.31**	**F**	0.001	No
La Jolla Village Drive to Mira Mesa Boulevard	229,330	229,730	NB Mainlines	4M+ 1A	0.703	25.10	C	0.706	25.30	C	0.003	No
			SB Mainlines	4M+ 1A	**1.169**	**138.36**	**F**	**1.170**	**138.48**	**F**	0.001	No
SR 52												
Genesee Avenue to I-805	114,961	115,511	EB Mainlines	2M	**1.431**	**391.31**	**F**	**1.443**	**489.96**	**F**	**0.012**	**Yes**
			WB Mainlines	2M	**0.883**	**35.80**	**E**	**0.886**	**36.04**	**E**	0.003	No

Footnotes:
a. Volume to Capacity.
b. Level of Service.
c. A significant impact is identified at this location since the reduction in speed due to the project exceeds the allowable threshold.

LOS	Density Range (pc/mi/ln)
A	0 – 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45

General Notes:
1. See *Appendix N* for calculation sheets.
2. **Bold** typeface indicates segments operating at LOS E or F.
3. The above analyses were conducted for the General-Purpose Lanes only. The associated capacities of the HOV lanes were not included.

12.5 Metered Freeway On-Ramp Operations

Freeway on-ramps that currently have ramp meters installed and in operation were analyzed under Year 2035 (Community Buildout) without and with Project conditions based on the most restrictive meter rates provided by Caltrans. As shown in ***Table 12–4*****,** the following four (4) metered freeway on-ramps would incur a delay exceeding 15 minutes in the without and with Project conditions:

- WB La Jolla Village Drive to NB I-5 (PM peak hour)
- WB La Jolla Village Drive to SB I-5 (PM peak hour)
- EB La Jolla Village Drive to NB I-805 (AM peak hour)
- Nobel Drive to SB I-805 (PM peak hour)

Based on the City of San Diego's significance criteria, **significant "**cumulative" impacts are identified on the following ramp meters as the project contribution to this ramp meter exceeds the allowable thresholds:

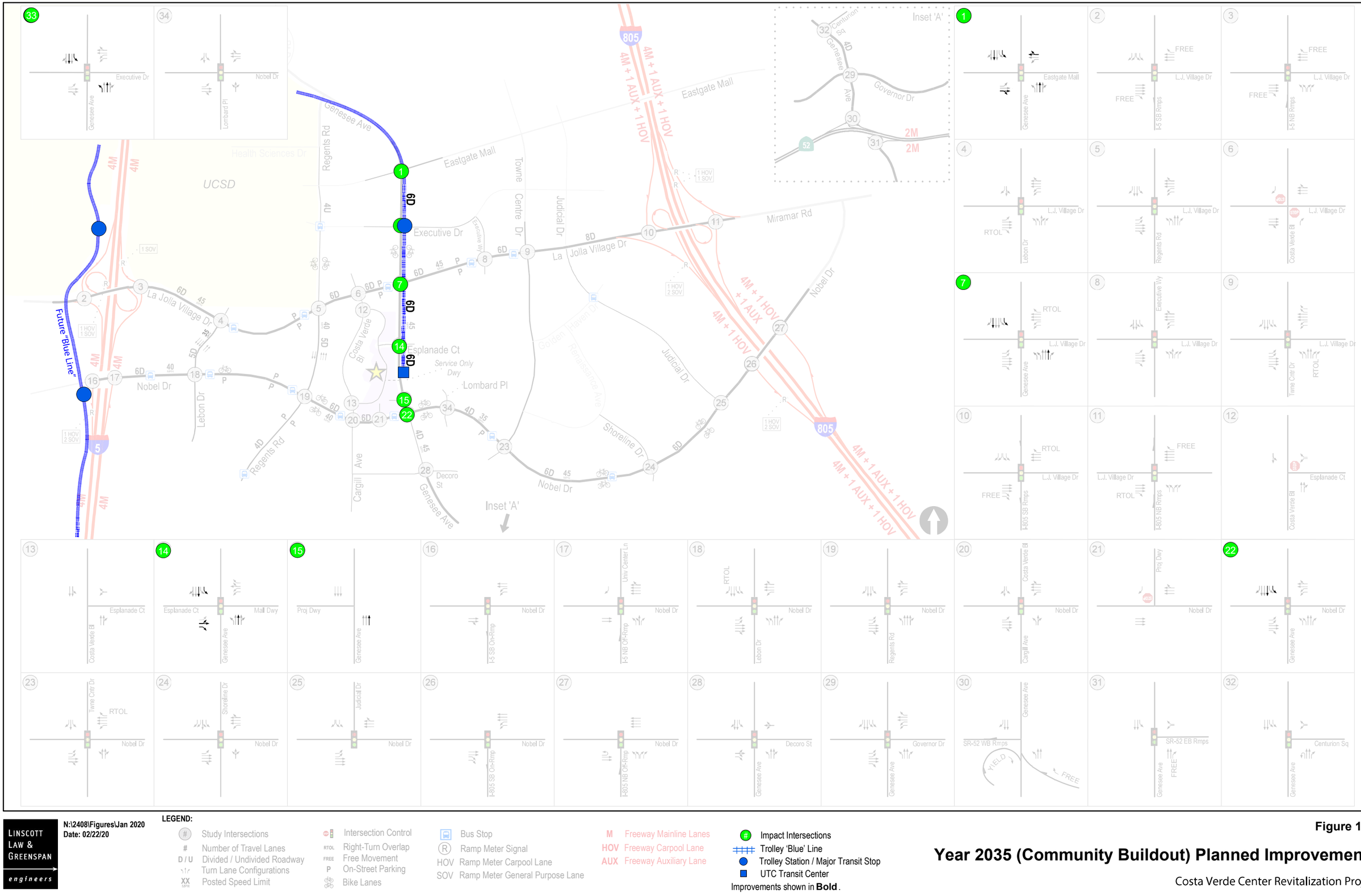
- WB La Jolla Village Drive to NB I-5 (PM peak hour)
- Nobel Drive to SB I-805 (PM peak hour)

TABLE 12–4
YEAR 2035 (COMMUNITY BUILDOUT) RAMP METER OPERATIONS

Location/Condition	Peak Hour	Peak Hour Demand	SOV Demand (veh/hr/lane)	Ramp Meter Rate (Flow)[a] (veh/hr/lane)	Excess Demand (veh/hr/lane)	Delay per Lane [b]	Queue per Lane [c]
WB La Jolla Village Drive to NB I-5 (1 SOV lane)							
Year 2035 (Community Buildout)	PM	753	753	555	198	**21**	4950
Year 2035 (Community Buildout) + Project	PM	780	780	555	225	**24**	5625
Project Increase	PM	27	27	555	27	**3**	675
WB La Jolla Village Drive to SB I-5 (1 SOV lane + 1 HOV lane)							
Year 2035 (Community Buildout)	PM	1450	1160	643	517	48	12925
Year 2035 (Community Buildout) + Project	PM	1450	1160	643	517	48	12925
Project Increase	PM	0	0	643	0	0	0
EB La Jolla Village Drive to NB I-805 (1 SOV lane + 1 HOV lane)							
Year 2035 (Community Buildout)	AM	1094	875	559	316	34	7900
Year 2035 (Community Buildout) + Project	AM	1102	882	559	323	35	8075
Project Increase	AM	8	7	559	7	1	175
EB La Jolla Village Drive to SB I-805 (2 SOV lanes + 1 HOV lane)							
Year 2035 (Community Buildout)	PM	1537	615	593	22	2	550
Year 2035 (Community Buildout) + Project	PM	1546	619	593	26	3	638
Project Increase	PM	9	4	593	4	1	88
Nobel Drive to SB I-5 (2 SOV lanes + 1 HOV lane)							
Year 2035 (Community Buildout)	PM	1555	622	528	94	11	2350
Year 2035 (Community Buildout) + Project	PM	1596	639	528	111	13	2775
Project Increase	PM	41	17	528	17	2	425
Nobel Drive to SB I-805 (2 SOV lanes + 1 HOV lane)							
Year 2035 (Community Buildout)	PM	1245	498	229	269	**70**	6725
Year 2035 (Community Buildout) + Project	PM	1277	511	229	282	**74**	7050
Project Increase	PM	32	13	229	13	**4**	325

Footnotes:
a. Meter rates were obtained from Caltrans (see *Appendix F*).
b. Delay expressed in minutes per lane.
c. Queue expressed in feet per lane calculated as excess demand * 25 feet per vehicle.

General Notes:
1. **Bold** typeface indicates a significant ramp meter impact.
2. NA = Not Applicable.



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LEGEND:

- (#) Study Intersections
- # Number of Travel Lanes
- D / U Divided / Undivided Roadway
- Turn Lane Configurations
- XX Posted Speed Limit
- Intersection Control
- RTOL Right-Turn Overlap
- FREE Free Movement
- P On-Street Parking
- Bike Lanes
- Bus Stop
- (R) Ramp Meter Signal
- HOV Ramp Meter Carpool Lane
- SOV Ramp Meter General Purpose Lane
- M Freeway Mainline Lanes
- HOV Freeway Carpool Lane
- AUX Freeway Auxiliary Lane
- (#) Impact Intersections
- Trolley 'Blue' Line
- Trolley Station / Major Transit Stop
- UTC Transit Center

Improvements shown in **Bold**.

Figure 12-1

Year 2035 (Community Buildout) Planned Improvements

Costa Verde Center Revitalization Project

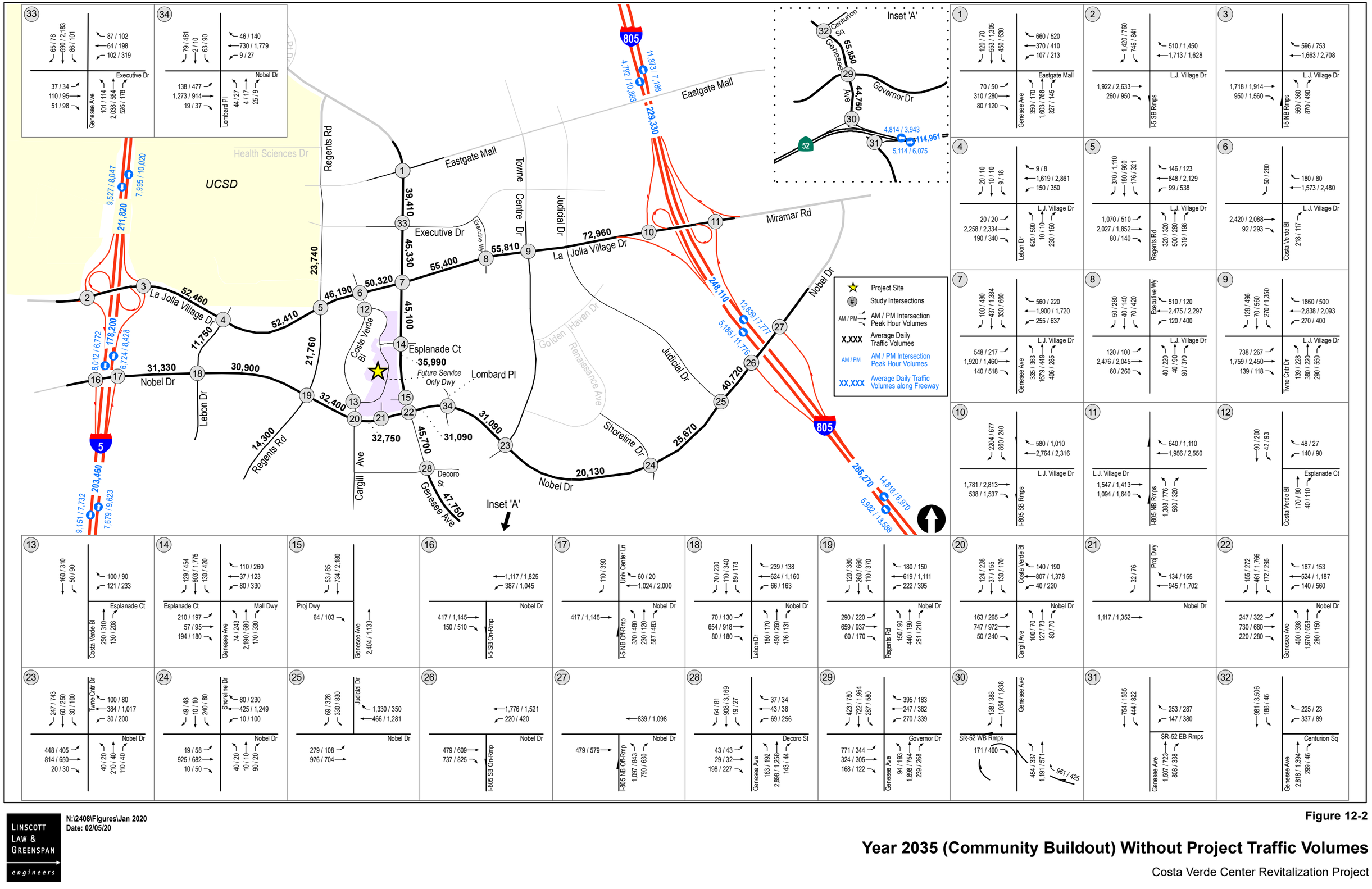

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Figure 12-2

Year 2035 (Community Buildout) Without Project Traffic Volumes

Costa Verde Center Revitalization Project

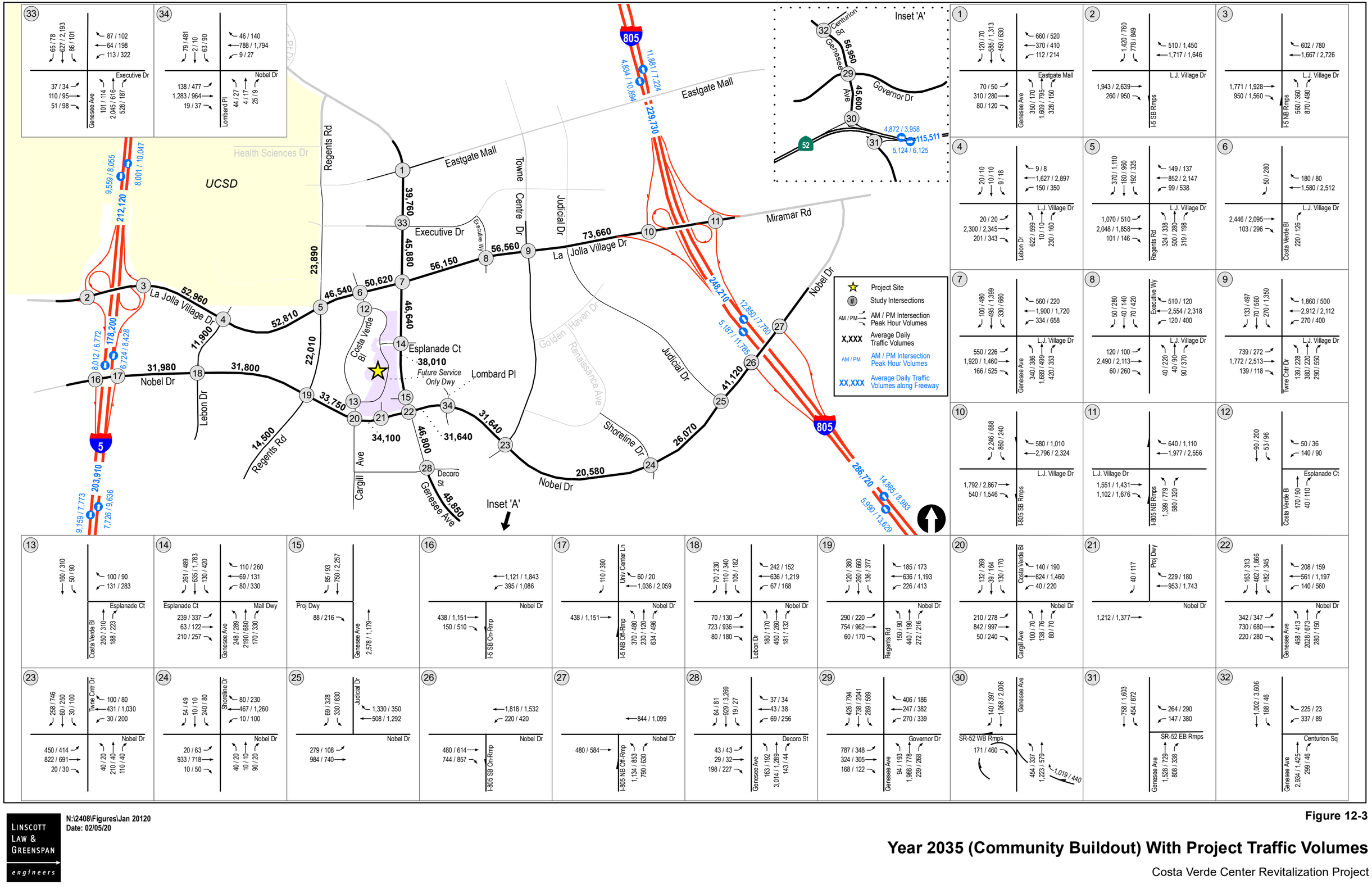

Figure 12-3

Year 2035 (Community Buildout) With Project Traffic Volumes

Costa Verde Center Revitalization Project

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13.0 EXISTING + PROJECT SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Per the City's significance thresholds and the analysis methodology presented in this report, project related traffic is calculated to cause significant impacts within the study area. The following section lists the Existing impacts and recommended mitigation measures.

13.1 Significant Impacts Prior to Mitigation

The following significant "direct" impacts are calculated under Existing + Project conditions.

Intersections

A-DI-1. #14. Genesee Avenue / Esplanade Court

A-DI-2. #29. Genesee Avenue / Governor Drive

A-DI-3. #30. Genesee Avenue / SR52 WB Ramps

A-DI-4. #31. Genesee Avenue / SR52 EB Ramps

Street Segment

None

Freeway Mainline Segments

A-DI-5. Interstate 5: Gilman Drive to Nobel Drive

A-DI-6. Interstate 805: Governor Drive to Nobel Drive

A-DI-7. State Route 52: Genesee Avenue to I-805

Metered Freeway On-Ramp

A-DI-8. Interstate 805 / Nobel Drive Interchange: SB Ramps

Figure 13–1 graphically show the significant "direct" impacts occurring under *Existing +Project conditions.*

13.2 Mitigation Measures

13.2.1 *Intersections*

The following intersection improvements are identified to mitigate the Existing + Project significant "direct" impacts. The intersection calculation sheets and conceptual design sketches are contained in ***Appendix O***.

A-DI-1. #14. Genesee Avenue / Esplanade Court

- Reconfigure the eastbound approach to provide two dedicated left-turn lanes, a through lane and a dedicated right-turn lane. Install an eastbound right-turn overlap phase.
- A signal modification will also be required at this intersection.

- The above project mitigation shall be assured by permit and bond satisfactory to the City Engineer prior to the issuance of the first construction permit and, completed and operational prior to the issuance of the first occupancy.

A-DI-2. #29. Genesee Avenue / Governor Drive

- Installing right-turn overlap phasing on the southbound approach would mitigate the project's impact at this intersection. A signal modification will also be required at this intersection.
- However, the addition of a southbound right-turn overlap phase would prohibit access to the parcel at the northwest corner of the intersection due to the inability to make eastbound U-turns.
- However, as partial mitigation, the project proposes to upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.
- Therefore, based on coordination with City staff, this impact is considered significant and unmitigated.

A-DI-3. #30. Genesee Avenue / SR 52 WB Ramps

- The improvements required to mitigate the impact at this intersection would include installing a traffic signal at this intersection to allow for protected northbound left-turns. A signal warrant analysis is included in *Appendix O*, which shows that the traffic signal is warranted.
- This improvement would be consistent with the 2016 University Community Plan Amendment (CPA), Final Program Environmental Impact Report (*City Project No: 480286 SCH: 2015121011*), *Exhibit A: Candidate Findings, Page A-14).*
- Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval; therefore, impacts to this intersection would remain significant and unmitigated.

A-DI-4. #31. Genesee Avenue / SR 52 EB Ramps

- Install right-turn overlap phasing on the westbound approach and modify the traffic accordingly.
- Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval; therefore, impacts to this intersection would remain significant and unmitigated.

Table 13–1 reports the results of intersection mitigation analysis under Existing + Project conditions. As shown in the table, the proposed mitigation would reduce the project impacts to a level of 'not

significant'. For the purposes of this report, a level of 'not significant' reflects allowable delay increases within City defined thresholds.

13.2.2 *Street Segments*

Under the Existing + Project scenario, no significant direct impacts were calculated. Therefore, no mitigation measures are required or proposed.

13.2.3 *Freeway Mainline Segments*

The following freeway segment improvements are identified to mitigate the Existing + Project impacts.

A-DI-5. Interstate 5: Gilman Drive to Nobel Drive

The project is calculated to have a significant direct impact on I-5 between Gilman Drive and Nobel Drive. SANDAG's 2050 Revenue Constrained RTP includes the addition of managed lanes on Interstate 5 between Interstate 8 and La Jolla Village Drive. The addition of managed lanes would improve freeway operations on I-5. However, at this time, there is no funding in place to guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes the following TDM measures to incentivize use of alternate forms of transportation other than single occupancy vehicles:

- The project will implement a parking management plan, which will charge employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools. This may encourage employees to use transit and thereby reduce single occupant vehicle trips and associated parking demand.
- The project will provide carpool/vanpool parking spaces as a part of the overall project parking requirements at the project site. These spaces will be signed and striped "carpool/vanpool parking only".
- The project will provide shower and locker facilities. These showers and lockers will be located in the Main Street parking structure adjacent to the security office.
- The project will make a commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees
- The project will provide on-site carsharing vehicle(s) and/or bikesharing.
- The project proposes on-site retail services that would reduce the need for employees to drive, such as cafes, commercial stores, banks, a post office, restaurants, and a gym.

A-DI-6. Interstate 805: Governor Drive to Nobel Drive

The project is calculated to have a significant direct impact on I-805 between Governor Drive and Nobel Drive. Currently, there is one (1) managed lane on I-805 between SR 52 and I-5, which was Stage I of the I-805 North Managed Lanes Project. Stages II through IV of the I-805 North Managed Lanes project will construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. The addition of managed lanes and a new DAR on Nobel Drive would further improve freeway operations on I-805. The construction start date for these improvements are pending as there is no funding in place currently and there is no guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

A-DI-7. State Route 52: Genesee Avenue to I-805

The project is calculated to have a significant direct impact on SR 52 between Genesee Avenue and I-805. SANDAG's 2050 Unconstrained Network RTP includes addition of a third lane in each direction along SR52 between I-5 and I-805. However, there is no funding in place to guarantee that this improvement would be completed. As a result, the significant traffic impacts to this freeway segment would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

13.2.1 *Metered Freeway On-Ramp*

A-DI-8. Interstate 805 / Nobel Drive Interchange: SB On-Ramp

The project is calculated to have a significant direct impact on I-805/ Nobel Drive Interchange SB on-ramp.

As discussed previously, Stages II through IV of the I-805 North Managed Lanes project will construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. The addition of managed lanes and a new DAR on Nobel Drive would relieve the congestion and delay at the ramp meter and improve overall freeway operations. The construction start date for these improvements are pending as there is no funding in place currently and there is no guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as shown in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

13.2.2 *Unmitigated Impacts*

The following is a list of significant direct unmitigated impacts under the Existing + Project scenario:

Intersections

- Genesee Avenue / Governor Drive
- Genesee Avenue / SR 52 WB Ramps
- Genesee Avenue / SR 52 EB Ramps

Street Segments

- None

Freeway Mainline Segments

- Interstate 5: Gilman Drive to Nobel Drive
- Interstate 805: Governor Drive to Nobel Drive
- State Route 52: Genesee Avenue to I-805

Metered Freeway On-Ramp

- Interstate 805 / Nobel Drive Interchange SB On-Ramp

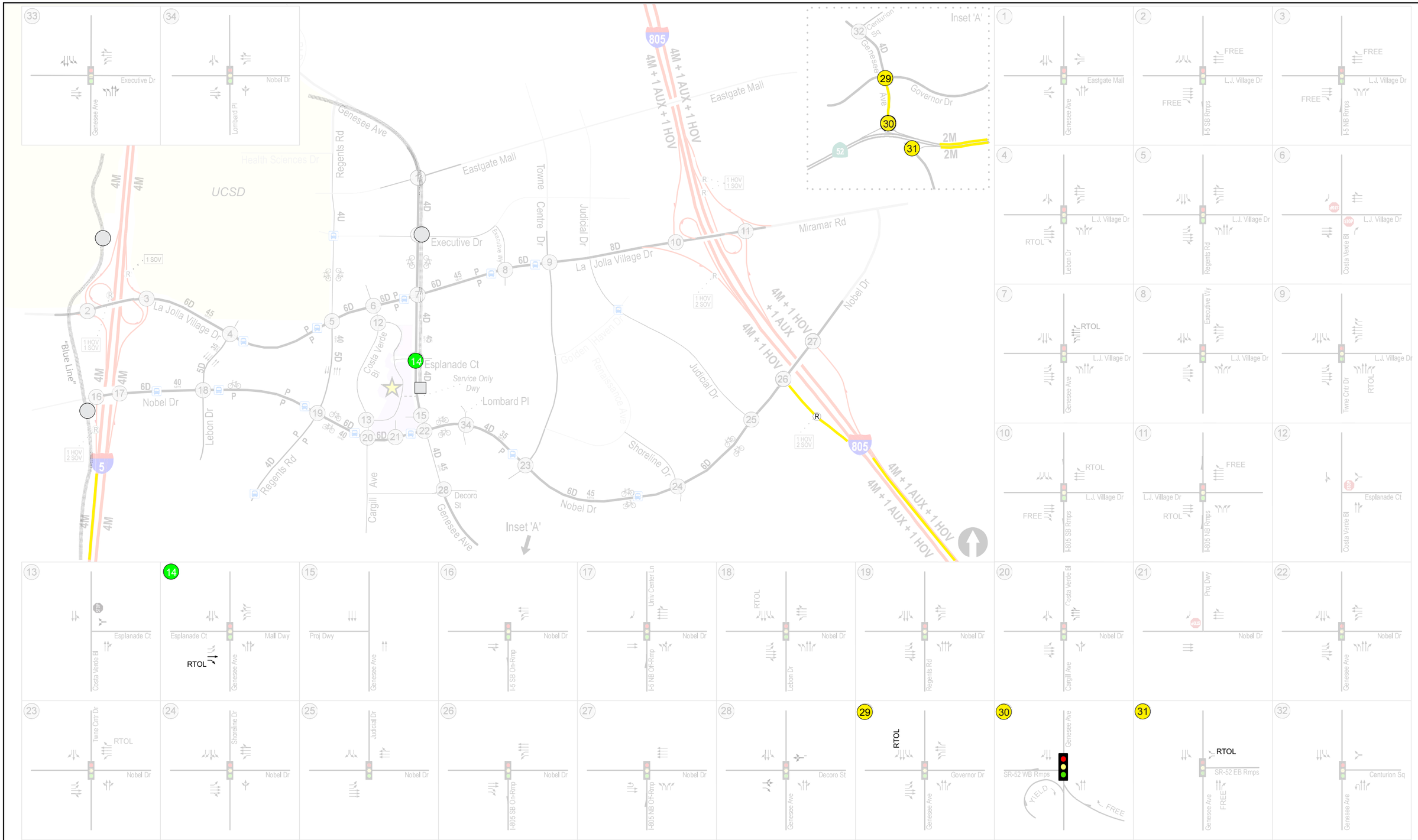
TABLE 13–1
EXISTING + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Existing		Existing + Project			Existing + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS[b]	Δ[c]	Delay	LOS[b]	Δ[d]		
14. Genesee Avenue / Esplanade Court	Signal	AM	31.4	C	75.2	E	43.8	30.5	C	(0.9)	No	Reconfigure the EB approach to provide dual left-turn lanes, a through lane and a dedicated right-turn lane. Install an eastbound right-turn overlap phase.
		PM	61.7	E	93.5	F	31.8	48.0	D	(13.7)		
29. Genesee Avenue / Governor Drive	Signal	AM	225.8	F	241.6	F	15.8	98.8	F	(127.0)	Yes	Install right-turn overlap phasing on the southbound approach. However, this improvement would prohibit access to the parcel at the northwest corner of this intersection due to the inability to make eastbound U-turns. Per City coordination, this impact is significant and unmitigated.
30. Genesee Avenue / SR 52 WB Ramps	MSSC[e]	PM	71.9	F	91.8	F	19.9	8.9	A	(63.0)	Yes	Install a traffic signal to allow for protect northbound left-turns. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval.

TABLE 13–1
EXISTING + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Existing		Existing + Project			Existing + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS[b]	Δ[c]	Delay	LOS[b]	Δ[d]		
31. Genesee Avenue / SR 52 EB Ramps	Signal	PM	152.4	F	173.6	F	21.2	137.1	F	(15.3)	Yes	Install right-turn overlap phasing on the westbound approach. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or the City's control as it requires Caltrans approval.

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the project-induced increase in delay.
d. Δ denotes a decrease in delay due to project mitigation.
e. MSSC – Minor-Street Stop-Controlled intersection.



LEGEND:

- (#) Study Intersections
- # Number of Travel Lanes
- D / U Divided / Undivided Roadway
- Turn Lane Configurations
- XX MPH Posted Speed Limit
- Intersection Control
- RTOL Right-Turn Overlap
- FREE Free Movement
- P On-Street Parking
- Bike Lanes
- Bus Stop
- (R) Ramp Meter Signal
- HOV Ramp Meter Carpool Lane
- SOV Ramp Meter General Purpose Lane
- M Freeway Mainline Lanes
- HOV Freeway Carpool Lane
- AUX Freeway Auxiliary Lane
- (#) Mitigated
- (#) & ▬ Unmitigated

Mitigation shown in **Bold**.

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Figure 13-1

Existing + Project Impacts & Mitigation

COSTA VERDE CENTER REVITALIZATION PROJECT

14.0 NEAR-TERM (OPENING DAY 2023) SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Per the City's significance thresholds and the analysis methodology, project related traffic is calculated to cause significant direct impacts within the study area. The following section lists the Near-Term (Opening Day 2023) impacts and recommended mitigation measures.

14.1 Significant Impacts Prior to Mitigation

The following significant "direct" impacts are calculated under Near-Term (Opening Day) + Project conditions.

Intersections

A-DI-9. #14. Genesee Avenue / Esplanade Court

A-DI-10. #28. Genesee Avenue / Decoro Street

A-DI-11. #29. Genesee Avenue / Governor Drive

A-DI-12. #30. Genesee Avenue / SR52 WB Ramps

A-DI-13. #31. Genesee Avenue / SR52 EB Ramps

Street Segment

A-DI-14. Genesee Avenue: Decoro Street to Governor Drive

Freeway Mainline Segments

A-DI-15. Interstate 5: Gilman Drive to Nobel Drive

A-DI-16. Interstate 805: Governor Drive to Nobel Drive

A-DI-17. State Route 52: Genesee Avenue to I-805

Metered Freeway On-Ramp

A-DI-18. Interstate 805 / Nobel Drive Interchange: SB Ramps

Figure 14–1 graphically show the significant "direct" impacts occurring under *Near-Term (Opening Day 2023) + Project conditions.*

14.2 Mitigation Measures

The following summarizes the recommended mitigation measures under Near-Term (Opening Day 2023) + Project.

14.2.1 *Intersections*

The following intersection improvements are identified to mitigate the Near-Term (Opening Day 2023) + Project significant "direct" impacts. The intersection calculation sheets are contained in *Appendix O*.

A-DI-9. #14. Genesee Avenue / Esplanade Court

- The project's mitigation measure A-DI-1, which includes reconfiguring the eastbound approach to provide two dedicated left-turn lanes, a through lane and a dedicated right-turn lane with an eastbound right-turn overlap phase would reduce the project's impact to less than significant.

A-DI-10. #28. Genesee Avenue / Decoro Street

- Restripe the westbound approach to include a shared through-left turn lane and an exclusive right-turn lane. These improvements are consistent with the UCPA recommendations. A signal modification will also be required at this intersection. A conceptual design is included in *Appendix O*.
- This improvement would require removal of on-street parking on the westbound approach. Approximately the loss of six (6) parking spaces are anticipated to implement this improvement.
- The above project mitigation shall be assured by permit and bond satisfactory to the City Engineer prior to the issuance of the first construction permit and, completed and operational prior to the issuance of the first occupancy.

A-DI-11. #29. Genesee Avenue / Governor Drive

- The project's mitigation measure A-DI-2, which includes installing right-turn overlap phasing on the southbound approach would mitigate the project's impact at this intersection.
- However, the addition of a southbound right-turn overlap phase would prohibit access to the parcel at the northwest corner of the intersection due to the inability to make eastbound U-turns.
- However, as partial mitigation, the project proposes to upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.
- Therefore, based on coordination with City staff, this impact is considered significant and unmitigated.

A-DI-12. #30. Genesee Avenue / SR 52 WB Ramps

- The project's mitigation measure A-DI-3, which includes installing a traffic signal at this intersection to allow for protected northbound left-turns would reduce the project's impact to less than significant.
- Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval; therefore, impacts to this intersection would remain significant and unmitigated.

A-DI-13. #31. Genesee Avenue / SR 52 EB Ramps

- The project's mitigation measure A-DI-4, which includes installing right-turn overlap phasing on the westbound approach would reduce the project's impact to less than significant.
- Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval; therefore, impacts to this intersection would remain significant and unmitigated.

14.2.2 *Street Segment*

The following street segment improvements are identified to mitigate the Near-Term (Opening Day 2023) significant direct impacts.

A-DI-14. Genesee Avenue: Decoro Street to Governor Drive

- Widening this segment of Genesee Avenue between Decoro Street to Governor to a 6-lane Major Arterial would mitigate the project's impact.
- However, as part of the approvals for the University Community Plan Amendment (CPA), Final Program Environmental Impact Report (*City Project No: 480286, SCH: 2015121011*), the City Council in December 2016 rejected (*Exhibit A: Candidate Findings, Page A-25*) the widening of Genesee Avenue between Decoro Street and Governor Drive to 6-lanes as infeasible as it would not substantially reduce the significant impacts from the CPA project. Furthermore, the repurposing of Genesee Avenue right-of-way to provide for a modified six-lane arterial was also rejected (*Exhibit A: Candidate Findings, Page A-15*) as it would require modification of the existing street design along this segment, including removal of center median resulting in a loss of trees lending it inconsistent with the Climate Action Plan (CAP) Strategy 5.
- However, as partial mitigation, the project proposes to upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.
- Given these City Council's policy decisions to maintain existing conditions (i.e. 4 lanes) on Genesee Avenue and implementation of communication upgrades are assumed to partially mitigate the project's impact, the project's segment impact on Genesee Avenue between Decoro Street to Governor Drive is considered significant and unmitigated.

Tables 14–1 and ***14–2*** report the results of intersection and street segment mitigation analysis under Near-Term (Opening Day 2023) + Project conditions. As shown in the table, the proposed mitigation would reduce the project impacts to a level of 'not significant'. For the purposes of this report, a level of 'not significant' reflects allowable delay increases within City defined thresholds.

14.2.3 *Freeway Mainline Segments*

The following freeway segment improvements are identified to mitigate the Near-Term (Opening Day 2023) + Project impacts.

A-DI-15. Interstate 5: Gilman Drive to Nobel Drive

The project is calculated to have a significant direct impact on I-5 between Gilman Drive and Nobel Drive. SANDAG's 2050 Revenue Constrained RTP includes the addition of managed lanes on Interstate 5 between Interstate 8 and La Jolla Village Drive. The addition of managed lanes would further improve freeway operations on I-5. However, at this time, there is no funding in place to guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

A-DI-16. Interstate 805: Governor Drive to Nobel Drive

The project is calculated to have a significant direct impact on I-805 between Governor Drive and Nobel Drive. Currently, there is one (1) managed lane on I-805 between SR 52 and I-5, which was Stage I of the I-805 North Managed Lanes Project. Stages II through IV of the I-805 North Managed Lanes project will construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. The addition of managed lanes and a new DAR on Nobel Drive would further improve freeway operations on I-805. The construction start date for these improvements are pending as there is no funding in place currently and there is no guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

A-DI-17. State Route 52: Genesee Avenue to I-805

The project is calculated to have a significant direct impact on SR 52 between Genesee Avenue and I-805. SANDAG's 2050 Unconstrained Network RTP includes addition of a third lane in each direction along SR52 between I-5 and I-805. However, there is no funding in place to guarantee that this improvement would be completed. As a result, the significant traffic impacts to this freeway segment would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

14.2.4 *Metered Freeway On-Ramp*

A-DI-18. Interstate 805 / Nobel Drive Interchange: SB On-Ramp

The project is calculated to have a significant direct impact on I-805/ Nobel Drive Interchange SB on-ramp.

As discussed previously, Stages II through IV of the I-805 North Managed Lanes project will construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. The addition of managed lanes and a new DAR on Nobel Drive would relieve the congestion and delay at the ramp meter and improve overall freeway operations. The construction start date for these improvements are pending as there is no funding in place currently and there is no guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

14.2.5 *Unmitigated Impacts*

The following is a list of significant direct unmitigated impacts under the Near-Term (Opening Day 2023) + Project scenario:

Intersections

- Genesee Avenue / Governor Drive
- Genesee Avenue / SR 52 WB Ramps
- Genesee Avenue / SR 52 EB Ramps

Street Segments

- Genesee Avenue: Decoro Street to Governor Drive

Freeway Mainline Segments

- Interstate 5: Gilman Drive to Nobel Drive
- Interstate 805: Governor Drive to Nobel Drive
- State Route 52: Genesee Avenue to I-805

Metered Freeway On-Ramp

- Interstate 805 / Nobel Drive Interchange SB On-Ramp

TABLE 14–1
NEAR-TERM (OPENING DAY 2023) + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Near-Term (Opening Day 2023)		Near-Term (Opening Day 2023) + Project			Near-Term (Opening Day 2023) + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]	Delay	LOS	Δ[d]		
14. Genesee Avenue / Esplanade Court	Signal	PM	67.4	E	96.7	F	29.3	48.7	D	(18.7)	No	Reconfigure the EB approach to provide dual left-turn lanes, a through lane and a dedicated right-turn lane. Install an eastbound right-turn overlap phase.
28. Genesee Avenue / Decoro Street	Signal	PM	279.3	F	300.4	F	21.1	277.0	F	(2.3)	No	Restripe the westbound approach to include a shared through-left turn lane and an exclusive right-turn lane.
29. Genesee Avenue / Governor Drive	Signal	AM	368.4	F	386.1	F	17.7	179.6	F	(188.8)	Yes	Install right-turn overlap phasing on the southbound approach. However, this improvement would prohibit access to the parcel at the northwest corner of this intersection due to the inability to make eastbound U-turns. Per City coordination, this impact is significant and unmitigated. Partial mitigation includes signal communication upgrades.
30. Genesee Avenue / SR 52 WB Ramps	MSSC[e]	PM	135.0	F	166.3	F	31.3	10.8	B	(124.2)	Yes	Install a traffic signal to allow for protect northbound left-turns. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval.

TABLE 14–1
NEAR-TERM (OPENING DAY 2023) + PROJECT INTERSECTION MITIGATION ANALYSIS

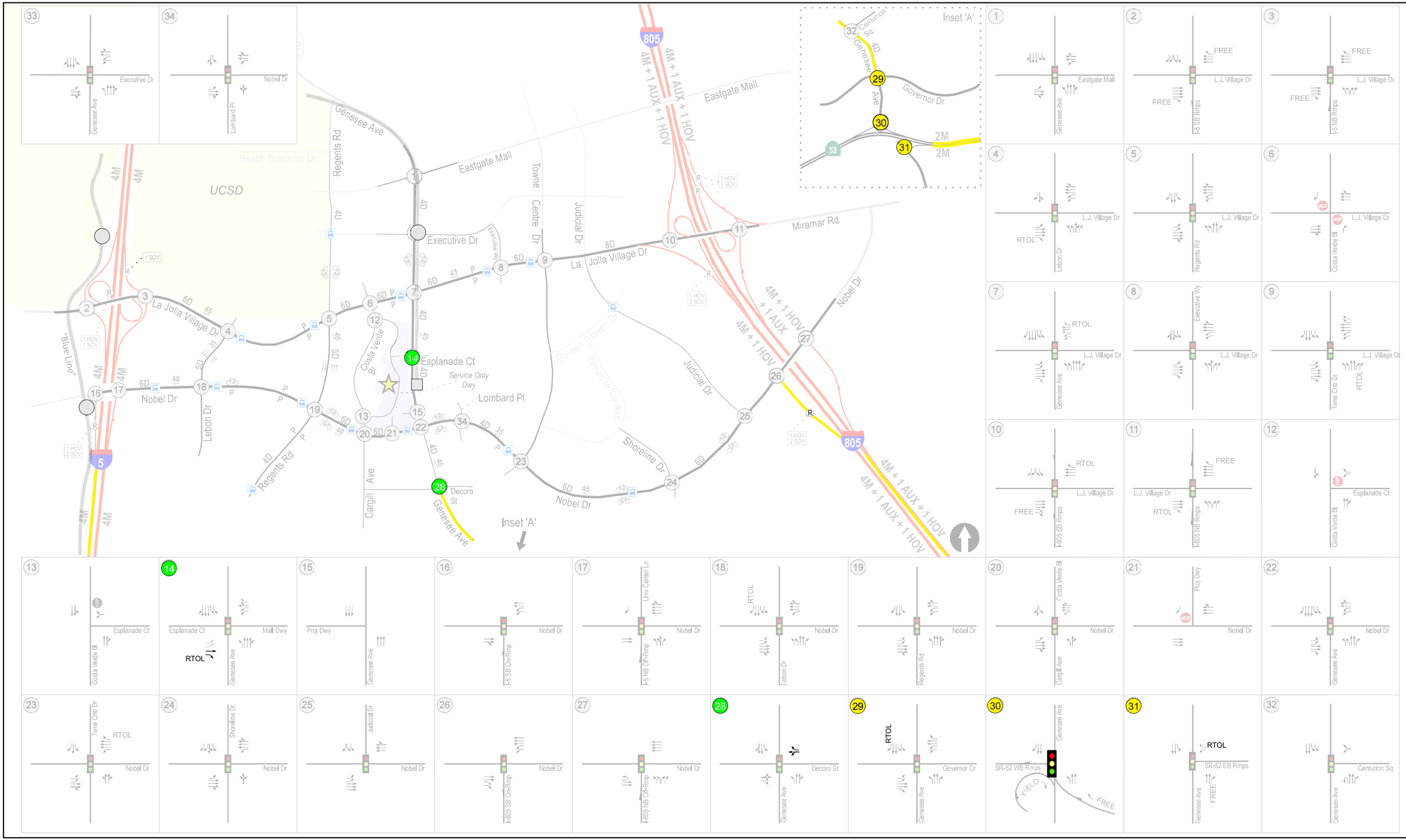
Intersection	Control Type	Peak Hour	Near-Term (Opening Day 2023)		Near-Term (Opening Day 2023) + Project			Near-Term (Opening Day 2023) + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]	Delay	LOS	Δ[d]		
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	53.3	D	59.4	E	6.1	49.8	D	(3.5)	Yes	Install right-turn overlap phasing on the westbound approach. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval
		PM	152.6	F	173.8	F	21.2	139.1	F	(13.5)		

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the project-induced increase in delay.
d. Δ denotes a decrease in delay due to project mitigation.
e. MSSC – Minor-Street Stop-Controlled intersection.

TABLE 14–2
NEAR-TERM (OPENING DAY 2023) + PROJECT STREET SEGMENT MITIGATION ANALYSIS

Roadway Segment	Classification	Capacity[a]	Near-Term (Opening Day 2023)			Near-Term (Opening Day 2023) + Project				Mitigation Classification	Mitigation Capacity	Near-Term (Opening Day 2023) + Project with Mitigation				Significant After Mitigation?	Mitigation
			ADT[b]	LOS[c]	V/C[d]	ADT	LOS	V/C	Δ[e]			ADT	LOS	V/C	Δ[f]		
Genesee Avenue																	
Decoro Street to Centurion Square	4-Lane Major Arterial	40,000	35,110	E	0.878	36,210	E	0.905	0.027	6-Lane Major Arterial	50,000	36,210	C	0.724	(0.154)	**Yes**	Widening or repurposing to 6-Lane Major roadway standards was deemed **infeasible** by City Council as a part of the UCPA. Partial mitigation includes signal communication upgrades.
Centurion Square to Governor Drive	4-Lane Major Arterial	40,000	36,540	E	0.914	37,640	E	0.941	0.027	6-Lane Major Arterial	50,000	37,640	C	0.753	(0.161)	**Yes**	Widening or repurposing to 6-Lane Major roadway standards was deemed **infeasible** by City Council as a part of the UCPA. Partial mitigation includes signal communication upgrades.

Footnotes:
a. Capacity based on roadway classification operating at LOS E.
b. Average Daily Traffic.
c. Level of Service.
d. Volume to Capacity.
e. Δ denotes the project-induced increase in delay.
f. Δ denotes a project mitigation-induced decrease in the Volume to Capacity ratio.



LINSCOTT LAW & GREENSPAN engineers

N:\2408\Figures\Jan 2020
Date: 03/03/20

LEGEND:

- (#) Study Intersections
- # Number of Travel Lanes
- D / U Divided / Undivided Roadway
- Turn Lane Configurations
- XX Posted Speed Limit
- Intersection Control
- RTOL Right-Turn Overlap
- FREE Free Movement
- P On-Street Parking
- Bike Lanes
- Bus Stop
- (R) Ramp Meter Signal
- HOV Ramp Meter Carpool Lane
- SOV Ramp Meter General Purpose Lane
- M Freeway Mainline Lanes
- HOV Freeway Carpool Lane
- AUX Freeway Auxiliary Lane
- (#) Mitigated
- (#) & ▬ Unmitigated
- Mitigation shown in **Bold**.

Figure 14-1

Near-Term (Opening Day 2023) + Project Impacts & Mitigation

COSTA VERDE CENTER REVITALIZATION PROJECT

15.0 YEAR 2035 (COMMUNITY BUILDOUT) SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Per the City's significance thresholds and the analysis methodology presented in this report, project related traffic is calculated to cause significant impacts within the study area. The following section lists the Year 2035 (Community Buildout) impacts and recommended mitigation measures.

15.1 Significant Impacts Prior to Mitigation

The following significant "cumulative" impacts are calculated under Year 2035 (Community Buildout) + Project conditions.

Intersections

A-CI-1. #7. La Jolla Village Drive / Genesee Avenue

A-CI-2. #13. Costa Verde Boulevard / Costa Verde Shopping Center (South)

A-CI-3. #14. Genesee Avenue / Esplanade Court

A-CI-4. #20. Nobel Drive / Costa Verde Boulevard

A-CI-5. #22. Nobel Drive / Genesee Avenue

A-CI-6. #28. Genesee Avenue / Decoro Street

A-CI-7. #29. Genesee Avenue / Governor Drive

A-CI-8. #30. Genesee Avenue / SR52 WB Ramps

A-CI-9. #31. Genesee Avenue / SR52 EB Ramps

Street Segments

A-CI-10. La Jolla Village Drive: Genesee Avenue to Executive Way

A-CI-11. Genesee Avenue: La Jolla Village Drive to Esplanade Court

A-CI-12. Genesee Avenue: Nobel Drive to Decoro Street

A-CI-13. Genesee Avenue: Decoro Street to Governor Drive

A-CI-14. Genesee Avenue: Governor Drive to SR52

Freeway Mainline Segments

A-CI-15. Interstate 5: Gilman Drive to Nobel Drive

A-CI-16. Interstate 805: Governor Drive to Nobel Drive

A-CI-17. State Route 52: Genesee Avenue to I-805

Metered Freeway On-Ramp

A-CI-18. Interstate 5 / La Jolla Village Drive Interchange: NB Ramps

A-CI-19. Interstate 805 / Nobel Drive Interchange: SB Ramps

Figure 15–1 graphically show the significant "cumulative" impacts occurring under *Year 2035 (Community Buildout) +Project conditions.*

15.2 Mitigation Measures

The following summarizes the recommended mitigation measures under Year 2035 (Community Buildout) + Project.

15.2.1 *Intersections*

The following intersection improvements are identified to mitigate the Year 2035 (Community Buildout) + Project significant "cumulative" impacts. The intersection calculation sheets are contained in *Appendix O*.

A-CI-1. #7. La Jolla Village Drive / Genesee Avenue

- Widen the westbound approach to provide a second dedicated right-turn lane would mitigate the project's cumulative impact. This improvement has been assured by the Monte Verde Project (PTS# 6563) by permitting and bonding for this improvement. Therefore, the proposed project's impact in the Year 2035 scenario at this location is considered less than significant.

A-CI-2. #13. Costa Verde Boulevard / Loop Road (South)

- Widen the westbound approach to provide a dedicated left-turn lane. To accommodate the additional lane, approximately 10' of widening of the roadway would be required. The additional 10' of widening can be accomplished by widening 5' on both sides of the driveway. A conceptual design is included in *Appendix O*.
- Restripe the northbound approach to provide a dedicated right-turn lane.
- Even though the impact is cumulative in nature, given that this intersection serves as a project access driveway, the above improvements should be funded 100% by the Applicant.
- The above project mitigation shall be assured by permit and bond satisfactory to the City Engineer prior to the issuance of the first construction permit and, completed and operational prior to the issuance of the first occupancy.

A-CI-3. #14. Genesee Avenue / Esplanade Court

- The project's direct impact mitigation measure A-DI-1, which includes reconfiguring the eastbound approach to provide two dedicated left-turn lanes, a through lane and a dedicated right-turn lane with an eastbound right-turn overlap phase will mitigate the project's cumulative impact as well.
- A signal modification will also be required at this intersection.
- The above mitigation shall be assured by permit and bond satisfactory to the City Engineer prior to the issuance of the first construction permit, and improvements shall be completed and operational prior to the issuance of the first occupancy. Should any improvements listed herein also be required by a third party, the project may be able to set up a reimbursement district or private agreement to share these costs.

A-CI-4. #20. Nobel Drive / Costa Verde Boulevard

- Restripe the southbound approach to provide a dedicated right-turn lane.
- Even though the impact is cumulative in nature, the above improvements should be funded 100% by the Applicant. A signal modification will also be required at this intersection.
- The above project mitigation shall be assured by permit and bond satisfactory to the City Engineer prior to the issuance of the first construction permit, and completed and operational prior to the issuance of the first occupancy.

A-CI-5. #22. Nobel Drive / Genesee Avenue

- Installing right-turn overlap phasing on the eastbound approach would mitigate the project's impact at this intersection. A signal modification would also be required at this intersection.
- However, the addition of an eastbound right-turn overlap phase would prohibit access to the residential development on the west side of Genesee Avenue, south of Nobel Drive due to the inability to make northbound U-turns.
- However, as partial mitigation, the project proposes to upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.
- Therefore, based on coordination with City staff, this impact is considered significant and unmitigated.

A-CI-6. #28. Genesee Avenue / Decoro Street

- The project's direct impact mitigation measure A-DI-10, which includes restriping the westbound approach to include a shared through-left turn lane and an exclusive right-turn lane will mitigate the project's cumulative impact as well.
- This improvement would require removal of on-street parking. Approximately the loss of six (6) parking spaces are anticipated to implement this improvement. A signal modification will also be required at this intersection.
- The above project mitigation shall be assured by permit and bond satisfactory to the City Engineer prior to the issuance of the first construction permit, and completed and operational prior to the issuance of the first occupancy.

A-CI-7. #29. Genesee Avenue / Governor Drive

- The project's direct impact mitigation measure A-DI-2, which includes installing right-turn overlap phasing on the southbound approach would mitigate the project's impact at this intersection. A signal modification will also be required at this intersection.
- However, the addition of a southbound right-turn overlap phase would prohibit access to the parcel at the northwest corner of the intersection due to the inability to make eastbound U-turns.

- However, as partial mitigation, the project proposes to upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.
- Therefore, based on coordination with City staff, this impact is considered significant and unmitigated.

A-CI-8. #30. Genesee Avenue / SR 52 WB Ramps

- The project's direct impact mitigation measure A-DI-3, which includes installing a traffic signal at this intersection to allow for protected northbound left-turns will mitigate the project's cumulative impact as well. A signal warrant analysis is included in *Appendix O*, which shows that the traffic signal is warranted.
- The above improvements are consistent and adopted as such by the City Council as a part of the University Community Plan Amendment (CPA), Final Program Environmental Impact Report (*City Project No: 480286 SCH: 2015121011*), *Exhibit A: Candidate Findings, Page A-14).*
- Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval; therefore, impacts to this intersection would remain significant and unmitigated.

A-CI-9. #31. Genesee Avenue / SR 52 EB Ramps

- The project's direct impact mitigation measure A-DI-4, which includes installing right-turn overlap phasing on the westbound approach will mitigate the project's cumulative impact as well. A signal modification will also be required at this intersection.
- Although the identified improvements would fully mitigate the impact, the project's impact to this intersection is considered significant because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval; therefore, impacts to this intersection would remain significant and unmitigated.

15.2.2 *Street Segments*

The following street segment improvements are identified to mitigate the Year 2035 (Community Buildout) significant "cumulative" impacts.

A-CI-10. La Jolla Village Drive between Genesee Avenue and Executive Way

- Repurposing of this segment of La Jolla Village Drive between Genesee Avenue between and Executive Way to a 6-lane Prime Arterial would mitigate the project's impact. However, it was determined that on-street parking would remain and acceleration and deceleration lanes at existing driveways would need to be provided.

- The above improvements were deemed infeasible and adopted as such by the City Council as a part of the University Community Plan Amendment (CPA), Final Program Environmental Impact Report (*City Project No: 480286 SCH: 2015121011*), *Exhibit A: Candidate Findings, Page A-12).*
- Based on the above infeasibility, the project's impact along this segment is considered significant and unmitigated.

A-CI-11. Genesee Avenue: La Jolla Village Drive to Esplanade Court

- Repurposing of this segment of Genesee Avenue between La Jolla Village Drive and Esplanade Court to a 6-lane Prime Arterial would mitigate the project's impact. The above improvements were deemed feasible and adopted as such by the City Council as a part of the University Community Plan Amendment (CPA), Final Program Environmental Impact Report (*City Project No: 480286 SCH: 2015121011*), *Exhibit A: Candidate Findings, Page A-12).*
- However, a loading driveway serving the UTC mall currently exists on the easterly curb along this segment, which would conflict with the Prime Arterial classification. Therefore, the repurposing of the roadway to Prime Arterial was deemed infeasible and the impact is considered significant and unmitigated.

A-CI-12 through 14 Genesee Avenue: Nobel Drive to SR 52

- Widening this segment of Genesee Avenue between Nobel Drive and SR 52 to a 6-lane Major Arterial would mitigate the project's impact.
- However, as part of the approvals for the University Community Plan Amendment (CPA), Final Program Environmental Impact Report (*City Project No: 480286, SCH: 2015121011*), the City Council in December 2016 rejected (*Exhibit A: Candidate Findings, Page A-25*) the widening of Genesee Avenue between Nobel Drive and SR 52 WB ramps to 6-lanes as infeasible as it would not substantially reduce the significant impacts from the CPA project. Furthermore, the repurposing of Genesee Avenue right-of-way to provide for a modified six-lane arterial was also rejected (*Exhibit A: Candidate Findings, Page A-15*) as it would require modification of the existing street design along this segment, including removal of center median resulting in a loss of trees lending it inconsistent with the Climate Action Plan (CAP) Strategy 5.
- However, as partial mitigation, the project proposes to upgrade and/or repair signal interconnect, communications, detection and controller equipment on Genesee Avenue between Esplanade Court and Governor Drive.
- Given these City Council's policy decisions to maintain existing conditions (i.e. 4 lanes) on Genesee Avenue, and implementation of communication upgrades are assumed to partially mitigate the project's impact, the project's segment impact on Genesee Avenue between Nobel Drive and SR 52 is considered significant and unmitigated.

Tables 15–1 and ***15–2*** report the results of intersection and street segment mitigation analysis under Year 2035 (Community Buildout) + Project conditions. As shown in the tables, the proposed mitigation would reduce the project impacts to a level of 'not significant'. For the purposes of this report, a level of 'not significant' reflects allowable delay increases within City defined thresholds.

15.2.3 *Freeway Mainline Segments*

The following freeway segment improvements are identified to mitigate the Year 2035 (Community Buildout) + Project impacts.

A-CI-15. Interstate 5: Gilman Drive to Nobel Drive

The project is calculated to have a significant impact on I-5 between Gilman Drive and Nobel Drive. SANDAG's 2050 Revenue Constrained RTP includes the addition of managed lanes on Interstate 5 between Interstate 8 and La Jolla Village Drive. The addition of managed lanes would further improve freeway operations on I-5. However, at this time, there is no funding in place to guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

A-CI-16. Interstate 805: Governor Drive to Nobel Drive

The project is calculated to have a significant impact on I-805 between Governor Drive and Nobel Drive. Currently, there is one (1) managed lane on I-805 between SR 52 and I-5, which was Stage I of the I-805 North Managed Lanes Project. Stages II through IV of the I-805 North Managed Lanes project will construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. The addition of managed lanes and a new DAR on Nobel Drive would further improve freeway operations on I-805. The construction start date for these improvements are pending as there is no funding in place currently and there is no guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

A-CI-17. State Route 52: Genesee Avenue to I-805

The project is calculated to have a significant impact on SR 52 between Genesee Avenue and I-805. SANDAG's 2050 Unconstrained Network RTP includes addition of a third lane in each direction along SR52 between I-5 and I-805. However, there is no funding in place to guarantee that this improvement would be completed. As a result, the significant traffic impacts to this freeway segment would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated

in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

15.2.4 *Metered Freeway On-Ramp*

A-CI-18. Interstate 5 / La Jolla Village Drive Interchange: NB On-Ramp

The project is calculated to have a significant impact on I-5/ La Jolla Village Drive Interchange NB on-ramp. Caltrans continually monitors and adjusts freeway entrance ramp meter rates. Ramp meter rates are generally only increased to process more vehicles when freeways have the capacity to handle increased demand from the entrance ramps.

The project's impact at this ramp meter is calculated in the Year 2035 (Community Buildout) scenario. The UTC Revitalization project is conditioned to construct a HOV lane at the I-5/La Jolla Village Drive NB on-ramp. The construction of this HOV lane would reduce queues and delay at this ramp meter and reduce the proposed project's impact to less than significant.

As of January 2020, this improvement is under construction and expected to be completed by Year 2035. Therefore, given the above, the impact is considered mitigated.

A-CI-19. Interstate 805 / Nobel Drive Interchange: SB On-Ramp

The project is calculated to have a significant impact on I-805/ Nobel Drive Interchange SB on-ramp. Caltrans continually monitors and adjusts freeway entrance ramp meter rates. Ramp meter rates are generally only increased to process more vehicles when freeways have the capacity to handle increased demand from the entrance ramps.

As discussed previously, Stages II through IV of the I-805 North Managed Lanes project will construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. The addition of managed lanes and a new DAR on Nobel Drive would relieve the congestion and delay at the ramp meter and improve overall freeway operations. The construction start date for these improvements are pending as there is no funding in place currently and there is no guarantee that this improvement would be completed. Therefore, this impact would remain significant and unmitigated. As partial mitigation, the project proposes TDM measures as stated in A-DI-5 to incentivize use of alternate forms of transportation other than single occupancy vehicles.

15.2.5 *Unmitigated Impacts*

The following is a list of significant unmitigated impacts under the Year 2035 (Community Buildout) + Project scenario:

Intersections

- Nobel Drive / Genesee Avenue
- Genesee Avenue / Governor Drive
- Genesee Avenue / SR 52 WB Ramps
- Genesee Avenue / SR 52 EB Ram

Street Segments

- La Jolla Village Drive: Genesee Avenue to Executive Way
- Genesee Avenue: La Jolla Village Drive to Esplanade Court
- Genesee Avenue: Nobel Drive to SR 52

Freeway Mainline Segments

- Interstate 5: Gilman Drive to Nobel Drive
- Interstate 805: Governor Drive to Nobel Drive
- State Route 52: Genesee Avenue to I-805

Metered Freeway On-Ramp

- Interstate 805 / Nobel Drive Interchange SB On-Ramp

TABLE 15–1
YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Year 2035 (Community Buildout)		Year 2035 (Community Buildout) + Project			Year 2035 (Community Buildout) + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]		LOS	Δ[d]		
7. La Jolla Village Drive / Genesee Avenue	Signal	AM	107.1	F	115.9	F	8.8	107.5	F	0.4	No	Widen the WB approach to provide a second dedicated right-turn lane. This improvement has been assured by the Monte Verde Project by permitting and bonding for this improvement.
		PM	71.7	E	80.4	F	8.7	73.3	E	1.6		
13. Costa Verde Boulevard / Loop Road (South)	MSSC[e]	PM	97.7	F	170.9	F	73.2	77.3	F	(20.4)	No	Widen the WB approach to provide a dedicated left-turn lane. Restripe the NB approach to provide a dedicated right-turn lane.
14. Genesee Avenue / Esplanade Court	Signal	AM	51.9	D	77.4	E	25.5	49.7	D	(2.2)	No	Reconfigure the EB approach to provide dual left-turn lanes, a through lane and a dedicated right-turn lane. Install an eastbound right-turn overlap phase.
		PM	112.3	F	138.1	F	25.8	52.6	D	(59.7)		
20. Nobel Drive / Costa Verde Boulevard / Cargill Avenue	Signal	AM	58.3	E	76.9	E	18.6	40.3	D	(18.0)	No	Restripe the SB approach to provide a dedicated right-turn lane.
		PM	54.4	D	63.7	E	9.3	54.8	D	0.4		

TABLE 15–1
YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Year 2035 (Community Buildout)		Year 2035 (Community Buildout) + Project			Year 2035 (Community Buildout) + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]		LOS	Δ[d]		
22. Nobel Drive / Genesee Avenue	Signal	AM	93.4	F	113.5	F	20.1	93.6	F	0.2	Yes	Install right-turn overlap phasing on the eastbound approach. However, this improvement would prohibit access to the residential development on the west side of Genesee Avenue, south of Nobel Drive due to the inability to make northbound U-turns. Per City coordination, this impact is significant and unmitigated. Partial mitigation includes signal communication upgrades.
		PM	73.6	E	79.0	E	5.4	74.3	E	0.7		
28. Genesee Avenue / Decoro Street	Signal	AM	157.5	F	174.9	F	17.4	156.6	F	(0.9)	No	Restripe the westbound approach to include a shared through-left turn lane and an exclusive right-turn lane.
		PM	328.7	F	347.5	F	18.8	328.1	F	(0.6)		
29. Genesee Avenue / Governor Drive	Signal	AM	507.1	F	530.3	F	23.2	286.2	F	(220.9)	Yes	Install right-turn overlap phasing on the southbound approach. However, this improvement would prohibit access to the parcel at the northwest corner of this intersection due to the inability to make eastbound U-turns. Per City coordination, this impact is significant and unmitigated. Partial mitigation includes signal communication upgrades.
		PM	86.4	F	92.8	F	6.4	86.5	F	0.1		

TABLE 15–1
YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Year 2035 (Community Buildout)		Year 2035 (Community Buildout) + Project			Year 2035 (Community Buildout) + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]		LOS	Δ[d]		
30. Genesee Avenue / SR 52 WB Ramps	MSSC[e]	PM	249.4	F	294.4	F	45.0	14.1	B	(235.3)	Yes	Install a traffic signal to allow for protect northbound left-turns. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	87.8	F	96.3	F	8.5	79.0	E	(8.8)	Yes	Install right-turn overlap phasing on the westbound approach. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval
		PM	179.6	F	201.9	F	22.3	147.4	F	(32.2)		

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the project-induced increase in delay.
d. Δ denotes a decrease in delay due to project mitigation.
e. MSSC – Minor-Street Stop-Controlled intersection.

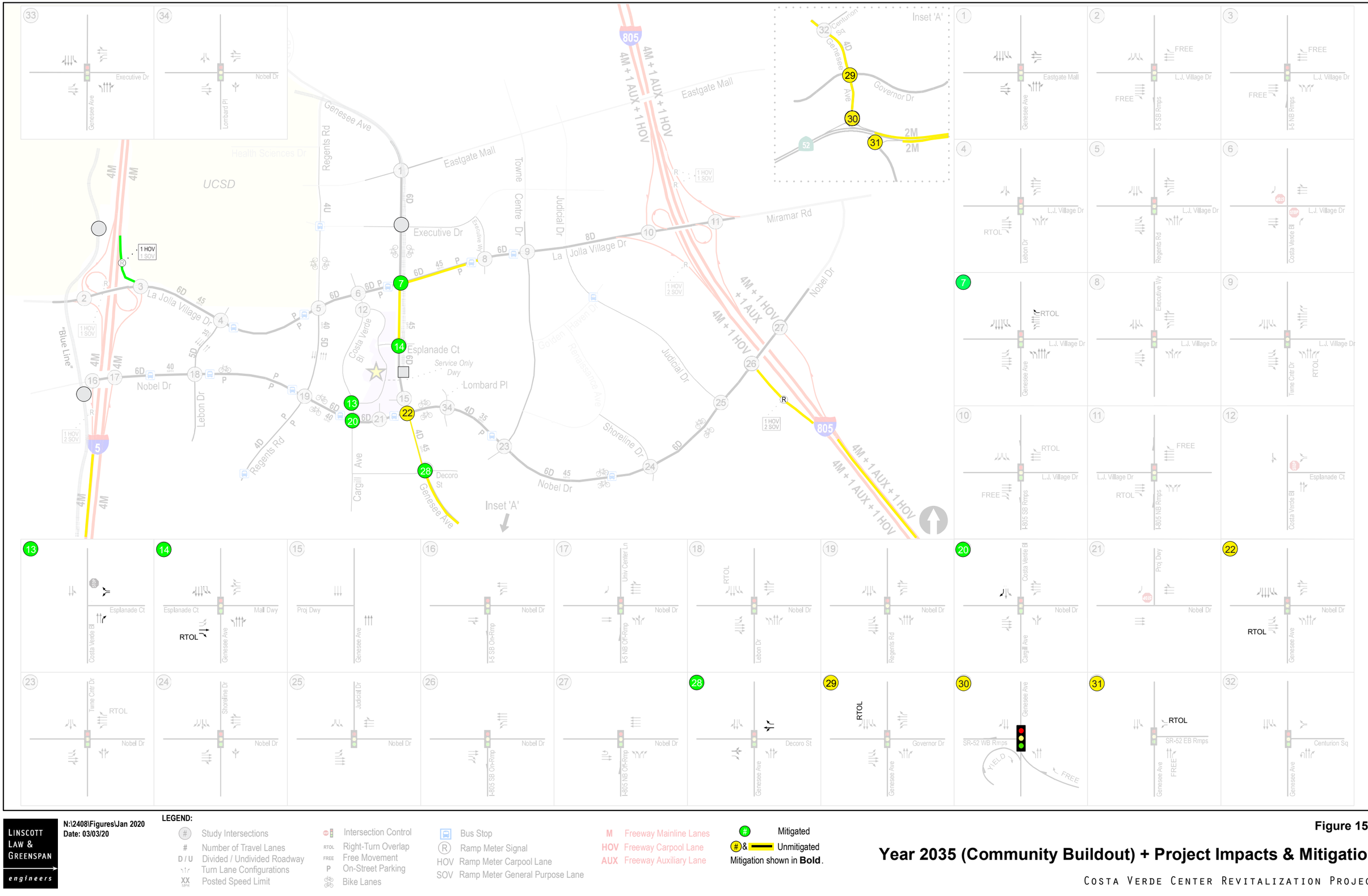
TABLE 15–2
YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT STREET SEGMENT MITIGATION ANALYSIS

Roadway Segment	Classification	Capacity[a]	Year 2035 (Community Buildout)			Year 2035 (Community Buildout) + Project				Mitigation Classification	Mitigation Capacity	Year 2035 (Community Buildout) + Project with Mitigation				Significant After Mitigation?	Mitigation
			ADT[b]	LOS[c]	V/C[d]	ADT	LOS	V/C	Δ[e]			ADT	LOS	V/C	Δ[f]		
La Jolla Village Drive																	
Genesee Avenue to Executive Way	6-Lane Major Arterial	50,000	55,400	F	1.108	56,150	F	1.123	0.015	6-Lane Prime Arterial	60,000	56,150	E	0.936	(0.172)	Yes	Repurposing to 6-Lane Prime roadway standards would require removal of on-street parking. This was deemed infeasible by City Council as a part of the UCPA.
Genesee Avenue																	
La Jolla Village Drive to Esplanade Court	6-Lane Major Arterial	50,000	45,100	E	0.902	46,640	E	0.933	0.031	6-Lane Major Arterial	50,000	46,640	E	0.933	0.031	Yes	Repurpose to 6-Lane Prime roadway standards. This was deemed feasible by City Council as a part of the UCPA. However, a loading driveway exists serving the UTC mall, which would conflict with the Prime Arterial classification.

TABLE 15–2
YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT STREET SEGMENT MITIGATION ANALYSIS

Roadway Segment	Classification	Capacity[a]	Year 2035 (Community Buildout)			Year 2035 (Community Buildout) + Project				Mitigation Classification	Mitigation Capacity	Year 2035 (Community Buildout) + Project with Mitigation				Significant After Mitigation?	Mitigation
			ADT[b]	LOS[c]	V/C[d]	ADT	LOS	V/C	Δ[e]			ADT	LOS	V/C	Δ[f]		
Nobel Drive to Decoro Street	4-Lane Major Arterial	40,000	45,700	F	1.143	46,800	F	1.170	0.027	6-Lane Major Arterial	50,000	46,800	E	0.936	(0.207)	Yes	Widening or repurposing to 6-Lane Major roadway standards was deemed infeasible by City Council as a part of the UCPA. However, as partial mitigation, the project proposes signal communication upgrades on Genesee Avenue between Esplanade Court and Governor Drive.
Decoro Street to Centurion Square	4-Lane Major Arterial	40,000	47,750	F	1.194	48,850	F	1.221	0.027	6-Lane Major Arterial	50,000	48,850	E	0.977	(0.217)	Yes	
Centurion Square to Governor Drive	4-Lane Major Arterial	40,000	55,850	F	1.396	56,950	F	1.424	0.028	6-Lane Major Arterial	50,000	56,950	F	1.139	(0.257)	Yes	
Governor Drive to SR 52	4-Lane Major Arterial	40,000	44,750	F	1.119	45,600	F	1.140	0.021	6-Lane Major Arterial	50,000	45,600	E	0.912	(0.207)	Yes	

Footnotes:
a. Capacity based on roadway classification operating at LOS E.
b. Average Daily Traffic.
c. Level of Service.
d. Volume to Capacity.
e. Δ denotes the project-induced increase in delay.
f. Δ denotes a project mitigation-induced decrease in the Volume to Capacity ratio.



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LEGEND:

- (#) Study Intersections
- # Number of Travel Lanes
- D / U Divided / Undivided Roadway
- Turn Lane Configurations
- XX Posted Speed Limit
- Intersection Control
- RTOL Right-Turn Overlap
- FREE Free Movement
- P On-Street Parking
- Bike Lanes
- Bus Stop
- (R) Ramp Meter Signal
- HOV Ramp Meter Carpool Lane
- SOV Ramp Meter General Purpose Lane
- M Freeway Mainline Lanes
- HOV Freeway Carpool Lane
- AUX Freeway Auxiliary Lane
- (#) Mitigated
- (#) & Unmitigated
- Mitigation shown in **Bold**.

Figure 15-1

Year 2035 (Community Buildout) + Project Impacts & Mitigation

COSTA VERDE CENTER REVITALIZATION PROJECT

16.0 SITE ACCESS AND ON-SITE CIRCULATION

16.1 Site Access

Vehicular access to the project site would be provided from Genesee Avenue, Nobel Drive, Costa Verde Boulevard, and Esplanade Court. The main project access would be provided from a gateway entry at the existing signalized intersection of Genesee Avenue and Esplanade Court to the northern portion of the site. The northern portion of the center sits approximately 14 feet higher in elevation than the southern portion (lower portion) of the site. Esplanade Court would also be vacated as a public street and would become private. A General Utility and Emergency Vehicle Access Easement would be dedicated along the northern portion of Esplanade Court.

Vehicular access to the lower portion of the site would be maintained via the three existing driveways. One unsignalized right-in/right-out driveway along Genesee Avenue, one unsignalized right-in/right-out driveway along Nobel Drive, and one unsignalized full access driveway along Costa Verde Boulevard.

A service only driveway is proposed on Genesee Avenue, approximately 200' south of Esplanade Court. This driveway will allow egress movements only.

16.2 On-Site Circulation

The Genesee Avenue/Esplanade Court intersection forms the gateway entry into the site. Esplanade Court will be widened to include two (2) inbound lanes, a raised median, and four (4) outbound lanes. Esplanade Court will also provide access to the two-level subterranean parking garage that would serve the project land uses. Parking garage ingress and egress would be provided via separate ramps on Esplanade Court.

The unsignalized right-in/right-out driveway on Genesee Avenue and Nobel Drive will provide access to the upper level retail surface parking as well as access to the subterranean parking garage.

17.0 PEDESTRIAN MOBILITY

This section presents the pedestrian conditions in the project study area. The *City of San Diego Pedestrian Master Plan* and the *General Plan Mobility Element (2008)* establish guidelines for a complete, functional, and interconnected pedestrian network, that is accessible to pedestrians of all abilities.

17.1 Existing Pedestrian Mobility

A pedestrian network inventory was conducted along street segments, which included documenting missing sidewalks, pedestrian barriers and pedestrian pathways within the project's sphere of influence.

17.1.1 *Existing Pedestrian Demand*

Existing pedestrian demand was collected at intersections within the project's sphere of influence during the commuter AM/PM peak hours. The average combined AM and PM pedestrian demand for was calculated and every intersection was categorized as lower than average, average demand or higher than average demand. This represents a measure of pedestrian demand in close proximity to the Costa Verde project site. ***Figure 17–1*** shows the existing pedestrian demand in proximity of the Costa Verde project.

17.2 Future Pedestrian Mobility

Pedestrian connectivity is generally very good with future enhancements planned. The implementation of a number of local improvements were reviewed based on information provided in the *North University Public Facilities Financing Plan (PFFP), Fiscal Year 2013,* the recently completed *University Community Plan Amendment*, the *2050 Regional Transportation Plan* (RTP), the *City of San Diego Pedestrian Master Plan,* and the UC San Diego *Bicycle and Pedestrian Master Planning Study*.

Table 17–1 shows the planned pedestrian improvements that were reviewed in the immediate project area. ***Figure 17–2*** illustrates the existing and planned pedestrian network.

TABLE 17–1
PLANNED IMPROVEMENTS - PEDESTRIAN

Project Name	Improvements	Schedule/ Funding
Genesee Avenue and La Jolla Village Drive Overcrossings (NUC-1)	This project provides for the pedestrian overcrossings at the west and south quadrants of the Genesee Avenue and La Jolla Village Drive intersection. The south quadrant will be deleted from the PFFP due to the Mid Coast trolley bridge across Genesee Avenue.	The west quadrant project is scheduled to be constructed by the Monte Verde project. Monte Verde project is currently under construction.
La Jolla Village Drive and Towne Centre Drive (NUC-42)	This project provides a pedestrian bridge at the west quadrant of the La Jolla Village Drive and Towne Centre Drive intersection.	This project is fully funded by the University Town Centre Project. Design and construction of the pedestrian bridge will be constructed according to a deferred improvement agreement required by University Towne Center Project.
Mid Coast Trolley / UTC Transit Center / Genesee Overcrossing	The Mid Coast Trolley project proposes two (2) new pedestrian bridges over Genesee Avenue, south of Esplanade Court connecting the overhead trolley station to the UTC Mall, transit center and the Costa Verde Center.	The Mid Coast project is currently under construction and expected to be complete by late 2021.

17.3 Pedestrian Mobility Review

As part of the pedestrian mobility review, a walkshed analysis was also conducted as noted below.

17.3.1 *Walkshed Analysis*

In this study, a walkshed analysis was performed to evaluate the pedestrian connectivity in the vicinity of the project site.

The walkshed analysis was performed by identifying all access points to / from the Costa Verde project considering topography constraints. From each access point, areas outside the Costa Verde Center Revitalization project site that could be reached by walking 0.25 miles were identified. Selected walking routes from each access point consider the existence of crosswalks, pedestrian bridges, etc. In this regard, while some areas are within the 0.25-mile buffer around the campus, they may not be reached by walking due to lack of facilities. After creating the walkshed network, the area that could be captured by walking was measured. A larger walkshed area (walkshed network) means higher connectivity between campus and nearby areas. ***Figure 17–3*** shows the walkshed analysis.

As shown in *Figure 17–3,* the Costa Verde project in general has good connectivity to the surrounding community.

17.4 Project Pedestrian Improvements

Pedestrian circulation within the project would be provided throughout the site by a network of sidewalks, pathways, plazas, and public spaces. These pedestrian facilities would provide convenient connections between the proposed uses within the project, and would connect to existing sidewalks along Genesee Avenue, Nobel Drive, Costa Verde Boulevard, Las Palmas Square, and Esplanade Court.

The Project would include pedestrian bridges from the trolley station that would allow employees and guests of the Project, as well as residents of the adjacent residential uses, to use mass transit (trolley and bus), and access additional shopping centers (Westfield UTC). The Project has also been designed to provide pedestrian entry from multiple areas to the north, east, south, and west, and to provide internal pedestrian walkways throughout the project site. Sidewalks along Genesee Avenue and Nobel Drive would be improved to urban parkway configurations, with a 12-foot wide sidewalk, tree grates, and 2 feet of private landscaping within the parkway.

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Figure 17-1

Existing Pedestrian Demand

COSTA VERDE

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Figure 17-2

Pedestrian Network

COSTA VERDE

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0 0.05 0.1 0.15 0.2 Miles

Figure 17-3

Walkshed Analysis

COSTA VERDE

18.0 BICYCLE MOBILITY

This section presents the bicycle mobility in the project study area. In addition, the section also presents a review of the future bike infrastructure in the area based on the *City of San Diego Bicycle Master Plan*, *San Diego Regional Bicycle Master Plan*, *University Community Plan Amendment* and other planning documents.

18.1 Bicycle Classifications

There are four different bicycle facility classifications – Class I, Class II, Class III and Class IV as shown in ***Table 18–1.***

TABLE 18–1
BICYCLE MOBILITY CLASSIFICATIONS

Class I refers to exclusive **bike paths**, also termed shared-use or multi-use paths, are paved right-of-way for exclusive use by bicyclists, pedestrians, and those using non-motorized modes of travel. They are physically separated from vehicular traffic and can be constructed in roadway right-of-way or exclusive right-of-way. Bike paths provide critical connections in the city where roadways are absent or are not conducive to bicycle travel.

Class II refers to **bicycle lanes** defined by pavement striping and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel. Bike lanes are one-way facilities on either side of a roadway. Recently, buffered bike lanes have also been widely used which include painted buffers to provide additional buffers for bicyclists from vehicles.

Class III refers to bike routes that share use with motor vehicle traffic within the same travel lane. Designated by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand. Whenever possible, bike routes are typically enhanced with treatments that improve safety and connectivity, such as the use of "sharrows" or shared lane markings to delineate that the road is a shared-use facility.

Class IV refers to a **Cycle Track**, which is a hybrid type bicycle facility that combines the experience of a separated path with the on-street infrastructure of a conventional bike lane. Cycle tracks are bikeways located in roadway right-of-way but separated from vehicle lanes by physical barriers or buffers. Cycle tracks typically provide for one-way bicycle travel in each direction adjacent to vehicular travel lanes and are exclusively for bicycle use.

18.1.1 *Existing Bicycle Demand*

Existing bicycle demand was collected at every intersection in the study area during the commuter AM/PM peak hours. The average combined AM and PM bicycle demand for the study area in the project's sphere of influence was calculated for every intersection. This represents a measure of bicycle demand. ***Figure 18–1*** shows the existing bicycle demand in proximity of the Costa Verde project per these defined categories.

18.2 Future Bicycle Conditions

Bicycle connectivity is generally very good with future enhancements planned. The implementation of a number of local improvements were reviewed based on information provided in the *North University Public Facilities Financing Plan (PFFP), Fiscal Year 2013,* the recently completed *University Community Plan Amendment*, the *2050 Regional Transportation Plan* (RTP), the *SANDAG San Diego Regional Bike Plan,* the *City of San Diego Bicycle Master Plan,* and the UCSD *Bicycle and Pedestrian Master Planning Study*.

Table 18–2 shows the planned improvements that were reviewed. ***Figure 18–2*** illustrates the existing and planned bicycle network. ***Appendix P*** contains the additional information on the local and regional bicycle improvements.

TABLE 18–2
PLANNED IMPROVEMENTS - BICYCLE

Project Name	Improvements	Schedule/ Funding
I-5/Genesee Avenue Interchange (NUC-24)	This project provides Class II bike lanes on the I-5 / Genesee Avenue overcrossing. This project also will add a Class 1 bicycle and pedestrian path – a dedicated path for the exclusive use of bicyclists and pedestrians. This path will provide links to transportation, employment centers, hospitals and the campus. At UC San Diego, this dedicated path will run east of the Campus Services Complex and will be accessed at the Gilman Drive/Voigt Drive intersection. It will extend to the Sorrento Valley COASTER Station north of campus. This improvement will also delete current I-5 shoulder bicycle access.	This project was recently completed.
Gilman Drive Overcrossing	This new bridge will unite the existing campus roads on both sides of the I-5 freeway: Gilman Drive on the west and Medical Center Drive on the east. Sidewalks and bike lanes will be provided on the bridge to facilitate pedestrian/bike travel.	This project was recently completed.

TABLE 18–2
PLANNED IMPROVEMENTS - BICYCLE

Project Name	Improvements	Schedule/ Funding
Eastgate Mall between Miramar Road and SDG&E Easement (NUC-34)	This project provides for Class II bike lanes on Eastgate Mall between Miramar Road and SDG&E Easement.	This project is fully funded through the PFFP.
Nobel Drive between Lebon Drive to Regents Road and Genesee Avenue to Towne Centre Drive (NUC-J)	This project provides Class II bicycle lanes on Nobel Drive between Lebon Drive to Regents Road and Genesee Avenue to Towne Centre Drive.	This project is fully funded.

18.3 Bicycle Mobility Review

As part of the bicycle mobility review, a bikeshed analysis was also conducted as noted below.

18.3.1 *Bikeshed Analysis*

In this study, a bikeshed analysis was conducted to evaluate bicycle connectivity in the vicinity of the project site. This analysis also identifies potential locations where providing bicycle access could improve project connectivity to surrounding area.

The bikeshed analysis was performed by identifying all access points to / from the Costa Verde Center Revitalization Project considering topography constraints. From each access point, areas outside the Costa Verde Center Revitalization project site that could be reached by biking 1.0 mile (or approximately 10 minutes) were identified. Selected biking routes from each access point consider the existence of bike routes, lanes, dedicated pathways, intersection crosswalks, bicycle/pedestrian bridges, etc. In this regard, while some areas are within the one-mile buffer around the project site, they may not be reached by bike due to lack of facilities. A larger bikeshed area (bikeshed network) means higher connectivity between the project site and nearby areas.

Figure 18–3 shows the bikeshed analysis. As shown in *Figure 18–3*, the Costa Verde project in general has good connectivity to the surrounding community.

18.4 Project Bicycle Improvements

The City's Bicycle Master Plan identifies Class II bike lanes along the Project's frontages with Genesee Avenue and Nobel Drive. These facilities currently exist and would not be adversely affected by the Project. In addition, the project proposes a one-way cycle track on Nobel Drive between Genesee Avenue and Regents Road.

In addition, a bicycle route (shared with pedestrians) would be provided along internal roadways that would connect to existing bicycle lanes along Genesee Avenue and Nobel Drive. Appropriate on-site signage will be included to formalize locations where bicycle activity is allowed. Bicycle access to the Mid-Coast Trolley Station and UTC Transit Station also would be provided. Bicycle lockers and parking would be provided on site to support bicycle circulation and will meet City code regulations.

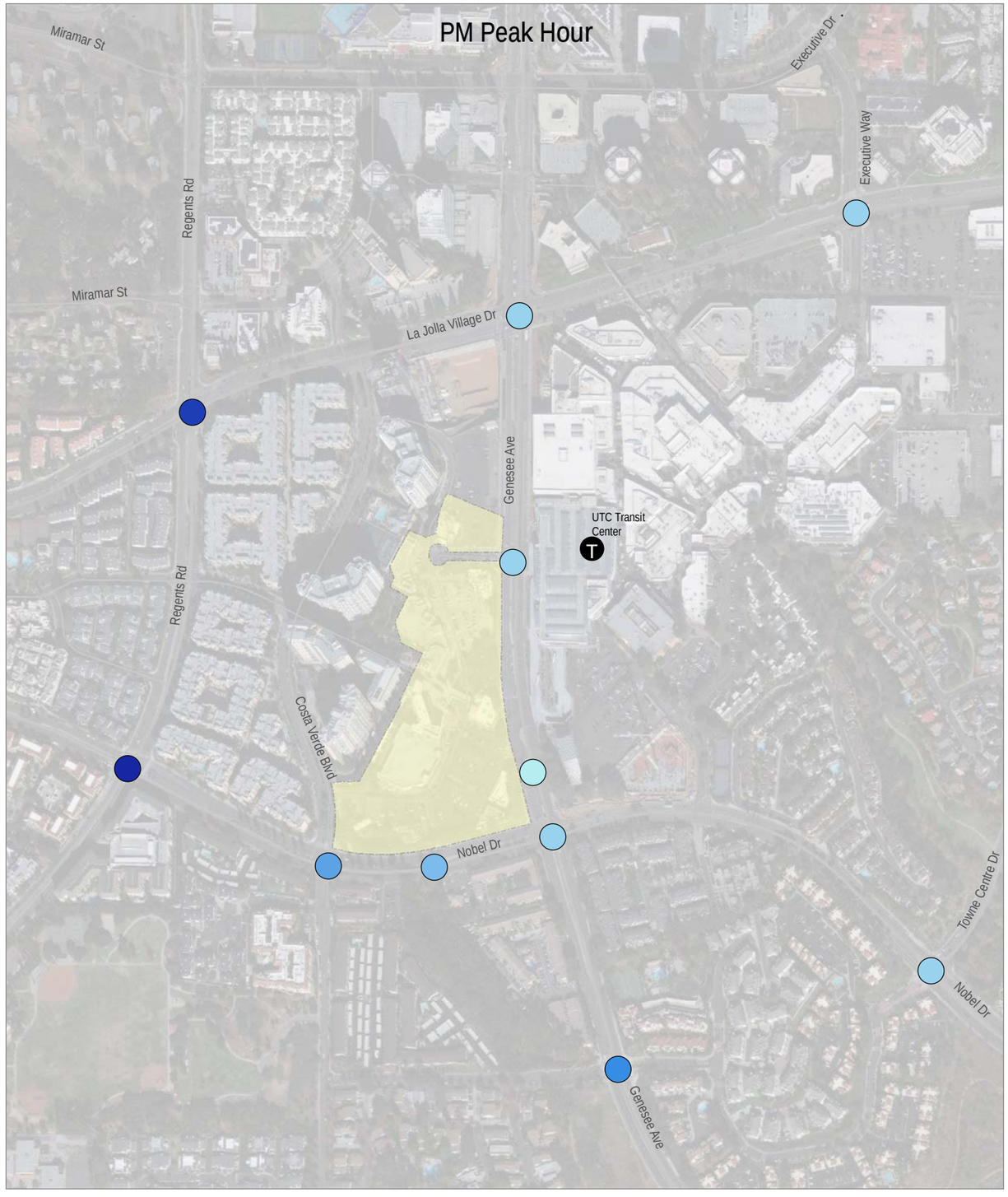

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Figure 18-1

Existing Bicycle Demand

COSTA VERDE

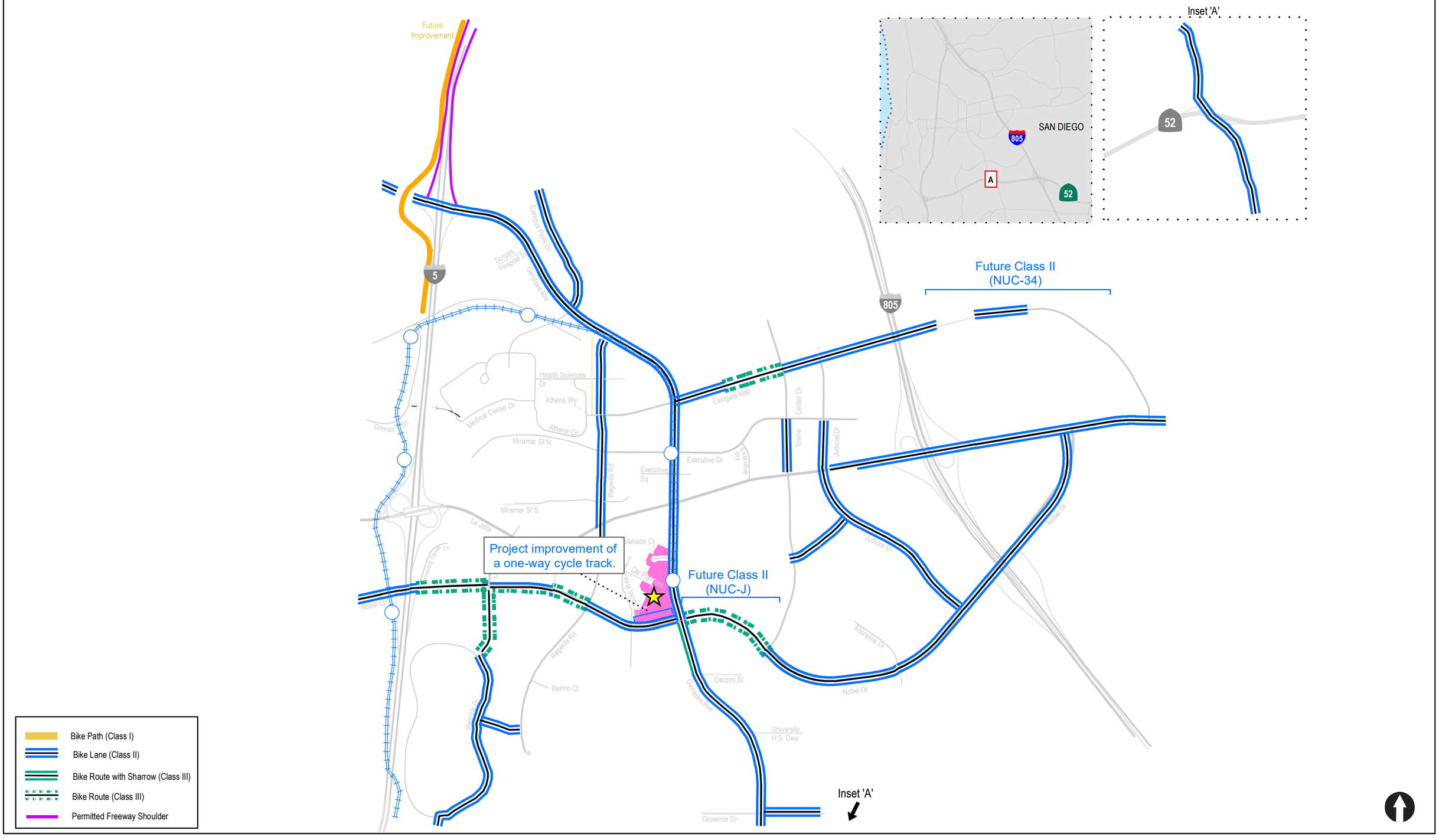

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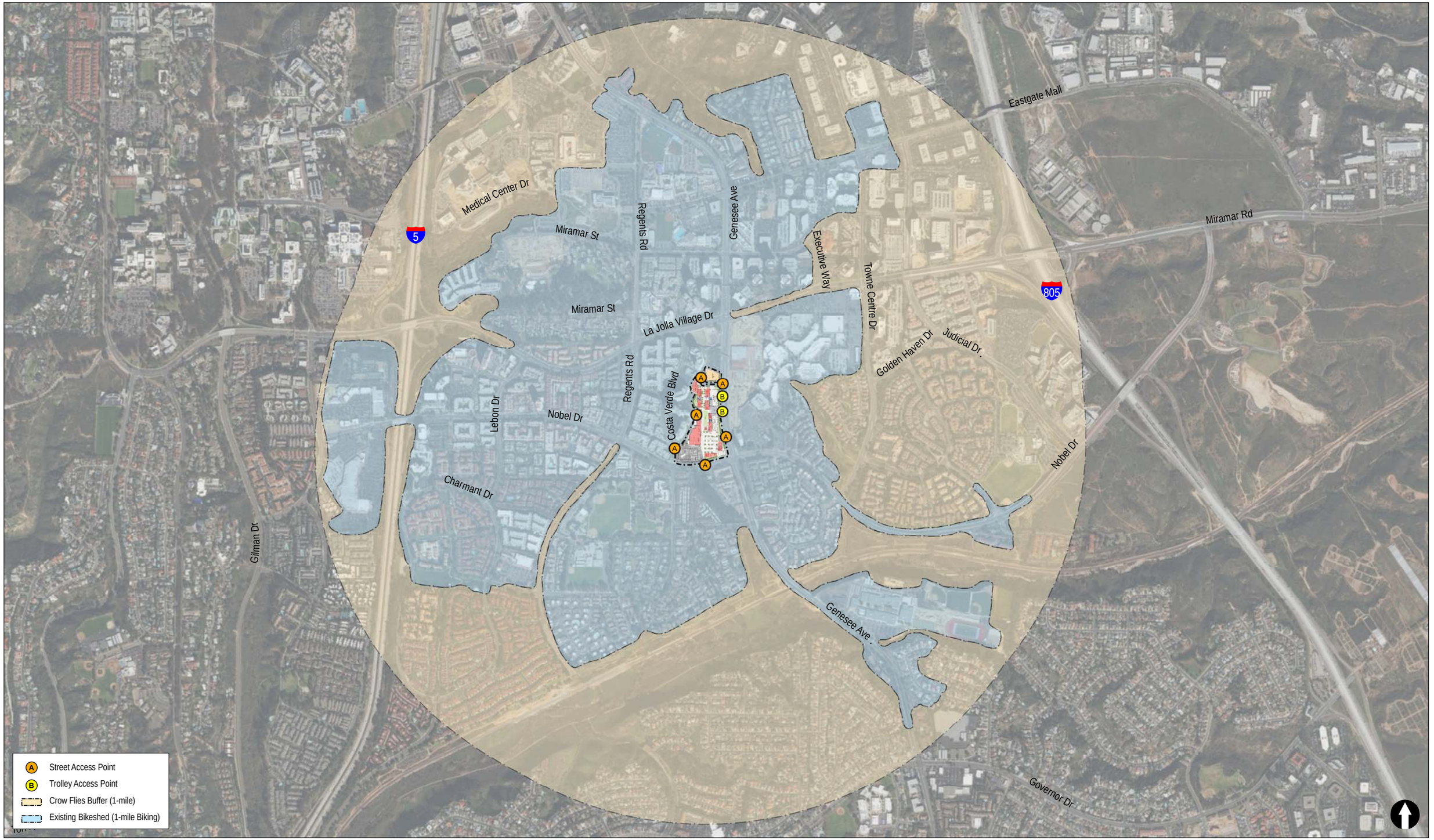
Figure 18-2

Bicycle Network

COSTA VERDE



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0 0.15 0.3 0.45 0.6 Miles

Figure 18-3

Bikeshed Analysis

COSTA VERDE

19.0 TRANSIT

19.1 Existing Transit Conditions

The project site is located adjacent to the UTC Transit Center, one of the major transit hubs in the North University Community. Bus routes currently serving the transit center include MTS routes 30, 31, 41, 50, 60, 105, 150, 201, 202, 204, 921 and NCTD route 101. These bus routes connect the UTC Transit Center to Mira Mesa, UCSD, Old Town, Downtown, Clairemont, and Pacific Beach, as well as other stops in the University area. ***Table 19–1*** shows the hours of operation and headways of buses currently in operation at the UTC Transit Center. ***Appendix Q*** contains more detailed route maps and timetables.

In addition, a transit only signal is currently operational on Genesee Avenue, approximately 500' south of Esplanade Court. This signal allows MTS buses to access the UTC transit center.

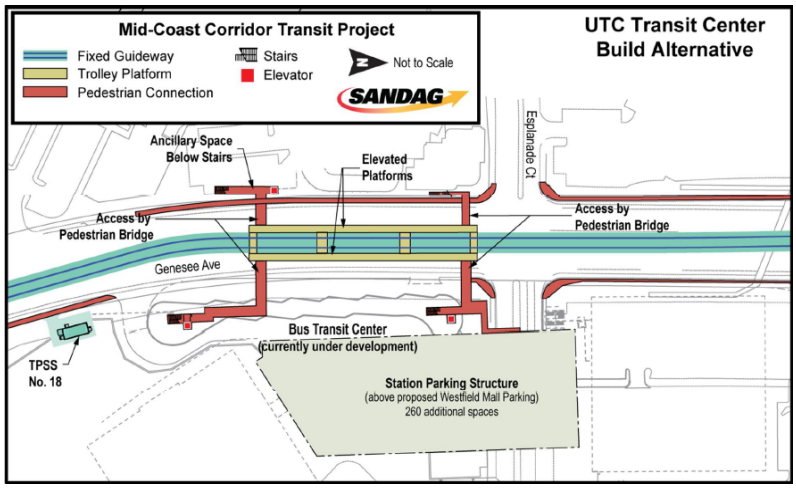
TABLE 19–1
EXISTING TRANSIT CONDITIONS – UTC TRANSIT CENTER

Route #	Agency	Hours of Operation	Headways
30	MTS	*Monday-Friday:* 5:46 AM – 12:46 AM *Saturday:* 6:08 AM – 12:16 AM *Sunday:* 6:21 AM – 12:01 AM	*Monday-Friday:* 15 mins *Saturday:* 30 mins *Sunday:* 30 mins
31	MTS	*Monday-Friday:* 5:37 AM – 9:45 AM; 2:43 PM – 6:30 PM	30 mins
41	MTS	*Monday-Friday:* 5:46 AM – 12:46 AM *Saturday:* 6:08 AM – 12:16 AM *Sunday:* 6:21 AM – 12:01 AM	*Monday-Friday:* 15 mins *Saturday-Sunday:* 30 mins
50	MTS	*Monday-Friday:* 5:34 AM – 6:51 PM	30 mins
60	MTS	*Monday-Friday:* 5:48 AM – 8:00 AM; 3:26 PM – 5:58 PM	30 mins
101	NCTD – Breeze	*Monday-Friday:* 6:44 AM – 8:56 AM; 2:29 PM – 6:04 PM	30 mins
105	MTS	*Monday-Friday:* 5:23 AM – 7:26 PM	30 mins
150	MTS	*Monday-Friday:* 6:05 AM – 9:45 PM *Saturday:* 7:47 AM – 9:16 PM	*Monday-Friday Peak:* 15 mins *Monday-Friday Off:* 30 mins *Saturday:* 30 mins
201	MTS – Rapid	*Monday-Sunday:* 5:50 AM – 10:32 PM	15 mins
202	MTS – Rapid	*Monday-Sunday:* 5:54 AM – 10:26 PM	*Monday-Friday Peak:* 10 mins *Monday-Friday Off:* 15 mins *Saturday-Sunday:* 15 mins
204	MTS – Rapid	*Monday-Friday:* 5:47 AM – 10:05 PM *Saturday-Sunday:* 5:50 AM – 10:03 PM	15 mins
921	MTS	*Monday-Friday:* 6:10 AM – 7:16 PM; *Saturday-Sunday:* 7:20 AM – 7:36 PM	*Monday-Friday:* 30 mins *Saturday-Sunday:* 60 mins

In addition to the transit center, there are MTS bus stops located within 500 feet from the project site. Bus stops in the project vicinity are located at La Jolla Village Drive / Genesee Avenue intersection (serviced by MTS routes 41, 60, 150, 237, and 921), Genesee Avenue / Esplanade Court intersection (serviced by MTS route 41), and at Genesee Avenue / Nobel Drive intersection (serviced by routes 30, 41, 50, and 105).

19.2 Future Transit Conditions

The project site is adjacent to the planned Mid-Coast Trolley line, an extension of the existing Blue Line Trolley, which proposes a new station fronting the project. This aerial station would be located in the center of Genesee Avenue, south of Esplanade Court, with pedestrian bridges to UTC on the east and Costa Verde Center on the west. Access to the station parking facility would be via the intersection of Genesee Avenue / Esplanade Court. The station would also include a connection to the new bus transit center, which would be built as part of the expansion of the UTC Mall. The pedestrian bridge across Genesee Avenue located mid-block between La Jolla Village Drive and Esplanade Court is proposed to be removed to accommodate the new trolley line. Pedestrian access across Genesee Avenue would be provided at the intersection of Genesee Avenue / Esplanade Court. Grade-separated pedestrian access across Genesee Avenue would also be accommodated through the aerial station platform at the UTC Transit Center to be located just south of Esplanade Court via ramps, elevators, and stairway facilities connecting the trolley station to the parkway area along the west side of Genesee Avenue and the UTC Transit Center to the east of the trolley station.



With the extension of Blue Line Trolley service to the UTC Transit Center, the service provided by MTS bus route 150 operating between Downtown San Diego and University would duplicate the new Trolley services and therefore would be eliminated with implementation of the trolley, consistent with the 2030 Regional Transportation Plan.

19.2.1 *Transit Ridership*

LLG researched the approved *Mid-Coast Corridor Transit Project Travel Forecasting Results Report (August 2014)* to review the transit ridership in the Existing and Horizon Year scenarios in the project area. The Mid-Coast report used the *SANDAG Series 11 Model* for Years 2010 and 2030, respectively for forecasting transit ridership. *Appendix Q* contains the transit ridership information.

Based on the transit ridership projections shown in the Mid-Coast report, the Horizon Year trolley boardings and alightings at the UTC transit center is shown in ***Table 19–2***.

TABLE 19–2
YEAR 2030 PROJECTED RIDERSHIP

Station Name	Direction			
	Southbound		Northbound	
	ON	OFF	ON	OFF
UTC Transit Center	3,924[a]	0	0	1,604[a]

Footnotes:

a. Per figure 4–1 of the *Mid-Coast Corridor Transit Project Travel Forecasting Results Report (August 2014) (see Appendix Q).*

20.0 VEHICLE MILES TRAVELED (VMT)

This section presents an evaluation of potential transportation impacts of the Costa Verde Center Revitalization Project as proposed by the California Governor's Office of Planning and Research (OPR) to implement California State Law Senate Bill (SB) 743. OPR proposes that metrics based on Vehicle Miles Traveled (VMT) be used to evaluate a project's transportation effects, and that projects in proximity to transit are presumed to result in less-than-significant impacts. OPR also suggests thresholds of significance and technical methodologies to calculate VMT.

At the time this report was prepared, the City of San Diego has yet to formally adopt significance thresholds and technical methodologies for VMT. Nonetheless, a VMT analysis is presented in this study.

20.1 VMT Background

VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network. VMT's are calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (round trip) travel and is estimated for a typical weekday for the purposes of measuring transportation impacts.

20.2 Senate Bill 743

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changes the way transportation impact analysis is conducted under CEQA. Within the State's CEQA Guidelines, these changes include the elimination of Auto Delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The guidance identifies VMT as the most appropriate CEQA transportation metric, along with the elimination of Auto Delay/LOS for CEQA purposes statewide. The justification for this paradigm shift is that Auto Delay/LOS impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas emissions.

In January 2016, the OPR issued Draft Guidance, which provided recommendations for updating the State's CEQA Guidelines in response to SB 743 and recommended practice for VMT analysis in an accompanying "Technical Advisory on Evaluating Transportation Impacts in CEQA." OPR's most recent Technical Advisory is dated December 2018. ***Appendix R*** contains a copy of the *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

Per OPR's proposed revisions to the CEQA guidelines, a lead agency may elect to be governed by the VMT guidelines immediately. However, beginning July 1, 2020, the VMT guidelines shall apply statewide.

20.3 Proposed CEQA Guidelines

The following is an excerpt from the *Proposed Section 15064.3 "Analyzing Transportation Impacts from the Proposed Updates to the CEQA Guidelines*, November 2017. This represents regulatory CEQA guidelines on evaluating transportation impacts using VMT.

Explanation of Proposed New Section 15064.3

The proposed new section 15064.3 contains several subdivisions, which are described below. In brief, these Guidelines provide that transportation impacts of projects are, in general, best measured by evaluating the project's vehicle miles traveled. Methodologies for evaluating such impacts are already in use for most land use projects, as well as many transit and active transportation projects. Methods for evaluating vehicle miles traveled for roadway capacity projects continue to evolve, however, and so these Guidelines recognize a lead agency's discretion to analyze such projects, provided such analysis is consistent with CEQA and applicable planning requirements.

Subdivision (a): Purpose

Subdivision (a) sets forth the purpose of the entire new section 15064.3. First, the subdivision clarifies that the primary consideration, in an environmental analysis, regarding transportation is the amount and distance that a project might cause people to drive. This captures two measures of transportation impacts: auto trips generated and vehicle miles traveled. These factors were identified by the legislature in SB 743. The last sentence clarifies that Automobile Delay, unless it causes air quality impacts, is not a significant effect on the environment.

Subdivision (b): Criteria for Analyzing Transportation Impacts

While subdivision (a) sets forth general principles related to transportation analysis, subdivision (b) focuses on specific criteria for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology.

Subdivision (b)(1): Land Use Projects

SB 743 did not authorize OPR to set thresholds, but it did direct OPR to develop Guidelines "for determining the significance of transportation impacts of projects[.]" (Pub. Resources Code, § 21099(b)(2). Therefore, to provide guidance on determining the significance of impacts, subdivision (b)(1) describes factors that might indicate whether the amount of a project's vehicle miles traveled may be significant, or not. Notably, it states that projects that locate within one half mile of an existing major transit stop or a stop along an existing transit corridor should be presumed to have a less than significant transportation impact.

Subdivision (b)(2): Transportation Projects

While subdivision (b)(1) addresses vehicle miles traveled associated with land use projects, subdivision (b)(2) focuses on impacts that result from certain transportation projects. Subdivision (b)(2) clarifies that projects that reduce VMT, such as pedestrian, bicycle and

transit projects, should be presumed to have a less than significant impact. This subdivision further provides that lead agencies have discretion in which measure to use to evaluate roadway, including highway, capacity projects, provided that any such analysis is consistent with the requirements of CEQA and any other applicable requirements (e.g., local planning rules). Importantly, this provision does not prohibit capacity expansion. Finally, recognizing that roadway capacity projects may be analyzed at a programmatic level, subdivision (b)(2) states that lead agencies may be able to tier from a programmatic analysis that adequately addresses the effects of such capacity projects.

Subdivision (b)(3): Qualitative Analysis

Subdivision (b)(3) recognizes that lead agencies may not be able to quantitatively estimate vehicle miles traveled for every project type. In those circumstances, this subdivision encourages lead agencies to evaluate factors such as the availability of transit, proximity to other destinations, and other factors that may affect the amount of driving required by the project.

Subdivision (b)(4): Methodology

Lead agencies have the discretion to choose the most appropriate methodology to analyze a project's vehicle miles traveled. Depending on the project, vehicle miles traveled may be best measures on a per person, per household or other similar unit of measurement. Subdivision (b)(4) also recognizes the role for both models and professional judgment in estimating vehicle miles traveled.

Subdivision (c): Applicability

The new procedures may be used immediately upon the effective date of these Guidelines by lead agencies that are ready to begin evaluating vehicle miles traveled, but jurisdictions will have approximately two years to switch to VMT if they so choose.

Text of the Proposed Section 15064.3

Proposed New Section 15064.3. Determining the Significance of Transportation Impacts

(a) Purpose:

This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay does not constitute a significant environmental impact.

(b) Criteria for Analyzing Transportation Impacts:

(1) Land Use Projects: Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be considered to have a less than significant transportation impact.

(2) Transportation Projects: Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis: If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology: A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained

in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

c) Applicability:
The provisions of this section shall apply prospectively as described in section 15007. A lead agency may elect to be governed by the provisions of this section immediately. Beginning on January 1, 2020, the provisions of this section shall apply statewide.

20.4 Proposed Technical Guidance

The following information is sourced from OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018. This represents a non-regulatory technical advisory on evaluating transportation impacts using VMT, with emphasis on larger-scale land development projects.

20.4.1 *Recommendations Regarding Methodology*

The following section provides methodology recommendations to evaluate VMT for various technical areas and project types.

Using Models to Estimate VMT

Travel demand models, sketch models, spreadsheet models, research, and data can all be used to calculate and estimate VMT. To the extent possible, lead agencies should choose models that have sensitivity to features of the project that affect VMT. Those tools and resources can also assist in establishing thresholds of significance and estimating VMT reduction attributable to mitigation measures and project alternatives.

Trip and Tour Based VMT

Trip-based assessment of a project's effect on travel behavior counts VMT from individual trips to and from the project. It is the most basic, and traditionally the most common, method of counting VMT. For residential projects, the sum of home-based trips is called *home-based* VMT.

A *Tour-based* assessment counts the entire home-back-to-home tour that includes the project and any trips within the tour. Examples include Tour 1: Home → Coffee Shop → Work → Home; Tour 2: Home → Store → Home. Together, all tours comprise *household* VMT. A tour-based assessment of VMT is a more complete characterization of a project's effect on VMT. In many cases, a project affects travel behavior beyond the first destination. The location and characteristics of the home and workplace will often be the main drivers of VMT. For example, a residential or office development located near high quality transit will likely lead to some commute trips utilizing transit, affecting mode choice on the rest of the tour.

Vehicle Types

Vehicle Miles Traveled refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation.

Residential and Office Projects

Tour- and trip-based approaches offer the best methods for assessing VMT from residential/office projects and for comparing those assessments to VMT thresholds. When available, tour-based assessment is ideal because it captures travel behavior more comprehensively. But where tour-based tools or data are not available for all components of an analysis, a trip-based assessment of VMT serves as a reasonable proxy.

When a trip-based method is used to analyze a residential project, the focus can be on home-based trips. Similarly, when a trip-based method is used to analyze an office project, the focus can be on home-based work trips.

When tour-based models are used to analyze an office project, either employee work tour VMT or VMT from all employee tours may be attributed to the project. This is because workplace location influences overall travel.

For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development (see below).

Retail Projects

Generally, lead agencies should analyze the effects of a retail project by assessing the change in total VMT because retail projects typically re-route travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.

Considerations for All Projects

Lead agencies should not truncate any VMT analysis because of jurisdictional or other boundaries. Thus, where methodologies exist that can estimate the full extent of vehicle travel from a project, the lead agency should apply them to do so. Analyses should also consider a project's both short- and long-term effects on VMT.

Transit Priority Area (TPA)

Any project that includes in its geographic bounds a portion of an existing or planned Transit Priority Area (i.e., the project is within a ½ mile of an existing or planned major transit stop or an existing stop along a high-quality transit corridor) may employ VMT as its primary metric of transportation impact for the entire project.

20.4.2 *Recommendations Regarding Significance Thresholds*

Lead agencies have the discretion to set or apply their own thresholds of significance. However, the criteria for determining the significance of transportation impacts should promote:

- Reduction of greenhouse gas emissions;
- Development of multimodal transportation networks; and
- A diversity of land uses.

Given that the City of San Diego has yet to adopt VMT thresholds, the OPR's Advisory describes the analysis for the following circumstance, which was used for the project's VMT analysis.

Presumption of Less Than Significant Impact Near Transit Stops

Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less-than-significant impact on VMT.

Major Transit Stop refers to an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

A High-Quality Transit Corridor refers to a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. One key indicator may be inconsistency with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization). If any of these exceptions to the presumption might apply, the lead agency should conduct a detailed VMT analysis to determine whether the project would exceed VMT thresholds.

Recommended Numeric Thresholds for Residential, Office, and Retail Projects

Residential Projects: A proposed project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as Regional VMT per capita or as City VMT per capita. Proposed development referencing City VMT per capita must not cumulatively exceed the number of units specified in the SCS for that City and must be consistent with the SCS.

Office Projects: A proposed project exceeding a level of 15 percent below existing regional VMT per employee may indicate a significant transportation impact.

In cases where the region is substantially larger than the geography over which most workers would be expected to live, it might be appropriate to refer to a smaller geography, such as the county, that includes the area over which nearly all workers would be expected to live.

Tour-based analysis of office project VMT could consider either total employee VMT or employee work tour VMT. Where tour-based information is unavailable, home-based work trip VMT should be used.

Retail Projects: A net increase in total VMT may indicate a significant transportation impact.

Because new retail development typically redistributes shopping trips rather than creating new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.

By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume local-serving retail creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.

Because lead agencies will best understand their own communities and the likely travel behaviors of future project users, they are likely in the best position to decide when a project will likely be local-serving.

Consideration of Thresholds for Other Project Types

Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described above for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types.

Mixed-Use Projects

Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail). Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture.

Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

Redevelopment Projects

Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.

Land Use Plans

As with projects, agencies should analyze VMT outcomes of land use plans over the full area over which the plan may substantively affect travel patterns, including beyond the boundary of the plan or jurisdiction's geography. Analysis of specific plans may employ the same thresholds described above for projects. A general plan, area plan, or community plan may have a significant impact on transportation if it is not consistent with the relevant RTP-SCS.

RTP-SCS Consistency (All Land Use Projects)

Section 15125, subdivision (d), of the CEQA Guidelines provides that lead agencies should analyze impacts resulting from inconsistencies with regional plans, including regional transportation plans. For this reason, if a project is inconsistent with the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), the lead agency should evaluate whether that inconsistency indicates a significant impact on transportation.

Multimodal Transportation Network

Because criteria for determining the significance of transportation impacts must promote "the development of multimodal transportation networks," lead agencies should consider project impacts to transit systems and bicycle and pedestrian networks. For example, a project that blocks access to a transit stop or blocks a transit route itself may interfere with transit functions.

When evaluating impacts to multimodal transportation networks, lead agencies generally should not treat the addition of new transit users as an adverse impact. An infill development may add riders to transit systems and the additional boarding and alighting may slow transit vehicles, but it also adds destinations, improving proximity and accessibility. Such development also improves regional vehicle flow by adding less vehicle travel onto the regional network.

Increased demand throughout a region may, however, cause a cumulative impact by requiring new or additional transit infrastructure. Such impacts may be adequately addressed through a fee program that fairly allocates the cost of improvements not just to projects that happen to locate near transit, but rather across a region to all projects that impose burdens on

the entire transportation system, since transit can broadly improve the function of the transportation system.

Analyzing Safety Impacts

Because safety concerns result from many different factors, they are best addressed at a programmatic level (i.e., in a general plan or regional transportation plan) in cooperation with local governments, metropolitan planning organizations, and, where the state highway system is involved, the California Department of Transportation. In most cases, such an analysis would not be appropriate on a project by-project basis.

Increases in traffic volumes at a particular location resulting from a project typically cannot be estimated with sufficient accuracy or precision to provide useful information for an analysis of safety concerns. Moreover, an array of factors affect travel demand (e.g., strength of the local economy, price of gasoline), causing substantial additional uncertainty. Lead agencies should note that automobile congestion or delay does not constitute a significant environmental impact, and safety should not be used as a proxy for road capacity.

20.4.3 *VMT Mitigation and Alternatives*

When a lead agency identifies a significant impact, it must identify feasible mitigation measures and project alternatives that could avoid or substantially reduce that impact. VMT is largely a regional impact. Therefore, regional VMT reduction programs may be an appropriate form of mitigation. In-lieu fees have been found to be valid mitigation where there is both a commitment to pay the fees and evidence that the mitigation will occur.

Potential mitigation to reduce vehicle miles traveled include, but are not limited to:

- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate affordable housing into the project.
- Incorporate neighborhood electric vehicle network.
- Orient the project toward transit, bicycle and pedestrian facilities.
- Improve pedestrian or bicycle networks, or transit service.
- Provide traffic calming.
- Provide bicycle parking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking or roadway pricing or cash-out programs.
- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Provide transit passes.
- Shifting single occupancy vehicle trips to carpooling or vanpooling, for example providing ride- matching services.

- Providing telework options.
- Providing incentives or subsidies that increase the use of modes other than single-occupancy vehicle.
- Providing on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms.
- Providing employee transportation coordinators at employment sites.
- Providing a guaranteed ride home service to users of non-auto modes.

Examples of project alternatives that may reduce vehicle miles traveled include, but are not limited to:

- Locate the project in an area of the region that already exhibits low VMT.
- Locate the project near transit.
- Increase project density.
- Increase the mix of uses within the project or within the project's surroundings.
- Increase connectivity and/or intersection density on the project site.
- Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes.

21.0 VMT SIGNIFICANCE CRITERIA & METHODOLOGY

21.1 Local / Regional Agency Transition to SB743

Local and regional agencies, as well as transportation professionals, have already begun transitioning to SB743. To date, San Diego has not yet adopted significance criteria or technical methodologies for VMT analysis.

Other agencies such as the City of San Diego, SANDAG, San Diego County, and other municipalities are actively participating in San Diego's local Institute of Transportation Engineers (ITE) SB 743 Subcommittee. The subcommittee and City of San Diego continue to develop methodologies to be implemented prior to the mandated deadline of the July 1st, 2020.

21.2 Significance Criteria

The City of San Diego has released draft VMT guidelines include Screening Criteria, Significance Thresholds, Analysis Methodology and Mitigation for VMT related impacts. The VMT guidelines have not been formally adopted yet.

21.3 Technical Methodology – Screening

A VMT Screening was conducted as it relates to the project location within a Transit Priority Area (TPA) Map prepared by SANDAG. The SANDAG Screening Map shows the project as not screened out given its baseline year of 2012 which does not include the Mid Coast Trolley project. The Mid Coast project is under construction and is expected to open in late 2021 while the Opening Day of the project is anticipated to be in Year 2023. Therefore, it can be assumed that the project would be screened out from a VMT analysis given that the project's opening day is after the Mid Coast project opening. Regardless, a Proximity to Transit and a quantitative VMT analysis was conducted as shown in the following sections.

21.4 Technical Methodology – Significance Thresholds

As shown in the draft guidelines, for large land use plans, such as Specific Plans or Master Plans, such as the Proposed Project, the significance thresholds are shown below:

- *Commercial Employment* – Aggregate all commercial employment land uses and compare the resulting Employee VMT/Employee to the regional average. The threshold is 15% below the regional average VMT/Employee.

22.0 PROJECT VMT ANALYSIS

This section presents the Costa Verde project VMT analysis. This section evaluates the project's Proximity to Transit as well as the VMT per employee to determine if the project VMT is less than 85% of the Regional VMT per employee baseline.

22.1 Proximity to Transit VMT Analysis

The Costa Verde project is well served by public transit, both at local and regional levels. Public transportation improves mobility and reduces congestion in the community and the region.

The *SANDAG 2050 Regional Transportation Plan (RTP) and Sustainable Communities Strategies (SCS)* l identify transit's expanding role to meet local and regional mobility needs. Targets have been set in the City's Climate Action Plan (CAP) to increase transit mode share within Transit Priority Areas (TPA's). TPA's, in general, include areas within one-half mile of a major transit station or a station along a high-quality transit corridor. The SANDAG RTP/SCS developed an Urban Area Transit Strategy (UATS) focusing on the most urbanized areas of the region where transit investments are generally most efficient and effective. The Costa Verde Center Revitalization Project is within both a TPA and the UATS. ***Appendix S*** includes more information on TPA's and UATS.

Per the significance criteria, if the Costa Verde project is proposed within ½ mile of a major transit stop or a stop along a high-quality transit corridor, it is presumed to have a less-than-significant impact on VMT. A transit stop can include a planned and funded stop that is included in an adopted regional transportation improvement program. A second criterion includes that if project-specific or location specific a project is expected to generate significant levels of VMT, further analysis may be required.

> *Major transit stop means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.*
>
> *A High-Quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.*

Impact Analysis

In order to determine if a transportation impact is anticipated, major transit stops and stops along high-quality corridors were identified within a ½ mile of the project site.

As explained in *Section 19.0.*, the Mid Coast Trolley, which is currently under construction proposes a dedicated trolley stop at the Costa Verde/UTC mall location. In addition, the following major transit stops (i.e. LRT stations along the Mid Coast Trolley) were identified. The Mid Coast Trolley project is fully funded, under construction and expected to open in late 2021:

- Nobel Drive station
- VA Medical Center station
- UC San Diego West station
- UC San Diego East station
- Executive Drive station

In the Mid-Coast Corridor Project, the UTC Transit Center has been identified as a Mobility Hub. Mobility hubs enhance access and connections to the Mid-Coast Trolley, making it easier to use public transit and other travel alternatives. The Mid-Coast Mobility Hub Implementation Strategy will identify services and amenities for each station, which may include improved pedestrian and bike connections, secure bike storage, on-demand ridesharing services, wayfinding, and supporting technologies.

At the UTC Transit Center, several mobility options are included such as light rail, regional bus services such as MTS Rapid, eleven bus routes (30, 31, 41, 50, 60, 105, 150, 201, 202, 204, 921), UC San Diego shuttle service, on-demand rideshare services, and bike facilities among others.

In regards to high-quality transit corridors, the following roadways within the immediate vicinity of the project were identified as they include fixed route bus service with 15-minute headways or less during the peak commute periods;

- La Jolla Village Drive
- Nobel Drive
- Genesee Avenue
- Executive Drive

Figure 22–1 illustrates the proximity to transit per SB743, major/high-quality transit service and identifies the overall TPA for the Costa Verde Center Revitalization Project. A Mobility Hub is also identified at the UTC Transit Center, which is within walking distance of the Costa Verde project. The Costa Verde project site afford excellent mobility options.

Based on the significance criteria and given the Costa Verde project's proximity to transit with an on-site transit station with proximity to several high-quality transit corridors, it is presumed that transportation impacts from the Costa Verde project are less than significant.

Nonetheless, a detailed and quantitative VMT analysis was conducted.

22.2 Project VMT Analysis

The proposed project is located in a Transit Priority Area (TPA), which the revised CEQA Guidelines, OPR Technical Advisory note are areas where new land use projects generally are exempt from project-level VMT assessment. TPAs are areas within ½-mile of either a high-quality (e.g., passenger rail) transit station or a bus stop two routes with headways of 15 minutes or less. The

Costa Verde Revitalization project will be adjacent to a light-rail transit stop with projected peak hour headways of 15 minutes. The Guidelines and OPR Technical Advisory state that projects to be developed in these areas are "generally" screened out from needing to conduct project-level VMT. Use of the modifier "generally" implies that some developments may still result in project-level impacts. Therefore, a project-level VMT analysis was performed to fully evaluate this metric.

A detailed VMT analysis was conducted per OPR's guidelines for the site employee population given the proposed employment uses (Retail, Scientific R&D, Office and Hotel). For this evaluation, per the City of San Diego draft guidelines, Regional average VMT per employee were used and the project VMT was analyzed to determine if it less than 85% of the regional VMT per employee baseline.

22.2.1 *Costa Verde Project VMT*

As shown in ***Table 22–1,*** the VMT per employee calculations were conducted for project employees. *Table 22–1* shows the total project VMT calculations. ***Appendix T*** contains more info.

TABLE 22–1
PROJECT VMT ANALYSIS

Land Use	Project VMT[a]	Employee Estimate[b]	VMT per employee [c]
Scientific R&D	29,316	1,440	21.73
Office	6,469	160	
Hotel	4,581	225	
Retail	10,353	509	
Total Project	50,719	2,334	

Footnotes:
a. Total VMT calculated as average daily traffic * average Trip length
b. Population estimates shown in *Appendix T*.
c. VMT per employee = VMT / Population.

As shown in the ***Table 22–2***, the project VMT per employee is calculated to be lower than the 85% regional VMT threshold. Therefore, based on the significance criteria, the Costa Verde Project VMT is calculated with a less-than-significant transportation impact.

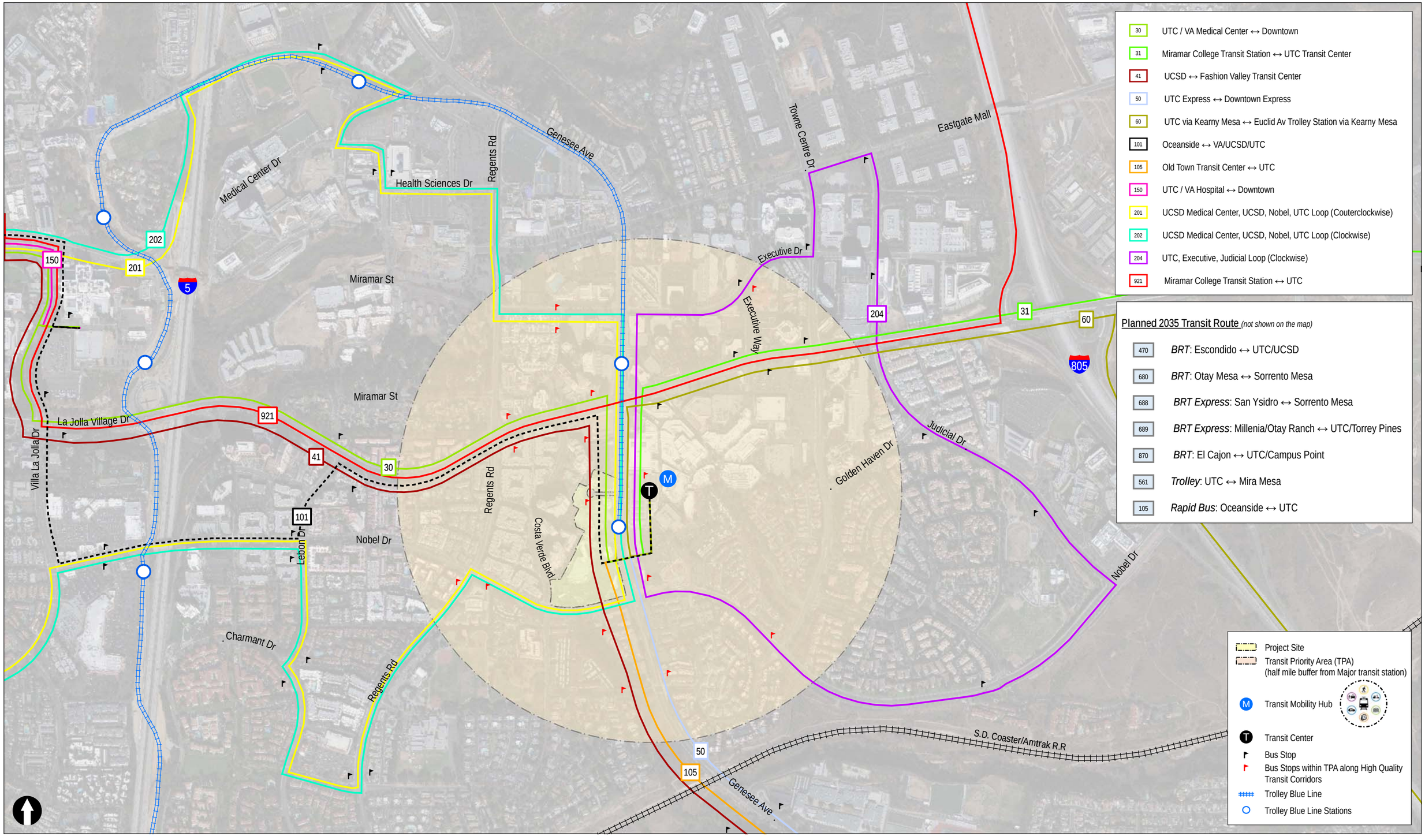
TABLE 22–2
PROJECT VMT FINDINGS

Scenario	Regional Baseline	Significance Threshold (85% of Region VMT)	Proposed Project	Transportation Impact? (Over Threshold)
VMT per employee	25.9	22.0	21.73	No

22.3 VMT Impacts Summary

This section presents an overall summary of potential transportation impacts of the Costa Verde based on the VMT analysis. VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network.

A VMT screening review was conducted and it is expected that the proposed project would be screened out given its location within a Transit Priority Area (TPA). In addition, a project-specific VMT analysis was also conducted, which concluded that., no project VMT impacts are calculated. Therefore, no mitigation measures are required or proposed.



LINSCOTT LAW & GREENSPAN engineers

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Figure 22-1

Proximity to Transit Per SB743

COSTA VERDE

23.0 CONSTRUCTION TRAFFIC ANALYSIS

This section presents the construction traffic analysis for the proposed *Costa Verde Center Revitalization Project*. The purpose of the construction traffic analysis is to evaluate any traffic impacts due to construction traffic associated with the project. The construction analysis was based on the same analysis methodologies as shown in *Section 5.0*. The following sections summarize the anticipated construction activities, trip generation, key assumptions, and analysis results.

23.1 Construction Phases

Construction traffic relates to the traffic generated from construction vehicles. Construction vehicles consist primarily of heavy trucks and worker vehicles. There are several different types of construction activities, including dirt export, concrete demolition, miscellaneous deliveries, construction trash and metals that are planned to be implemented in a phased sequence. Each construction phase has its own intensity and duration. An Average Daily Trip (ADT) calculation for each construction phase is outlined below based on information provided by the project contractor. A passenger car equivalence (PCE) was applied to heavy trucks to account for their larger dimensions and inferior traffic performance when compared to passenger cars. For the concrete demolition phase, a PCE factor of 3.0 was used to be conservative based on the HCM.

Phase A (3 months)**:**
Dirt Export

- 50 heavy trucks/day x 2 trips/heavy truck x 2 PCE = 200 ADT
- 40 worker vehicles/day x 2 trips/worker vehicle = 80 ADT

Total **=** ***280 ADT***

Phase B (3 months)**:**
Dirt Export

- 110 heavy trucks/day x 2 trips/heavy truck x 2 PCE = 440 ADT
- 60 worker vehicles/day x 2 trips/worker vehicle = 120 ADT

Total **=** ***560 ADT***

Phase C (3 months)**:**
Concrete Demo

- 140 heavy trucks/day x 2 trips/heavy truck x 3 PCE = 840 ADT
- 140 worker vehicles/day x 2 trips/worker vehicle = 280 ADT

Total **=** ***1,120 ADT***

Phase D (4 months)**:**
Miscellaneous Deliveries

- 160 heavy trucks/day x 2 trips/heavy truck x 2 PCE = 640 ADT
- 240 worker vehicles/day x 2 trips/worker vehicle = 480 ADT

Total **=** ***1,120 ADT***

Phase E (4 months)**:**
Miscellaneous Deliveries

- 180 heavy trucks/day x 2 trips/heavy truck x 2 PCE = 720 ADT
- 300 worker vehicles/day x 2 trips/worker vehicle = 600 ADT

Total **=** ***1,320 ADT***

Phase F (4 months)**:**
Miscellaneous Deliveries / Construction Trash

- 160 heavy trucks/day x 2 trips/heavy truck x 2 PCE = 640 ADT
- 300 worker vehicles/day x 2 trips/worker vehicle = 600 ADT

Total **=** ***1,240 ADT***

Phase G (4 months)**:**
Miscellaneous Deliveries / Construction Trash

- 100 heavy trucks/day x 2 trips/heavy truck x 2 PCE = 440 ADT
- 200 worker vehicles/day x 2 trips/worker vehicle = 200 ADT

Total **=** ***600 ADT***

Phase H (4 months)**:**
Miscellaneous Deliveries / Construction Trash

- 50 heavy trucks/day x 2 trips/heavy truck x 2 PCE = 200 ADT
- 160 worker vehicles/day x 2 trips/worker vehicle = 320 ADT

Total **=** ***520 ADT***

Phase I (4 months)**:**
Miscellaneous Deliveries / Construction Trash

- 50 heavy trucks/day x 2 trips/heavy truck x 2 PCE = 200 ADT
- 100 worker vehicles/day x 2 trips/worker vehicle = 20 ADT

Total **=** ***400 ADT***

Based on the above information, *Phase E – Miscellaneous Deliveries* generates the highest construction ADT and peak hour volumes and therefore this phase was analyzed. This phase is expected to last approximately four months.

23.2 Truck Routes

Based on discussions with the project contractor, truck routes were determined which generally consisted of La Jolla Village Drive, Nobel Drive and Genesee Avenue. Construction staging area, which would include construction related equipment and materials, is proposed to be located on-site.

The truck traffic distribution was estimated based on discussions with the project contractor, which considered the construction phase (materials and deliveries that typically includes steel and concrete), contractor materials staging yard and warehouse locations. ***Figure 23–1*** shows the construction traffic distribution. ***Figure 23–2*** shows the construction traffic volumes.

23.3 Construction Trip Generation

Construction activity is expected to occur between 7:00 AM and 3:30 PM (i.e. worker shift). The peak commuter periods are typically between 7:00–9:00 AM and 4:00–6:00 PM. Given that no construction trips are proposed to occur in the PM commuter peak period, only the AM peak hour was analyzed. A brief description of worker vehicles and heavy vehicles is provided below.

Worker vehicles are expected to arrive before the AM peak hour and leave the project site prior to the PM peak hour. To be conservative, carpooling for workers was not assumed.

Heavy vehicles are expected to arrive at regular intervals throughout the day, with the first truck arriving after 7:00 AM and the last truck leaving prior to the PM commuter peak.

Table 23–1 summarizes the construction trip generation. The construction traffic was assigned to the study area as shown in ***Figure 23–3***.

TABLE 23–1
CONSTRUCTION TRIP GENERATION

Use	Quantity[a]	PCE[b]	Daily Trips		AM Peak Hour				PM Peak Hour				
			Rate	ADT[c]	% of ADT	Split In : Out	Volume In	Volume Out	% of ADT	Split In : Out	Volume In	Volume Out	
Phase E – Miscellaneous Deliveries													
Miscellaneous Deliveries, 4 months													
Heavy Trucks[d]	180	2.0	2.0 / vehicle	720	15%	50% : 50%	54	54	0%	0% : 0%	0	0	
Employees[e]	300	1.0	2.0 / vehicle	600	0%	0% : 0%	0	0	15%	0% : 100%	0	0	
Total				*1,320*			*54*	*54*			*0*	*0*	

Footnotes:

a. Daily trucks or workers provided by the project contractor.

b. Passenger Car Equivalent.

c. Average Daily Trips.

d. Heavy truck schedule avoids PM peak hour. PCE factor of 2.0 applied to heavy vehicles.

e. Workers are expected to arrive prior to the AM peak hour and leave prior to the PM peak hour.

23.4 Near-Term Analysis

Construction traffic was added onto the Near-Term (Opening Day 2023) without Project traffic volumes. This would essentially represent a "during construction" scenario.

23.4.1 *Near-Term Intersection Operations*

Intersection capacity analyses were conducted for the study intersections under the Near-Term without and with construction traffic conditions. ***Table 23–2*** reports intersection operations during the peak hours. ***Appendix U*** contains the calculation sheets.

Per the City's significance criteria and analysis methodology, with the addition of construction traffic, no construction traffic impacts are identified.

TABLE 23–2
DURING CONSTRUCTION INTERSECTION OPERATIONS – AM PEAK HOUR

Intersection	Control Type	Near-Term Baseline		Near-Term With Construction Traffic		Δ[c]	Significant Impact?
		Delay[a]	LOS[b]	Delay	LOS		
7. La Jolla Village Drive / Genesee Avenue	Signal	61.2	E	61.8	E	0.6	No
10. I-805 SB Ramps / La Jolla Village Drive	Signal	150.0	F	150.6	F	0.6	No
11. I-805 NB Ramps / Miramar Road	Signal	40.8	D	48.6	D	7.8	No
14. Genesee Avenue / Esplanade Court	Signal	27.4	C	37.6	D	10.2	No
22. Nobel Drive / Genesee Avenue	Signal	43.9	D	46.6	D	2.7	No
26. I-805 SB On Ramp / Nobel Drive	Signal	3.5	A	3.5	A	0.0	No
27. I-805 NB Off Ramp / Nobel Drive	Signal	29.4	C	30.3	C	0.9	No
29. Genesee Avenue / Governor Drive	Signal	368.4	F	369.0	F	0.6	No
30. Genesee Avenue / SR 52 WB Ramps	Signal	26.8	D	27.3	D	0.5	No
31. Genesee Avenue / SR 52 EB Ramps	Signal	53.3	D	54.9	D	1.6	No

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. "Δ" denotes the project-induced increase in delay.

General Notes:
1. Construction intersection analysis was conducted during the AM peak hour only as no construction trips are proposed to occur in the PM commuter peak period.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

23.5 Conclusions

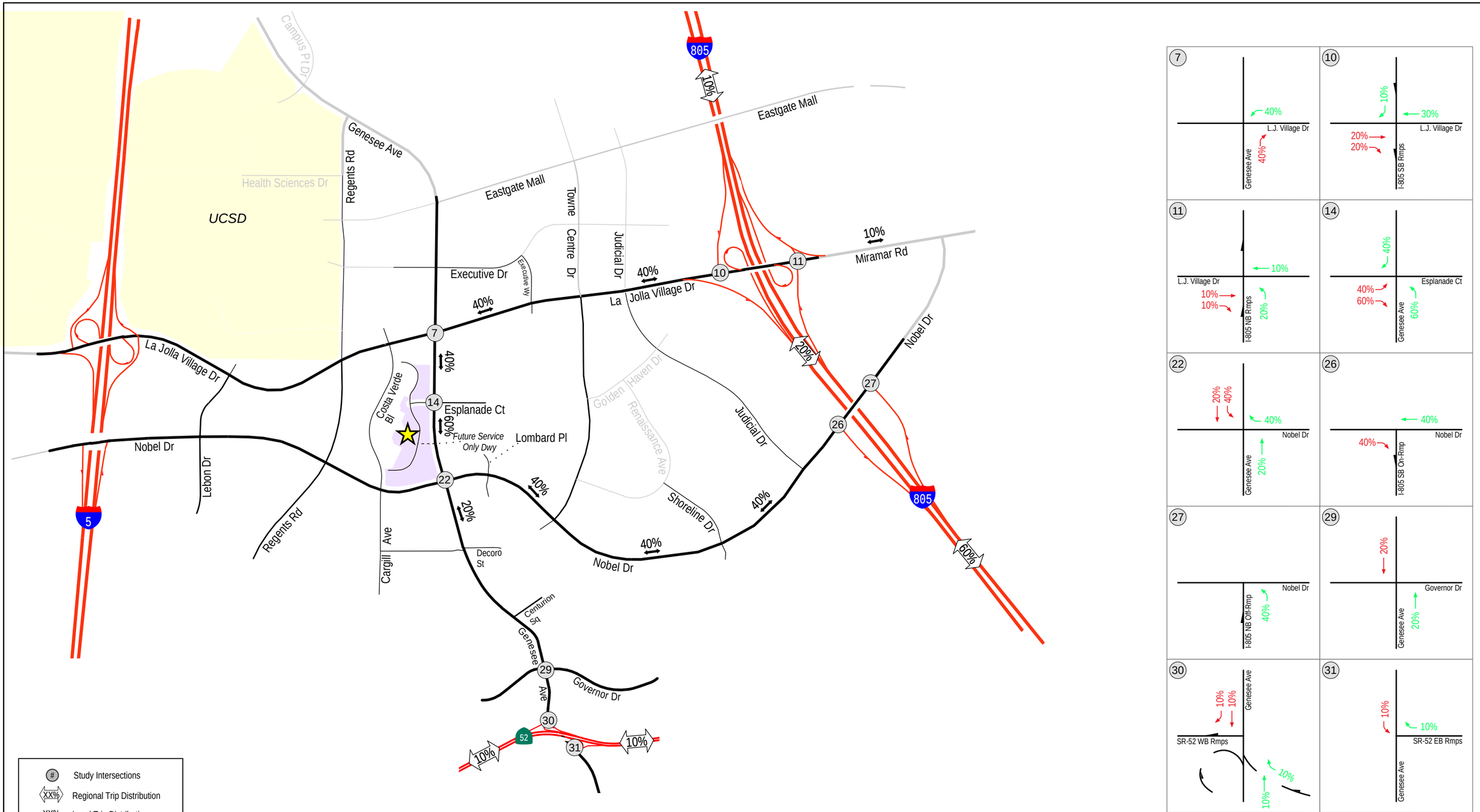
A construction analysis was conducted to review traffic implications due to construction traffic associated with the *Costa Verde Center Revitalization Project*.

Near-Term intersections and street segment analyses were conducted based on methodologies in *Section 5.0*. Based on the above analysis, no construction traffic impacts are identified.

23.6 Construction Traffic Measures

Construction traffic is expected to utilize Circulation Element roads to access the site, such as La Jolla Village Drive, Nobel Drive and Genesee Avenue. Construction traffic does not need to use, and should be conditioned not to use, any residential streets.

Finally, construction traffic control plans should be prepared to identify the routes for heavy construction vehicles and the hours of construction activity. The traffic control plans will include the details such as work zones, staging areas and other traffic control details as necessary. They will be prepared to the satisfaction of the City Engineer prior to the commencement of work.



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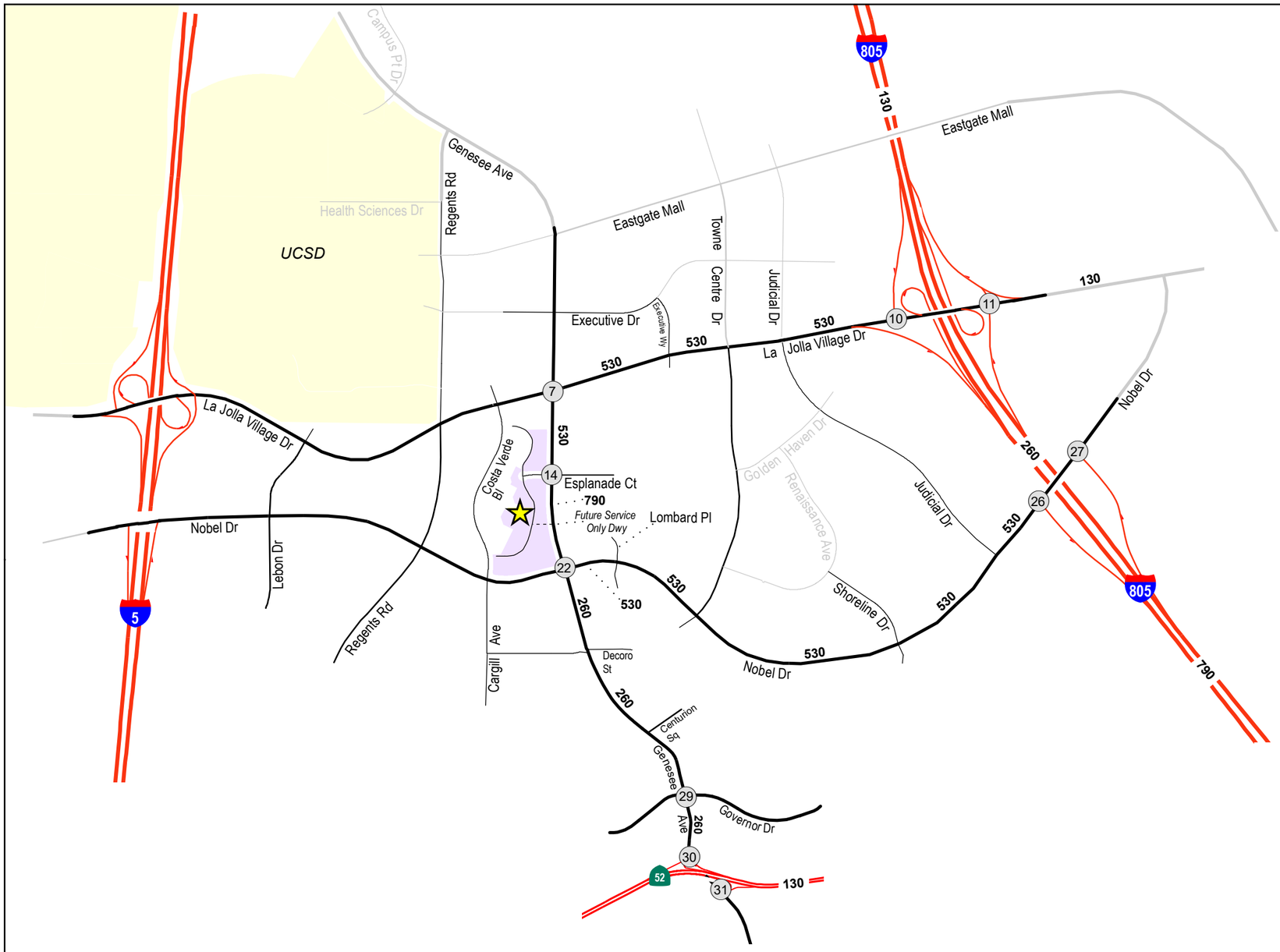
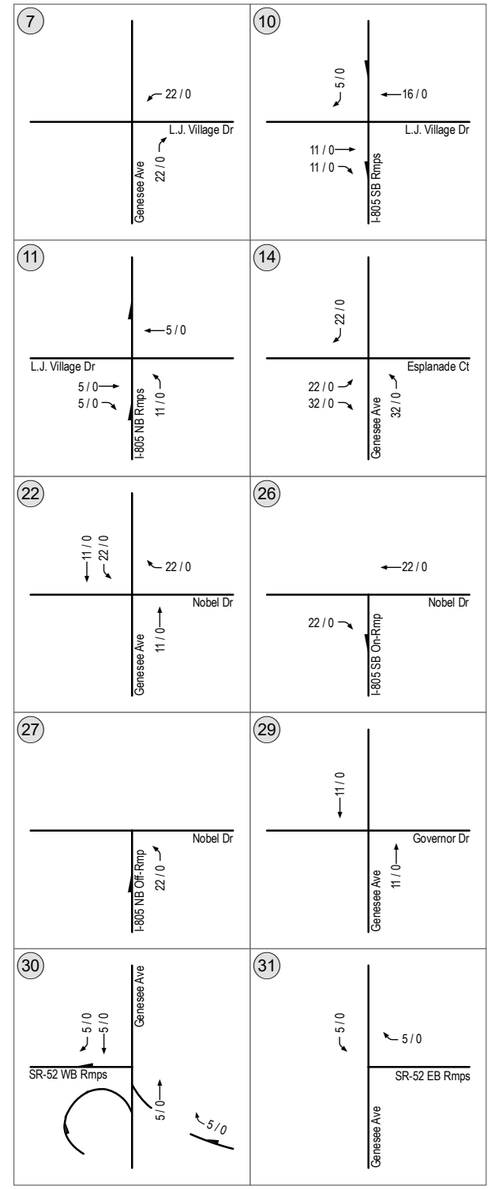
Date: 10/04/19

Figure 23-1

Construction Trip Distribution

COSTA VERDE CENTER REVITALIZATION PROJECT





Project Site
Study Intersections
AM / PM — AM / PM Intersection Peak Hour Volumes
X,XXX — Average Daily Traffic Volumes

Note: No construction trips are proposed to cccur in the PM commuter peak period.

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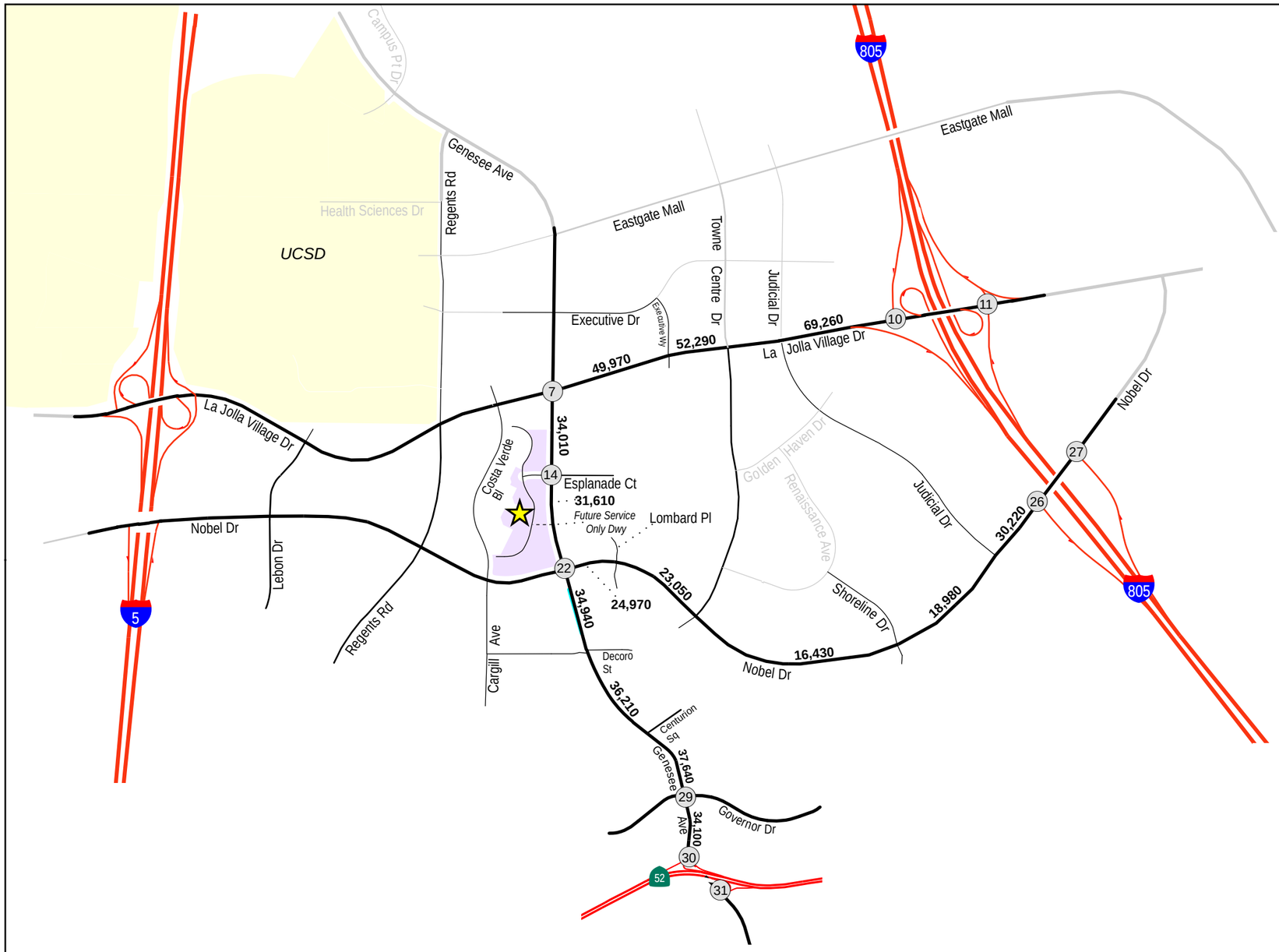
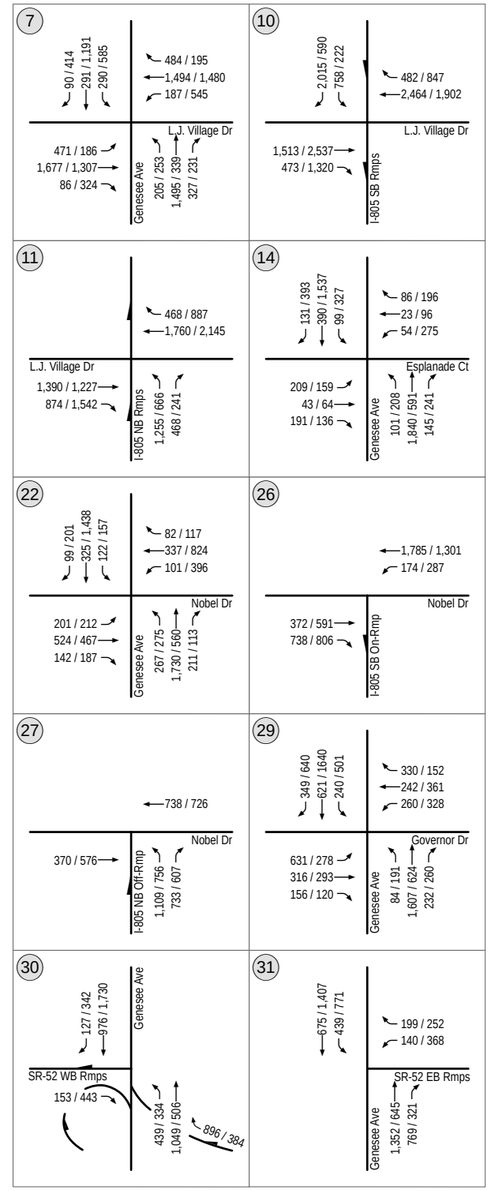
Figure 23-2

Construction Traffic Volumes

Costa Verde Center Revitalization Project





Project Site
Study Intersections
AM / PM — AM / PM Intersection Peak Hour Volumes
X,XXX — Average Daily Traffic Volumes

Note: No construction trips are proposed to cccur in the PM commuter peak period.

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Date: 10/10/19

Figure 23-3

During Construction Traffic Volumes

COSTA VERDE CENTER REVITALIZATION PROJECT

24.0 PARKING

This section provides a summary of the existing parking occupancy and supply at the Costa Verde Center. In addition, this section also includes a parking analysis that documents the expected future parking demand and evaluates whether the proposed supply will meet the projected demand. The total proposed project parking is between 1,837 and 2,076 parking spaces.

24.1 Existing Parking Setting

The Costa Verde Center is currently served by driveways along Genesee Avenue, Nobel Drive, and Costa Verde Boulevard. The site primarily includes at-grade parking on the upper and lower levels of the site. In addition to at-grade parking lot at the upper level, a subterranean parking garage also exists. The existing site includes a total supply of 968 spaces with 613 surface spaces and 355 garage spaces. Therefore, for 178,000 ft^2, the existing parking rate is therefore calculated as 5.4 spaces/KSF.

24.2 Existing Parking Occupancy Counts

To project the future parking demand, it was important to document the existing parking occupancy of the Costa Verde Center. Therefore, an existing parking demand and occupancy survey was conducted.

The survey was conducted for a 6-day period between Tuesday, April 12, 2016 and Monday, April 18, 2016, while UCSD and nearby schools were in session. The survey hours were conducted for the mid-day peak period (11 AM – 2 PM) and the PM peak period (4 PM – 8 PM) for both a weekday and a weekend (Saturday). These timeframes were determined to be the peak periods of the center based on driveway traffic counts that were conducted to capture peak activity at the site.

To capture the parking occupancy on those dates, the site was divided into the following seven (7) zones:

- *Zone 1:* Building E and F surface lot
- *Zone 2:* Building M surface lot
- *Zone 3:* Easement Building M surface lot
- *Zone 4:* Building I surface lot
- *Zone 5:* Underground garage
- *Zone 6:* Surface main parking
- *Zone 7:* Building S surface parking

Figure 24–1 shows an existing parking inventory map.

24.3 Existing Parking Occupancy Review

Weekday

Table 24–1 shows a summary of the observed weekday parking occupancy. As shown in *Table 24–1*, the peak parking occupancy was observed on a Friday between 6 PM and 7 PM. The general parking occupancy of the site on a weekday was observed to be between **48-82%,** with peak occupancy of

82%. The occupancy was under 80% every time period other than the peak period on Friday. ***Appendix V*** contains the parking occupancy counts.

Weekend

Table 24–1 shows a summary of the observed weekend parking occupancy. As shown in *Table 24–1*, the peak parking demand on a Saturday was between 2 PM and 3 PM. The general parking occupancy of the site on a weekend was observed to be between **50-58%,** with peak occupancy of **58%.** The parking occupancy study showed that the surface lots were close to full occupancy while the subterranean garage was mostly treated as overflow parking.

A validation review was also conducted to determine deviations (if any) between the observed actual parking rate with the City's parking rate outlined in the Land Development Code. As shown in ***Table 24–2***, the calculated parking rate and City's parking rate are very comparable. Therefore, it can be concluded that the City of San Diego parking rate is adequate to forecast the expected parking demand.

TABLE 24–1
OBSERVED PARKING OCCUPANCY – APRIL 12-18, 2016

Existing Supply = 968 spaces												
Time	**Monday**		**Tuesday**		**Wednesday**		**Thursday**		**Friday**		**Saturday**	
	Spaces Occupied	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**
11 am – 12 pm	501	52%	473	49%	507	52%	462	48%	554	57%	490	51%
12 pm – 1 pm	**658**	**68%**	**690**	**71%**	730	75%	698	72%	726	75%	506	52%
1 pm – 2 pm	648	67%	664	69%	655	68%	697	72%	777	80%	544	56%
2 pm – 3 pm											**565**	**58%**
3 pm – 4 pm											514	53%
4 pm – 5 pm	522	54%	470	49%	505	52%	552	57%	624	64%	471	49%
5 pm – 6 pm	559	58%	566	58%	607	63%	628	65%	686	71%		
6 pm – 7 pm	631	65%	652	67%	**771**	**80%**	**762**	**79%**	**789**	**82%**		
7 pm – 8 pm	573	59%	593	61%	702	73%	694	72%	718	74%		

TABLE 24–2
PARKING RATE VALIDATION

Land Use	**Size**	**Observed Peak Parking Demand**	**Parking Rate**
Retail (observed)	178,000 SF	789	4.43 / KSF
Retail (City rate)[a]		–	4.3 / KSF

Footnotes:

a. The City parking rate for retail use within a transit area is 4.3 spaces/KSF.

24.4 Minimum Required Parking Rates

The minimum required parking rates for the proposed project are based on the standards outlined in the City of San Diego Land Development Code (*LDC, Chapter 14, Article 2 and Division 5*). As discussed before, the proposed project includes four (4) distinct land uses (retail, research and development, office, and hotel). All the land uses are proposed to include exclusive parking.

Given that the proposed Mid-Coast trolley line will front the project, the following "transit" minimum parking rates (attached in *Appendix V*) were used in this parking analysis:

- Retail*:* 4.3 spaces/1,000 SF *within a transit area*
- Scientific R&D: 2.1 spaces/1,000 SF *within a transit area*
- Office: 2.9 spaces/1,000 SF *within a transit area*
- Hotel*:* 1 space/room

The project site is a multi-use Transit Oriented Development (TOD) with easy access to mass transit and walking distance to the UTC Mall transit center. The UTC Mall transit center is within a 5-minute walking distance (900') from the project site. Furthermore, the project site is also adjacent to the planned Mid-Coast Trolley line that would extend along Genesee Avenue. The planned Mid-Coast Trolley project proposes a dedicated overhead light-rail trolley station at the Genesee Avenue/Esplanade Court intersection fronting the Costa Verde Center and UTC Mall. Construction of the Mid-Coast project began in 2016, with service anticipated to begin in late 2021, which is prior to the opening day of the proposed project. Therefore, to account for the proposed MTS Mid-Coast project that includes a dedicated trolley stop fronting the project, the parking rates within a "transit area" were used.

24.5 Expected Future Parking Demand

Retail

The existing parking rate for the retail use is provided at 5.4 spaces/KSF Based on the City of San Diego retail minimum required parking rate of 4.3 spaces/KSF (transit area rate *per Table 142-05I* of the LDC), the existing retail of 178,000 ft^2 would require 765 spaces. ***Table 24–3*** shows the minimum required retail parking.

TABLE 24–3
RETAIL MINIMUM REQUIRED PARKING

Land Use	Size	Minimum Required Parking Rate	Minimum Required Parking Required (spaces)
Retail	178,000 SF	4.3 / KSF	765

Scientific R&D

Based on the City of San Diego R&D parking rate of 2.1 spaces/KSF (transit area rate per *Table 142-05G of the LDC*), the 360,000 ft^2 of R&D would require 756 spaces. ***Table 24–4*** shows the minimum required R&D parking.

TABLE 24–4
R&D MINIMUM REQUIRED PARKING

Land Use	Size	Minimum Required Parking Rate	Minimum Required Parking Required (spaces)
Scientific R&D	360,000 SF	2.1 / KSF	756

Office

Based on the City of San Diego office parking rate of 2.9 spaces/KSF (transit area rate per Table 142-05G of the LDC), the 40,000 SF office would require 116 spaces. ***Table 24–5*** shows the minimum required office parking.

TABLE 24–5
OFFICE MINIMUM REQUIRED PARKING

Land Use	Size	Minimum Required Parking Rate	Minimum Required Parking Required (spaces)
Office	40,000	2.9 / KSF	116

Hotel

Based on the City of San Diego hotel parking rate of 1 space/room, the 200-room hotel would require 200 spaces. ***Table 24–6*** shows the minimum required hotel parking.

TABLE 24–6
HOTEL MINIMUM REQUIRED PARKING

Land Use	Size	Parking Rate	Parking Required (spaces)
Hotel	200 Rooms	1 / Room	200

24.5.1 *Motorcycle Parking*

The project is required to provide 2% of the minimum automobile parking (1,837 spaces) for motorcycle parking, which are 37 spaces. The project proposes to provide 43 spaces exceeding the requirement.

24.5.2 *Accessible Parking*

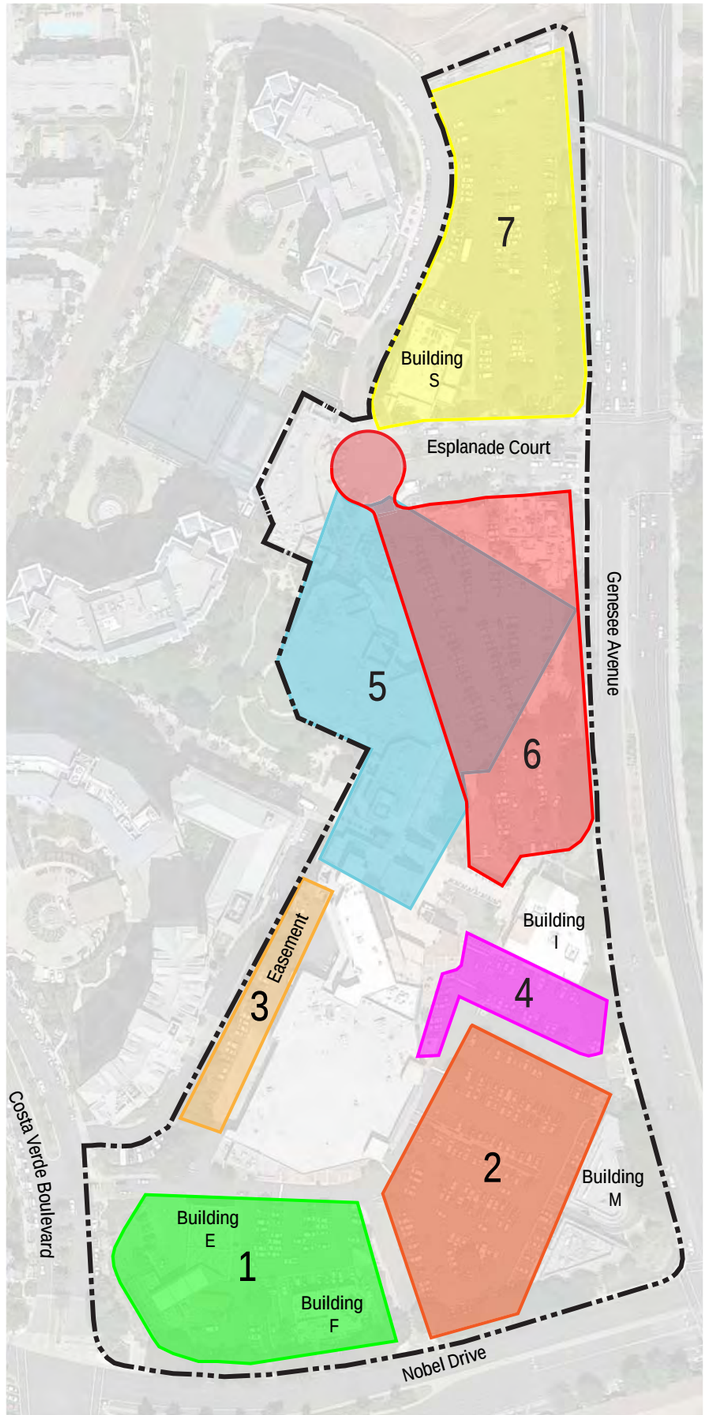
Based on the California Building Code (CBC), the project is required to provide thirty-one (31) accessible parking spaces. The project proposes to provide thirty-eight (38) spaces exceeding the requirement.

24.5.3 *Van Accessible Parking*

Based on the California Building Code (CBC), the project is required to provide five (5) van accessible parking spaces. The project proposes to provide ten (10) spaces exceeding the requirement.

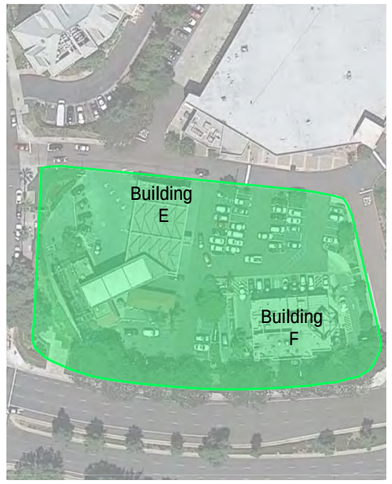
24.6 Conclusion

Based on the calculations shown in *Section 24.5* of this report, the total project minimum parking required is calculated as 1,837 spaces. The project proposes to provide a parking range between 1,837 and 2,076 parking spaces, which would result in a surplus up to 239 spaces. The project will meet or exceed the City's minimum parking requirements relating to motorcycle, accessible and, van accessible. Therefore, no parking supply issues are identified.



Zone 1

Building E & F Surface Lot

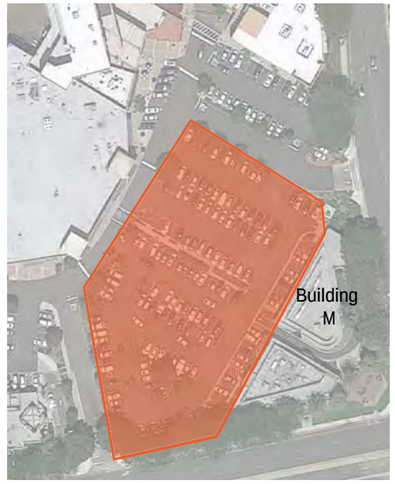


Supply: 50 Spaces

Land Use: McDonald's amd Chevron Gas Station

Zone 2

Building M Surface Lot

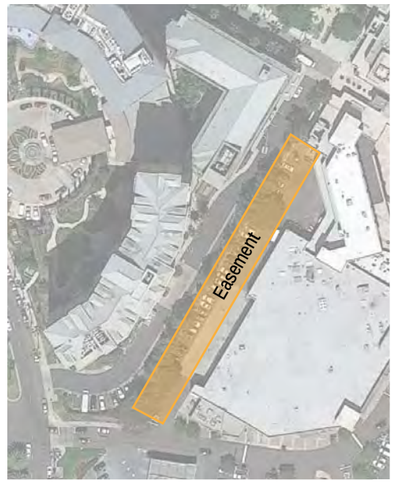


Supply: 160 Spaces

Land Use: Bristol Farms & Wells Fargo Bank

Zone 3

Building M Surface Lot

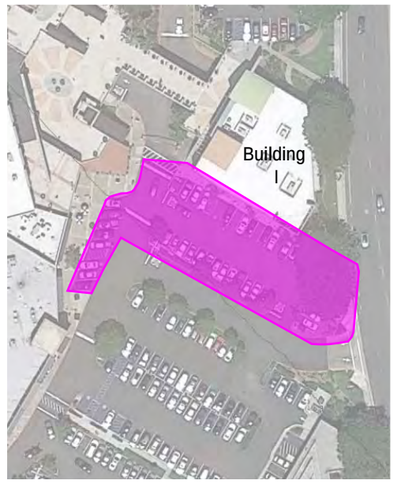


Supply: 33 Spaces

Land Use: Behind Bristol Farms

Zone 4

Building I Surface Lot



Supply: 40 Spaces

Land Use: Sleep Train Mattress Centers

Zone 5

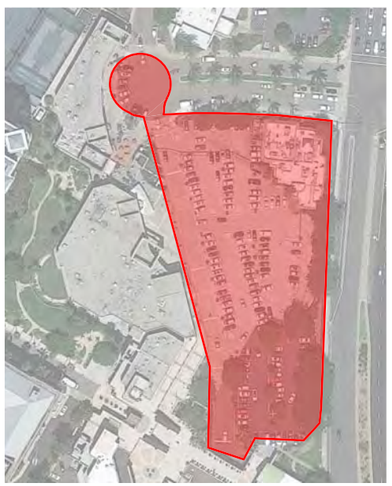
Underground Garage

Supply: 355 Spaces

Land Use: Underneath Surface Parking

Zone 6

Surface Main Parking Lot

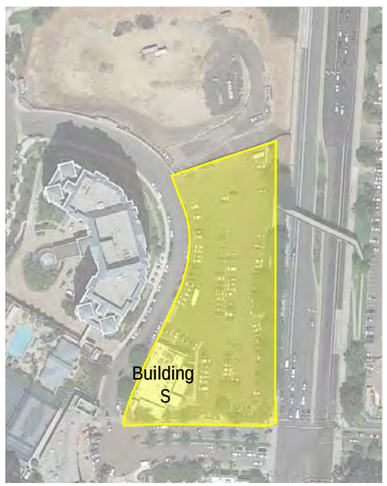


Supply: 150 Spaces

Land Use: Men's Wearhouse

Zone 7

Building S Surface Lot



Supply: 180 Spaces

Land Use: Draft Republic

Total Supply:
968 Spaces

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Date: 06/08/16

Figure 24-1

Existing Parking Inventory

COSTA VERDE CENTER REVITALIZATION PROJECT

25.0 TRANSPORTATION DEMAND MANAGEMENT (TDM) PLAN

Transportation Demand Management (TDM) plans are comprised of features, practices and incentives to encourage project site patrons to use alternate forms of transportation other than single occupancy vehicles. The goal of these plans is to reduce and/or remove single-occupant vehicle trips to relieve congestion. The Costa Verde Center Revitalization project proposes a robust TDM program as a benefit to both the future tenants and the community.

The project's TDM program will include the following measures:

- The project will implement a parking management plan, which will charge employees market-rate for single-occupancy vehicle parking and providing reserved, discounted, or free spaces for registered carpools or vanpools. This may encourage employees to use transit and thereby reduce single occupant vehicle trips and associated parking demand.

- The project will provide carpool/vanpool parking spaces as a part of the overall project parking requirements at the project site. These spaces will be signed and striped "carpool/vanpool parking only".

- The project will provide shower and locker facilities. These showers and lockers will be located in the Main Street parking structure adjacent to the security office.

- The project will make a commitment to maintaining an employer network in the SANDAG iCommute program and promoting its RideMatcher service to tenants/employees

- The project will provide on-site carsharing vehicle(s) and/or bikesharing.

- The project proposes on-site retail services that would reduce the need for employees to drive, such as cafes, commercial stores, banks, a post office, restaurants, and a gym.

LINSCOTT LAW & GREENSPAN
engineers

TECHNICAL APPENDICES

COSTA VERDE CENTER REVITALIZATION PROJECT

San Diego, California
February 26, 2020

LLG Ref. 3-14-2408

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APPENDICES

APPENDIX	
A.	Intersection and Segment Manual Count Sheets and Count Comparison Results
B.	Intersection Methodology and Analysis Sheets
C.	City of San Diego Roadway Classification and Adopted University Circulation Element
D.	Existing intersection analysis calculation sheets
E.	Existing freeway analysis calculation sheets
F.	Caltrans ramp meter rates and existing field observations
G.	MXD Model Calculations
H.	Existing + Project intersection analysis calculation sheets
I.	Existing + Project freeway analysis calculation sheets
J.	Planned Local and Regional Improvements
K.	Near-Term (Opening Day 2023) without and with Project intersection analysis calculation sheets
L.	Near-Term (Opening Day 2023) without and with Project freeway analysis calculation sheets
M.	Year 2035 (Community Buildout) without and with Project intersection analysis calculation sheets
N.	Year 2035 (Community Buildout) without and with Project freeway analysis calculation sheets
O.	Post mitigation intersection analysis calculation sheets, conceptual drawings, and signal warrant analysis worksheets
P.	Local and regional bicycle improvements information
Q.	Transit Schedule and Transit Ridership Information
R.	Technical Advisory on Evaluating Transportation Impacts in CEQA
S.	Transit Priority Areas (TPA) and Urban Area Transit Strategy (UATS)
T.	VMT Information
U.	Construction traffic intersection analysis calculation sheets
V.	Parking occupancy counts and parking rates

APPENDIX A

INTERSECTION AND SEGMENT MANUAL COUNT SHEETS AND COUNT COMPARISON RESULTS

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#01	File Name:	ITM-18-133-01
Intersection:	Genesee Avenue & Eastgate Mall	Project:	LLG Ref. 3-14-2408
Date of Count:	Tuesday, October 02, 2018		Costa Verde Center

AM	Genesee Avenue Southbound			Eastgate Mall Westbound			Genesee Avenue Northbound			Eastgate Mall Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	65	64	8	11	24	93	10	78	15	2	19	0	389
7:15	47	62	18	14	53	120	10	133	28	7	23	0	515
7:30	75	71	43	16	73	155	26	147	22	10	36	0	674
7:45	83	109	48	31	79	140	32	160	32	16	56	0	786
8:00	56	61	18	14	39	113	19	148	33	8	30	5	544
8:15	54	76	5	13	32	116	8	153	23	5	33	0	518
8:30	69	79	4	16	50	157	11	122	41	3	36	2	590
8:45	57	86	7	21	30	136	12	125	40	5	33	4	556
Total	506	608	151	136	380	1030	128	1066	234	56	266	11	4572
Approach%	40.0	48.1	11.9	8.8	24.6	66.6	9.0	74.6	16.4	16.8	79.9	3.3	
Total%	11.1	13.3	3.3	3.0	8.3	22.5	2.8	23.3	5.1	1.2	5.8	0.2	

AM Intersection Peak Hour: **07:30 to 08:30**

Volume	268	317	114	74	223	524	85	608	110	39	155	5	2,522
Approach%	38.3	45.4	16.3	9.0	27.2	63.8	10.6	75.7	13.7	19.6	77.9	2.5	
Total%	10.6	12.6	4.5	2.9	8.8	20.8	3.4	24.1	4.4	1.5	6.1	0.2	
PHF			0.73			0.82			0.90			0.69	0.80

PM	Genesee Avenue Southbound			Eastgate Mall Westbound			Genesee Avenue Northbound			Eastgate Mall Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	78	132	5	21	45	45	10	78	20	10	49	8	501
16:15	112	167	9	19	44	44	9	74	22	7	27	8	542
16:30	86	146	8	25	59	97	10	83	22	4	45	4	589
16:45	92	170	5	25	38	77	9	63	13	5	37	6	540
17:00	104	133	6	19	39	112	5	97	27	13	44	1	600
17:15	128	167	1	30	43	108	3	79	18	5	54	2	638
17:30	113	119	5	37	36	98	4	86	13	5	40	2	558
17:45	92	102	4	14	33	79	4	95	16	14	33	2	488
Total	805	1136	43	190	337	660	54	655	151	63	329	33	4456
Approach%	40.6	57.3	2.2	16.0	28.4	55.6	6.3	76.2	17.6	14.8	77.4	7.8	
Total%	18.1	25.5	1.0	4.3	7.6	14.8	1.2	14.7	3.4	1.4	7.4	0.7	

PM Intersection Peak Hour: **16:30 to 17:30**

Volume	410	616	20	99	179	394	27	322	80	27	180	13	2,367
Approach%	39.2	58.9	1.9	14.7	26.6	58.6	6.3	75.1	18.6	12.3	81.8	5.9	
Total%	17.3	26.0	0.8	4.2	7.6	16.6	1.1	13.6	3.4	1.1	7.6	0.5	
PHF			0.88			0.93			0.83			0.90	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#01	File Name:	ITM-18-133-01
Intersection:	Genesee Avenue & Eastgate Mall	Project:	LLG Ref. 3-14-2408
Date of Count:	Tuesday, October 02, 2018		Costa Verde Center

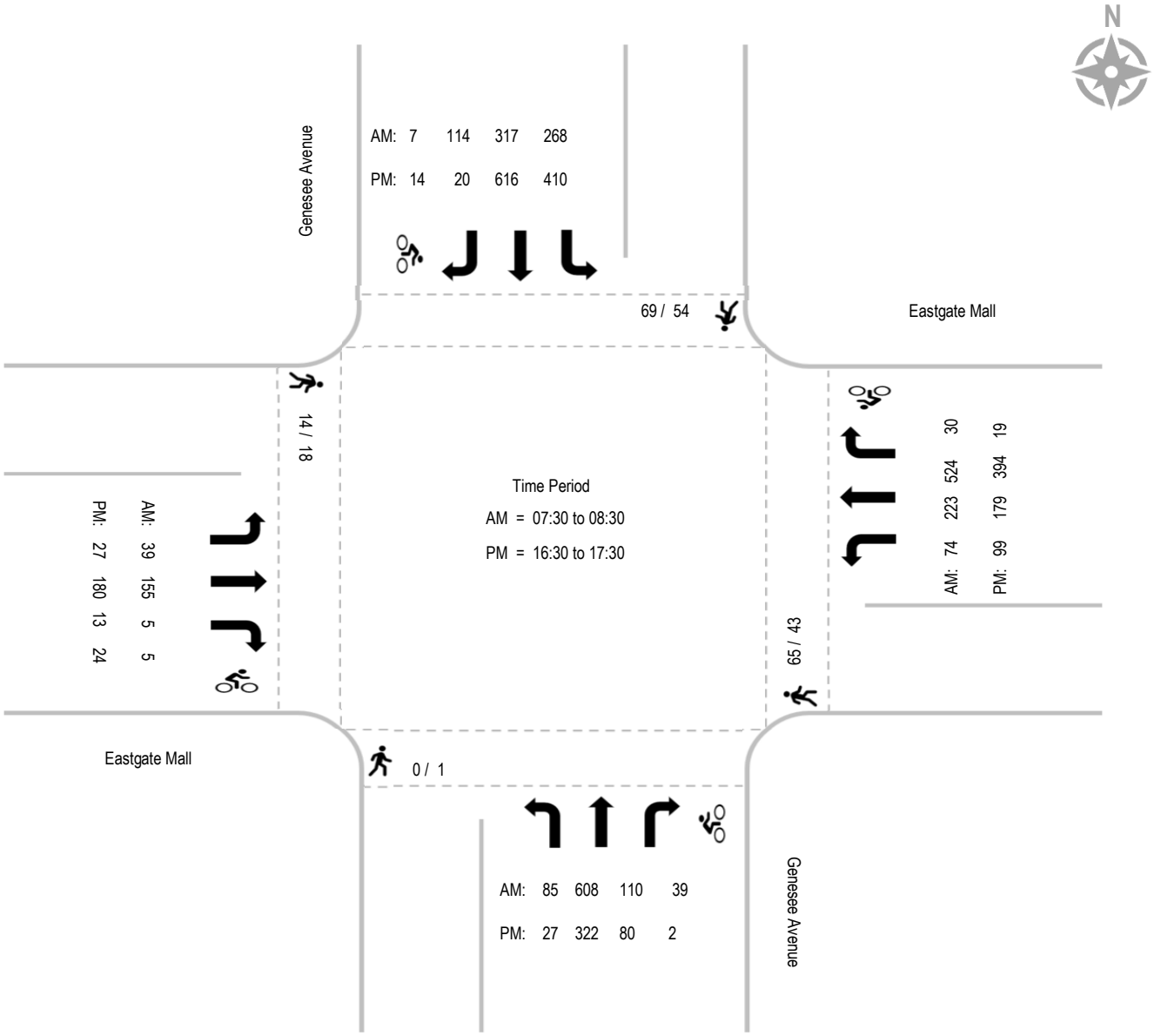
AM	Genesee Avenue Southbound				Eastgate Mall Westbound				Genesee Avenue Northbound				Eastgate Mall Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	13	0	0	3	6	0	5	1	0	0	6	4	4	0	0	0	23	19
7:15	13	0	0	0	11	0	1	0	0	0	2	2	3	0	0	0	27	5
7:30	8	0	0	0	12	0	1	2	0	0	2	0	0	0	0	0	20	5
7:45	6	0	1	1	6	0	2	2	0	0	4	4	4	0	0	0	16	14
8:00	5	0	0	0	6	0	1	0	0	0	2	2	0	0	2	1	11	8
8:15	2	0	1	0	8	0	0	1	0	0	3	0	1	0	2	0	11	7
8:30	12	0	1	0	8	0	5	2	0	0	2	1	1	0	0	0	21	11
8:45	10	0	0	0	8	0	6	1	0	0	5	0	1	0	0	0	19	12
Ped Total	69				65				0				14				148	
Bike Total		0	3	4		0	21	9		0	26	13		0	4	1		81

PM	Genesee Avenue Southbound				Eastgate Mall Westbound				Genesee Avenue Northbound				Eastgate Mall Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	6	1	0	0	0	0	2	0	1	0	1	0	0	0	4	0	7	8
16:15	8	0	1	0	2	0	1	1	0	0	0	1	3	0	3	0	13	7
16:30	2	0	1	0	12	0	1	1	0	0	0	0	2	0	0	0	16	3
16:45	9	0	1	0	4	0	2	1	0	0	0	0	2	0	8	0	15	12
17:00	8	0	1	0	5	0	2	0	0	0	0	0	0	0	4	0	13	7
17:15	4	1	2	0	8	0	3	1	0	0	0	0	1	0	4	0	13	11
17:30	10	0	3	0	3	1	3	0	0	0	0	0	5	0	1	0	18	8
17:45	7	2	1	0	9	0	0	0	0	0	0	0	5	0	0	0	21	3
Ped Total	54				43				1				18				116	
Bike Total		4	10	0		1	14	4		0	1	1		0	24	0		59

Report Generated by Bearcat Enterprises LLC, DBA "Count Data" | 619-987-5136 | info@yourcountdata.com

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#01	File Name: ITM-18-133-01
	Intersection:	Genesee Avenue & Eastgate Mall	Project: LLG Ref. 3-14-2408
	Date of Count:	Tuesday, October 02, 2018	Costa Verde Center



Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: La Jolla Village Drive @ I-5 Southbound Ramp

Date of Count: *Tuesday, May 05, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ I-5 Southbound Ramp

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	245	0	78	107	210	0	0	0	0	46	215	0	901
7:15 AM	270	0	91	161	220	0	0	0	0	42	285	0	1,069
7:30 AM	273	0	218	108	269	0	0	0	0	40	341	0	1,249
7:45 AM	302	0	98	169	298	0	0	0	0	52	387	0	1,306
8:00 AM	265	0	27	81	308	0	0	0	0	65	387	0	1,133
8:15 AM	301	0	125	110	325	0	0	0	0	54	390	0	1,305
8:30 AM	312	0	149	102	389	0	0	0	0	47	401	0	1,400
8:45 AM	341	0	211	73	330	0	0	0	0	55	338	0	1,348
Total	2,309	0	997	911	2,349	0	0	0	0	401	2,744	0	9,711

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.93**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	1,219	0	512	366	1,352	0	0	0	0	221	1,516	0	5,186
PHF	0.89	#####	0.61	0.83	0.87	#####	#####	#####	#####	0.85	0.95	#####	0.93
Movement PHF		0.78			0.87			#DIV/0!			0.96		0.93

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	141	0	140	214	258	0	0	0	0	350	569	0	1,672
4:15 PM	168	0	103	264	320	0	0	0	0	219	447	0	1,521
4:30 PM	128	0	113	277	307	0	0	0	0	224	587	0	1,636
4:45 PM	165	0	174	180	361	0	0	0	0	191	527	0	1,598
5:00 PM	186	0	185	277	304	0	0	0	0	213	509	0	1,674
5:15 PM	172	0	171	318	299	0	0	0	0	192	472	0	1,624
5:30 PM	149	0	96	279	276	0	0	0	0	231	494	0	1,525
5:45 PM	160	0	136	210	289	0	0	0	0	187	465	0	1,447
Total	1269	0	1118	2,019	2,414	0	0	0	0	1,807	4,070	0	12,697

PM Intersection Peak Hour : **4:30 PM - 5:30 PM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	651	0	643	1052	1271	0	0	0	0	820	2095	0	6532
PHF	0.88	#####	0.869	0.827	0.88	#####	#####	#####	#####	0.915	0.892	#####	0.98
Movement PHF		0.87			0.94			#DIV/0!			0.90		0.98

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: La Jolla Village Drive @ I-5 Northbound Off Ramp

Date of Count: *Tuesday, May 05, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ I-5 Northbound Off Ramp

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	0	0	71	172	0	200	0	145	92	201	0	881
7:15 AM	0	0	0	48	249	0	197	2	132	144	232	0	1,004
7:30 AM	0	0	0	47	256	0	196	0	121	194	365	0	1,179
7:45 AM	0	0	0	122	325	0	207	0	142	193	292	0	1,281
8:00 AM	0	0	0	95	259	0	95	0	130	171	243	0	993
8:15 AM	0	0	0	118	330	0	144	0	105	214	301	0	1,212
8:30 AM	0	0	0	74	376	0	119	0	115	219	331	0	1,234
8:45 AM	0	0	0	146	302	0	225	0	101	178	371	0	1,323
Total	0	0	0	721	2,269	0	1,383	2	991	1,405	2,336	0	9,107

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.90**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	0	0	433	1,267	0	583	0	451	782	1,246	0	4,762
PHF	#####	#####	#####	0.74	0.84	#####	0.65	#####	0.87	0.89	0.84	#####	0.90
Movement PHF	#DIV/0!			0.94			0.79			0.92			0.90

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	0	0	73	401	0	46	0	71	373	336	0	1,300
4:15 PM	0	0	0	92	512	0	65	0	72	257	293	0	1,291
4:30 PM	0	0	0	72	523	0	62	0	61	357	343	0	1,418
4:45 PM	0	0	0	137	445	0	63	0	96	320	381	0	1,442
5:00 PM	0	0	0	152	512	0	69	0	69	311	383	0	1,496
5:15 PM	0	0	0	143	554	0	104	0	63	260	383	0	1,507
5:30 PM	0	0	0	53	489	0	103	0	66	260	330	0	1,301
5:45 PM	0	0	0	44	437	0	69	0	62	237	364	0	1,213
Total	0	0	0	766	3,873	0	581	0	560	2,375	2,813	0	10,968

PM Intersection Peak Hour : **4:30 PM - 5:30 PM** Intersection PHF : **0.97**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	0	0	504	2034	0	298	0	289	1248	1490	0	5863
PHF	#####	#####	#####	0.829	0.918	#####	0.716	#####	0.753	0.874	0.973	#####	0.97
Movement PHF	#DIV/0!			0.91			0.88			0.98			0.97

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

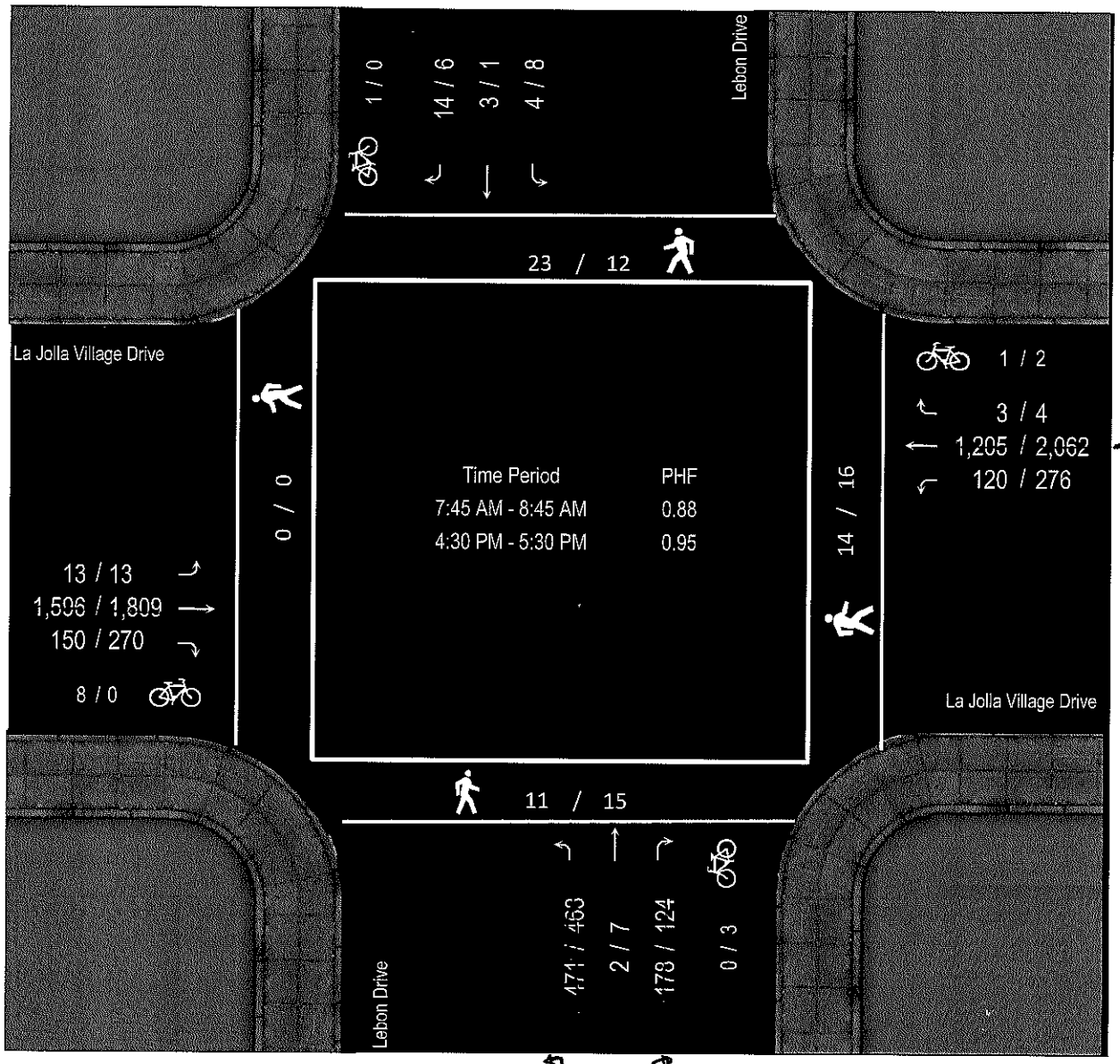
Location: La Jolla Village Drive @ Lebon Drive

Date of Count: *Wednesday, May 06, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



* Balancing adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ Lebon Drive

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	4	0	4	0	204	23	26	0	58	20	401	3	743
7:15 AM	2	1	3	1	220	27	37	0	72	14	435	0	812
7:30 AM	2	1	1	0	206	33	37	1	92	24	531	0	928
7:45 AM	3	0	1	1	318	45	46	2	125	38	486	2	1,067
8:00 AM	4	1	1	1	252	26	48	0	95	37	396	3	864
8:15 AM	3	1	1	1	311	29	44	0	130	31	325	4	880
8:30 AM	4	1	1	0	324	20	40	0	121	44	389	4	948
8:45 AM	4	0	4	1	294	21	46	0	146	41	425	1	983
Total	26	5	16	5	2,129	224	324	3	839	249	3,388	17	7,225

AM Intersection Peak Hour : **7:45 AM - 8:45 AM** Intersection PHF : **0.88**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	14	3	4	3	1,205	120	178	2	471	150	1,596	13	3,759
PHF	0.88	0.75	1.00	0.75	0.93	0.67	0.93	0.25	0.91	0.85	0.82	0.81	0.88
Movement PHF		0.88			0.91			0.94			0.84		0.88

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	2	0	2	0	445	43	34	2	77	58	320	1	984
4:15 PM	2	1	1	0	466	66	37	3	93	54	288	1	1,012
4:30 PM	2	0	2	0	481	42	32	2	121	61	445	2	1,190
4:45 PM	1	0	2	2	483	76	25	2	140	66	409	4	1,210
5:00 PM	2	1	3	1	542	77	36	1	107	71	471	3	1,315
5:15 PM	1	0	1	1	556	81	31	2	95	72	484	4	1,328
5:30 PM	1	1	3	1	476	69	36	0	109	61	341	3	1,101
5:45 PM	5	2	1	1	442	75	25	3	78	58	373	4	1,067
Total	16	5	15	6	3,891	529	256	15	820	501	3,131	22	9,207

PM Intersection Peak Hour : **4:30 PM - 5:30 PM** Intersection PHF : **0.95**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	6	1	8	4	2062	276	124	7	463	270	1809	13	5043
PHF	0.75	0.25	0.667	0.5	0.927	0.852	0.861	0.875	0.827	0.938	0.934	0.813	0.95
Movement PHF		0.63			0.92			0.89			0.93		0.95

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ Regents Road

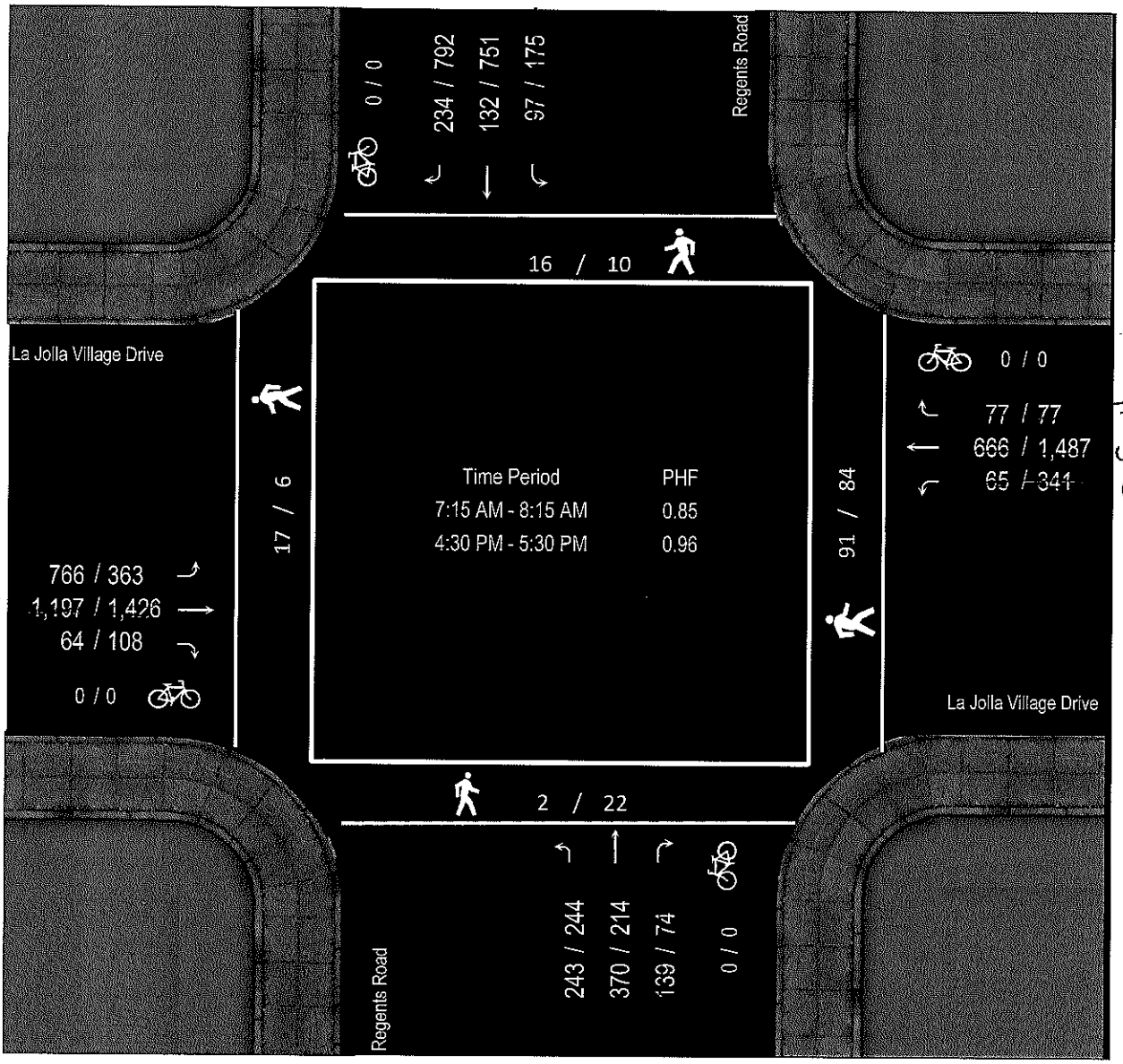
Date of Count: *Thursday, May 07, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*

123/178



77/79
666/1538
65/353

1,520/1,487

170/141

* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ Regents Road

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	40	16	15	21	143	8	16	50	44	9	207	174	743
7:15 AM	39	43	19	22	168	12	38	69	38	15	247	172	882
7:30 AM	56	29	19	25	133	21	36	97	56	9	298	221	1,000
7:45 AM	65	24	25	21	229	15	35	128	76	13	375	184	1,190
8:00 AM	74	36	34	9	136	17	30	76	73	27	277	189	978
8:15 AM	61	36	34	21	151	16	41	109	71	10	220	100	870
8:30 AM	59	55	24	10	138	24	50	110	56	18	250	160	954
8:45 AM	78	23	37	33	121	14	35	91	88	8	273	150	951
Total	472	262	207	162	1,219	127	281	730	502	109	2,147	1,350	7,568

AM Intersection Peak Hour : **7:15 AM - 8:15 AM** Intersection PHF : **0.85**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	234	132	97	77	666	65	139	370	243	64	1,197	766	4,050
PHF	0.79	0.77	0.71	0.77	0.73	0.77	0.91	0.72	0.80	0.59	0.80	0.87	0.85
Movement PHF		0.80			0.76			0.79			0.89		0.85

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	170	161	44	21	299	52	17	50	59	25	263	77	1,238
4:15 PM	207	145	38	22	338	45	11	47	64	32	222	107	1,278
4:30 PM	205	177	46	23	345	88	24	81	71	27	355	88	1,530
4:45 PM	187	162	46	15	370	60	13	62	81	27	333	66	1,422
5:00 PM	202	223	40	18	395	103	24	30	41	27	355	117	1,575
5:15 PM	198	189	43	21	377	90	13	41	51	27	383	92	1,525
5:30 PM	168	165	50	25	336	86	17	60	61	34	255	82	1,339
5:45 PM	125	123	46	17	326	81	16	41	68	36	259	88	1,226
Total	1462	1345	353	162	2,786	605	135	412	496	235	2,425	717	11,133

PM Intersection Peak Hour : **4:30 PM - 5:30 PM** Intersection PHF : **0.96**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	792	751	175	77	1487	341	74	214	244	108	1426	363	6052
PHF	0.97	0.842	0.951	0.837	0.941	0.828	0.771	0.66	0.753	1	0.931	0.776	0.96
Movement PHF		0.92			0.92			0.76			0.94		0.96

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

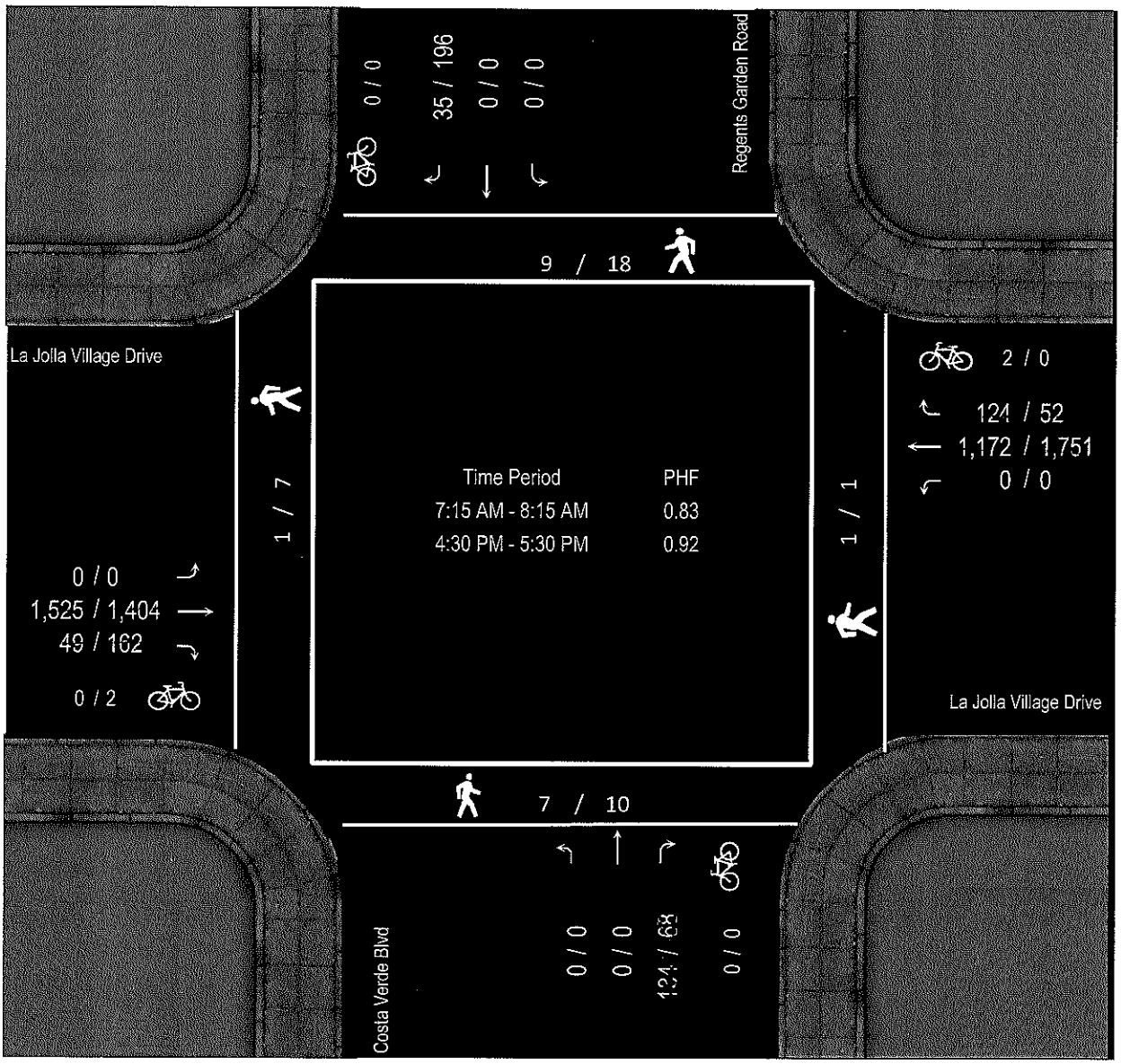
Location: La Jolla Village Drive @ Costa Verde Blvd - Regents Garden R

Date of Count: *Wednesday, May 06, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



1758/1549
61/197

124/53
1,172/1,779

155/94

* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: Nobel Drive @ Costa Verde Blvd - Regents Garde

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	9	0	0	18	190	0	26	0	0	13	235	0	491
7:15 AM	5	0	0	22	312	0	24	0	0	8	348	0	719
7:30 AM	10	0	0	37	259	0	41	0	0	9	380	0	736
7:45 AM	11	0	0	42	342	0	32	0	0	16	468	0	911
8:00 AM	9	0	0	23	259	0	37	0	0	16	329	0	673
8:15 AM	14	0	0	38	220	0	42	0	0	19	274	0	607
8:30 AM	11	0	0	36	175	0	45	0	0	23	298	0	588
8:45 AM	11	0	0	45	121	0	56	0	0	14	322	0	569
Total	80	0	0	261	1,878	0	303	0	0	118	2,654	0	5,294

AM Intersection Peak Hour : **7:15 AM - 8:15 AM** Intersection PHF : **0.83**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	35	0	0	124	1,172	0	134	0	0	49	1,525	0	3,039
PHF	0.80	#####	#####	0.74	0.86	#####	0.82	#####	#####	0.77	0.81	#####	0.83
Movement PHF		0.80			0.84			0.82			0.81		0.83

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	32	0	0	8	334	0	14	0	0	24	296	0	708
4:15 PM	26	0	0	14	370	0	22	0	0	40	236	0	708
4:30 PM	47	0	0	17	404	0	23	0	0	39	383	0	913
4:45 PM	49	0	0	12	395	0	10	0	0	41	351	0	858
5:00 PM	58	0	0	9	507	0	18	0	0	40	357	0	989
5:15 PM	42	0	0	14	445	0	17	0	0	42	313	0	873
5:30 PM	35	0	0	9	411	0	14	0	0	49	268	0	786
5:45 PM	36	0	0	17	438	0	22	0	0	51	267	0	831
Total	325	0	0	100	3,304	0	140	0	0	326	2,471	0	6,666

PM Intersection Peak Hour : **4:30 PM - 5:30 PM** Intersection PHF : **0.92**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	196	0	0	52	1751	0	68	0	0	162	1404	0	3633
PHF	0.84	#####	#####	0.765	0.863	#####	0.739	#####	#####	0.964	0.916	#####	0.92
Movement PHF		0.84			0.87			0.74			0.93		0.92

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

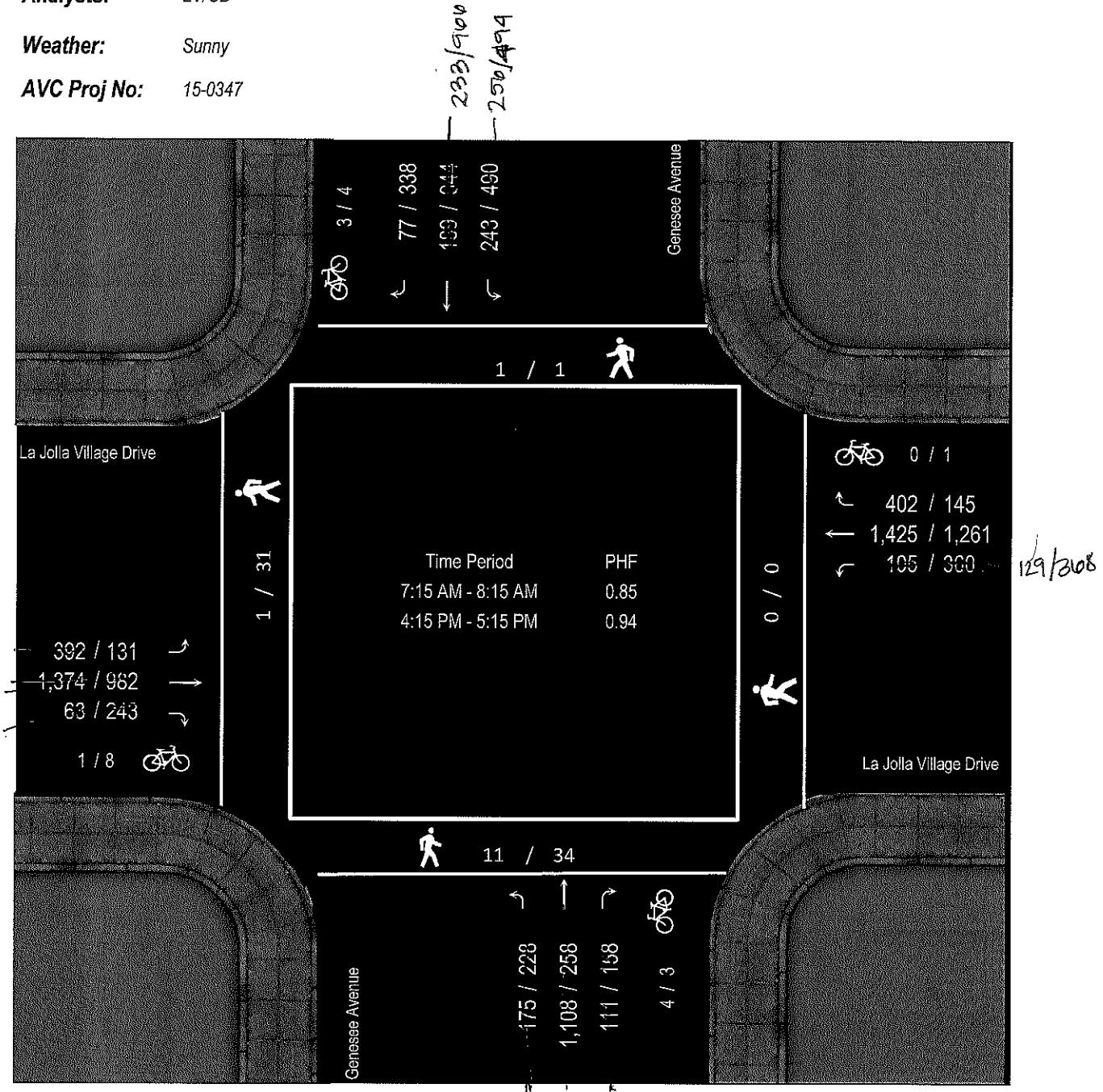
Location: La Jolla Village Drive @ Genesee Avenue

Date of Count: *Thursday, May 07, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	7	31	26	102	208	33	47	148	30	18	181	78	909
7:15 AM	12	18	48	109	401	31	28	195	29	11	298	103	1,283
7:30 AM	22	54	61	96	312	17	28	283	49	17	360	83	1,382
7:45 AM	22	51	65	124	401	51	23	342	47	22	415	108	1,671
8:00 AM	21	66	69	73	311	6	32	288	50	13	301	98	1,328
8:15 AM	19	39	31	130	188	27	28	314	50	12	169	87	1,094
8:30 AM	17	64	64	113	165	30	44	263	69	19	211	85	1,144
8:45 AM	14	77	56	113	131	24	33	337	41	28	232	81	1,167
Total	134	400	420	860	2,117	219	263	2,170	365	140	2,167	723	9,978

AM Intersection Peak Hour : **7:15 AM - 8:15 AM** Intersection PHF : **0.85**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	77	189	243	402	1,425	105	111	1,108	175	63	1,374	392	5,664
PHF	0.88	0.72	0.88	0.81	0.89	0.51	0.87	0.81	0.88	0.72	0.83	0.91	0.85
Movement PHF		0.82			0.84			0.85			0.84		0.85

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	69	227	121	55	227	78	41	74	34	77	184	28	1,215
4:15 PM	81	244	141	41	275	85	39	70	55	61	183	31	1,306
4:30 PM	77	258	141	36	286	78	50	58	65	67	315	33	1,464
4:45 PM	77	202	91	40	302	104	29	67	51	60	231	38	1,292
5:00 PM	103	240	117	28	398	93	40	63	57	55	253	29	1,476
5:15 PM	93	221	91	29	334	97	49	67	41	58	157	25	1,262
5:30 PM	81	241	111	51	329	119	43	69	37	64	139	34	1,318
5:45 PM	107	251	113	38	333	96	26	70	63	67	178	31	1,373
Total	688	1884	926	318	2,484	750	317	538	403	509	1,640	249	10,706

PM Intersection Peak Hour : **4:15 PM - 5:15 PM** Intersection PHF : **0.94**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	338	944	490	145	1261	360	158	258	228	243	982	131	5538
PHF	0.82	0.915	0.869	0.884	0.792	0.865	0.79	0.921	0.877	0.907	0.779	0.862	0.94
Movement PHF		0.93			0.85			0.93			0.82		0.94

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

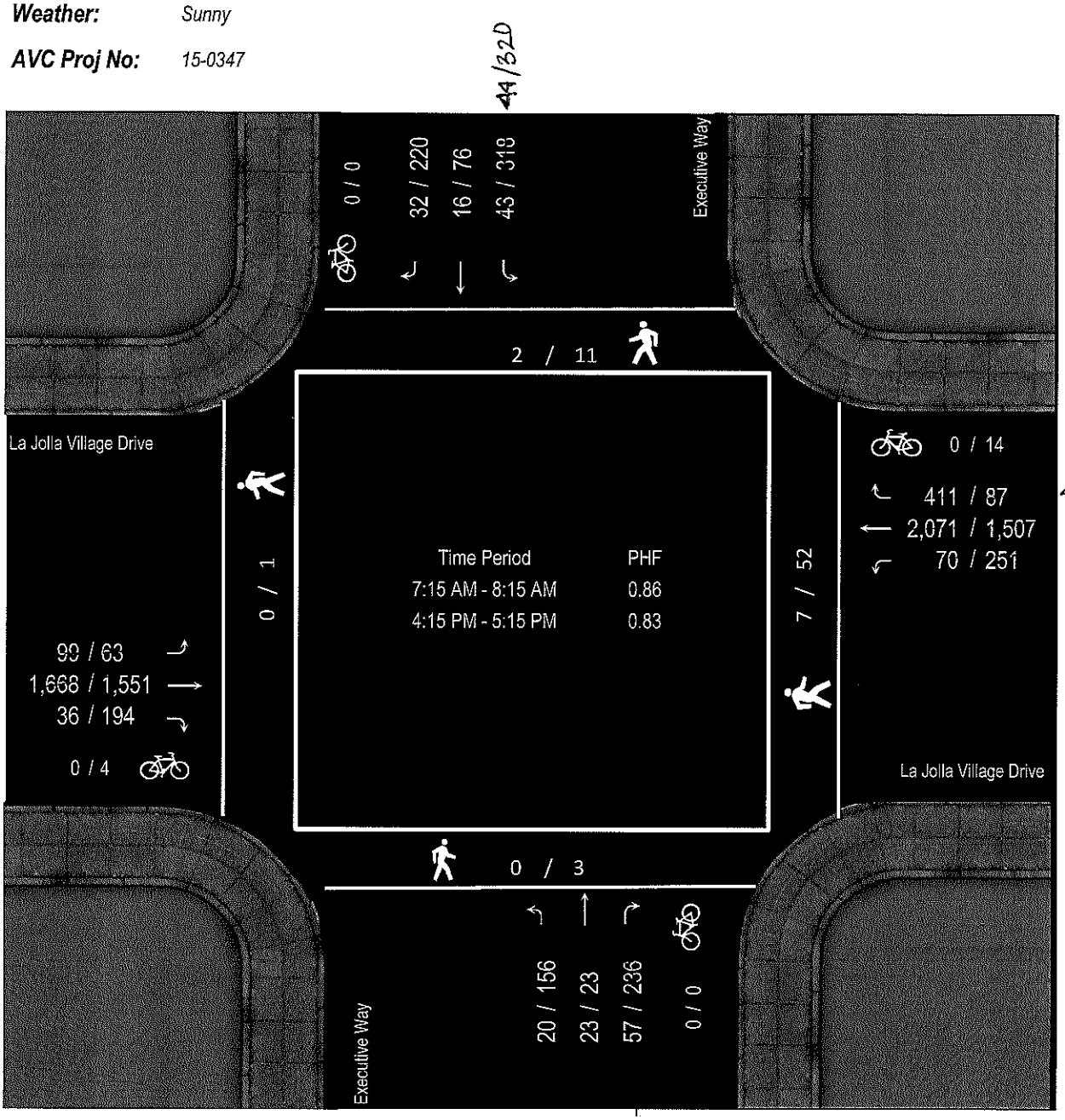
Location: La Jolla Village Drive @ Executive Way

Date of Count: *Wednesday, May 06, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ Executive Way

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	7	2	2	81	351	13	6	3	0	4	250	14	733
7:15 AM	7	5	7	69	612	8	10	3	3	9	371	10	1,114
7:30 AM	8	2	9	92	424	9	9	9	5	10	415	25	1,017
7:45 AM	7	7	12	126	616	24	25	2	3	6	451	36	1,315
8:00 AM	10	2	15	124	419	29	13	9	9	11	431	28	1,100
8:15 AM	12	1	11	149	381	16	16	3	5	14	319	20	947
8:30 AM	12	1	22	150	501	20	14	6	5	23	381	22	1,157
8:45 AM	11	7	20	101	412	37	29	55	19	25	329	31	1,076
Total	74	27	98	892	3,716	156	122	90	49	102	2,947	186	8,459

AM Intersection Peak Hour : **7:15 AM - 8:15 AM** Intersection PHF : **0.86**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	32	16	43	411	2,071	70	57	23	20	36	1,668	99	4,546
PHF	0.80	0.57	0.72	0.82	0.84	0.60	0.57	0.64	0.56	0.82	0.92	0.69	0.86
Movement PHF		0.84			0.83			0.81			0.91		0.86

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	54	24	111	22	473	42	65	3	32	44	295	25	1,190
4:15 PM	53	13	79	29	386	48	66	3	38	48	321	14	1,098
4:30 PM	49	18	79	20	236	68	63	8	46	45	478	21	1,131
4:45 PM	55	17	68	22	314	77	48	7	34	55	327	13	1,037
5:00 PM	63	28	92	16	571	58	59	5	38	46	425	15	1,416
5:15 PM	49	26	91	16	188	60	59	9	31	48	390	18	985
5:30 PM	43	19	80	16	316	82	56	9	39	51	423	11	1,145
5:45 PM	36	18	64	25	365	57	48	9	35	58	233	15	963
Total	402	163	664	166	2,849	492	464	53	293	395	2,892	132	8,965

PM Intersection Peak Hour : **4:15 PM - 5:15 PM** Intersection PHF : **0.83**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	220	76	318	87	1507	251	236	23	156	194	1551	63	4682
PHF	0.87	0.679	0.864	0.75	0.66	0.815	0.894	0.719	0.848	0.882	0.811	0.75	0.83
Movement PHF		0.84			0.72			0.89			0.83		0.83

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

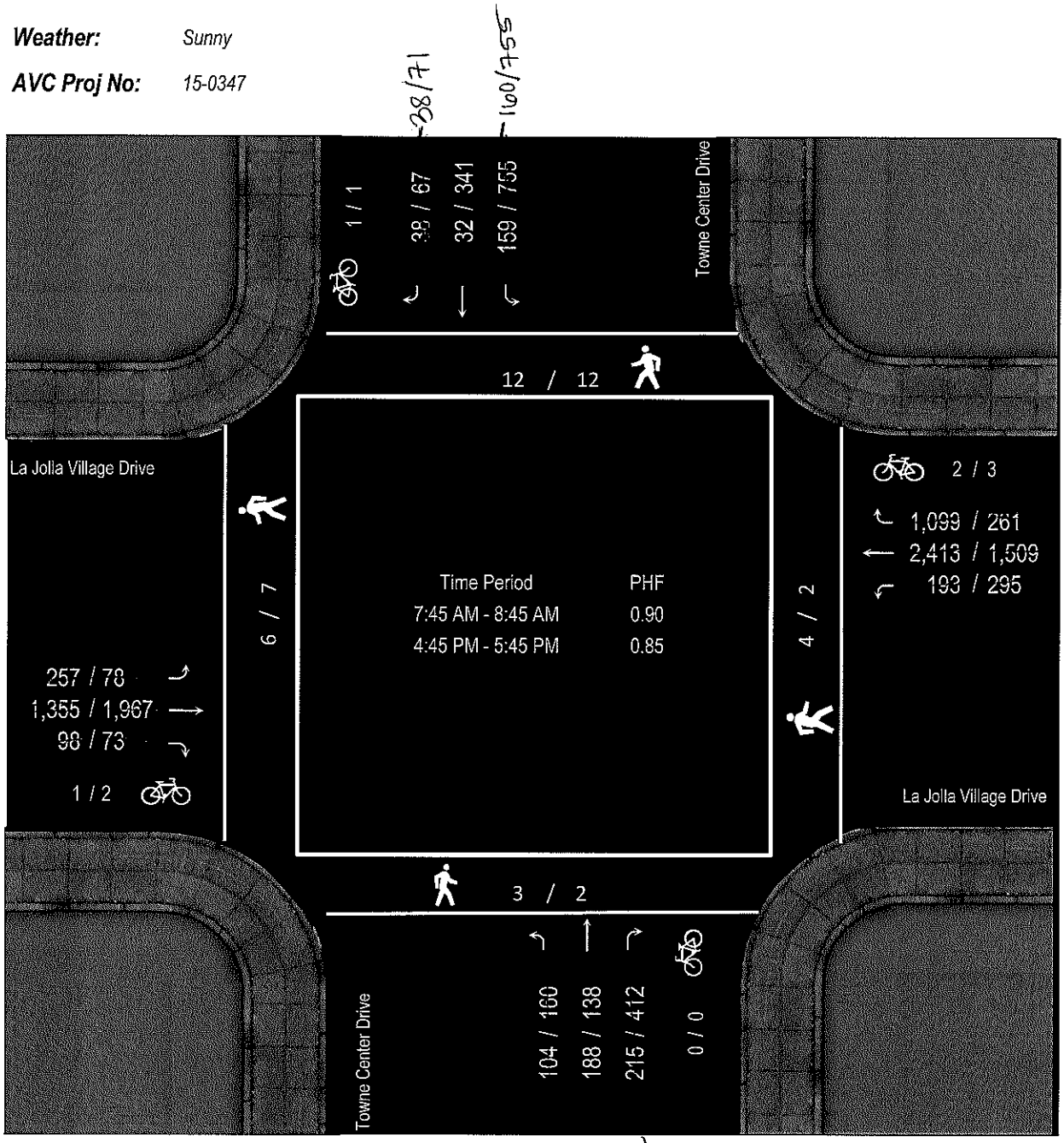
Location: La Jolla Village Drive @ Towne Center Drive

Date of Count: *Wednesday, May 06, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



38/71
100/755
1,111/202
2,439/1,611
195/297
269/79
1,427/1,981
102/73
104/170
217/412

* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ Towne Center Drive

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	3	8	26	254	422	38	26	12	20	20	177	61	1,067
7:15 AM	5	5	25	267	666	37	30	21	18	20	311	57	1,462
7:30 AM	12	7	39	222	483	55	58	77	30	18	362	53	1,416
7:45 AM	14	5	31	239	729	44	66	67	23	14	440	34	1,706
8:00 AM	8	11	58	297	535	58	57	32	29	33	353	73	1,544
8:15 AM	4	10	39	321	516	45	38	51	26	32	231	83	1,396
8:30 AM	12	6	31	242	633	46	54	38	26	19	331	67	1,505
8:45 AM	17	10	45	285	501	69	76	58	32	20	301	57	1,471
Total	75	62	294	2,127	4,485	392	405	356	204	176	2,506	485	11,567

AM Intersection Peak Hour : **7:45 AM - 8:45 AM** Intersection PHF : **0.90**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	38	32	159	1,099	2,413	193	215	188	104	98	1,355	257	6,151
PHF	0.68	0.73	0.69	0.86	0.83	0.83	0.81	0.70	0.90	0.74	0.77	0.77	0.90
Movement PHF		0.74			0.92			0.81			0.88		0.90

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	36	58	203	47	467	50	125	13	34	29	432	10	1,504
4:15 PM	11	57	207	61	430	63	54	18	22	23	411	32	1,389
4:30 PM	22	53	154	65	268	71	93	44	34	20	572	28	1,424
4:45 PM	17	84	218	60	357	81	101	37	39	16	410	17	1,437
5:00 PM	15	101	171	71	591	52	141	21	39	24	523	29	1,778
5:15 PM	19	80	187	61	204	84	80	42	41	20	506	14	1,338
5:30 PM	16	76	179	69	357	78	90	38	41	13	528	18	1,503
5:45 PM	23	74	200	81	390	81	93	10	34	17	318	10	1,331
Total	159	583	1519	515	3,064	560	777	223	284	162	3,700	158	11,704

PM Intersection Peak Hour : **4:45 PM - 5:45 PM** Intersection PHF : **0.85**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	67	341	755	261	1509	295	412	138	160	73	1967	78	6056
PHF	0.88	0.844	0.866	0.919	0.638	0.878	0.73	0.821	0.976	0.76	0.931	0.672	0.85
Movement PHF		0.91			0.72			0.88			0.92		0.85

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

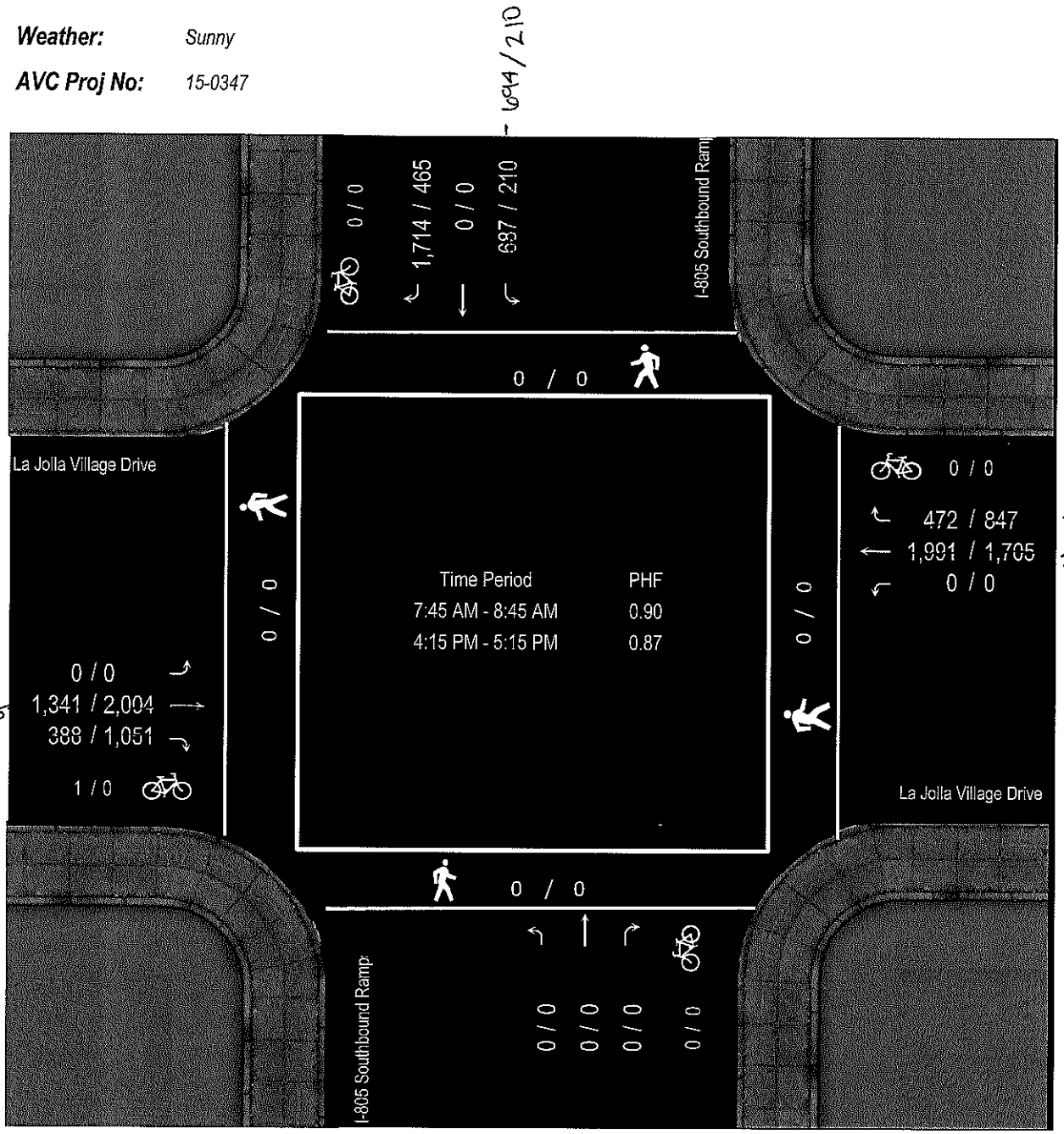
Location: La Jolla Village Drive @ I-805 Southbound Ramps

Date of Count: *Wednesday, May 06, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: La Jolla Village Drive @ I-805 Southbound Ramps

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	251	0	191	95	463	0	0	0	0	70	159	0	1,229
7:15 AM	317	0	139	137	653	0	0	0	0	76	290	0	1,612
7:30 AM	399	0	179	92	361	0	0	0	0	128	331	0	1,490
7:45 AM	417	0	179	106	595	0	0	0	0	121	416	0	1,834
8:00 AM	424	0	189	103	466	0	0	0	0	105	363	0	1,650
8:15 AM	434	0	165	134	448	0	0	0	0	81	227	0	1,489
8:30 AM	439	0	154	129	482	0	0	0	0	81	335	0	1,620
8:45 AM	407	0	168	125	448	0	0	0	0	84	338	0	1,570
Total	3,088	0	1,364	921	3,916	0	0	0	0	746	2,459	0	12,494

AM Intersection Peak Hour : **7:45 AM - 8:45 AM** Intersection PHF : **0.90**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	1,714	0	687	472	1,991	0	0	0	0	388	1,341	0	6,593
PHF	0.98	#####	0.91	0.88	0.84	#####	#####	#####	#####	0.80	0.81	#####	0.90
Movement PHF		0.98			0.88			#DIV/0!			0.80		0.90

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	84	0	43	218	480	0	0	0	0	270	490	0	1,585
4:15 PM	101	0	52	196	453	0	0	0	0	240	432	0	1,474
4:30 PM	102	0	56	214	302	0	0	0	0	260	559	0	1,493
4:45 PM	121	0	55	238	377	0	0	0	0	257	472	0	1,520
5:00 PM	141	0	47	199	573	0	0	0	0	294	541	0	1,795
5:15 PM	131	0	55	237	218	0	0	0	0	264	509	0	1,414
5:30 PM	175	0	44	196	329	0	0	0	0	239	558	0	1,541
5:45 PM	134	0	26	180	418	0	0	0	0	221	390	0	1,369
Total	989	0	378	1,678	3,150	0	0	0	0	2,045	3,951	0	12,191

PM Intersection Peak Hour : **4:15 PM - 5:15 PM** Intersection PHF : **0.87**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	465	0	210	847	1705	0	0	0	0	1051	2004	0	6282
PHF	0.82	#####	0.938	0.89	0.744	#####	#####	#####	#####	0.894	0.896	#####	0.87
Movement PHF		0.90			0.83			#DIV/0!			0.91		0.87

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

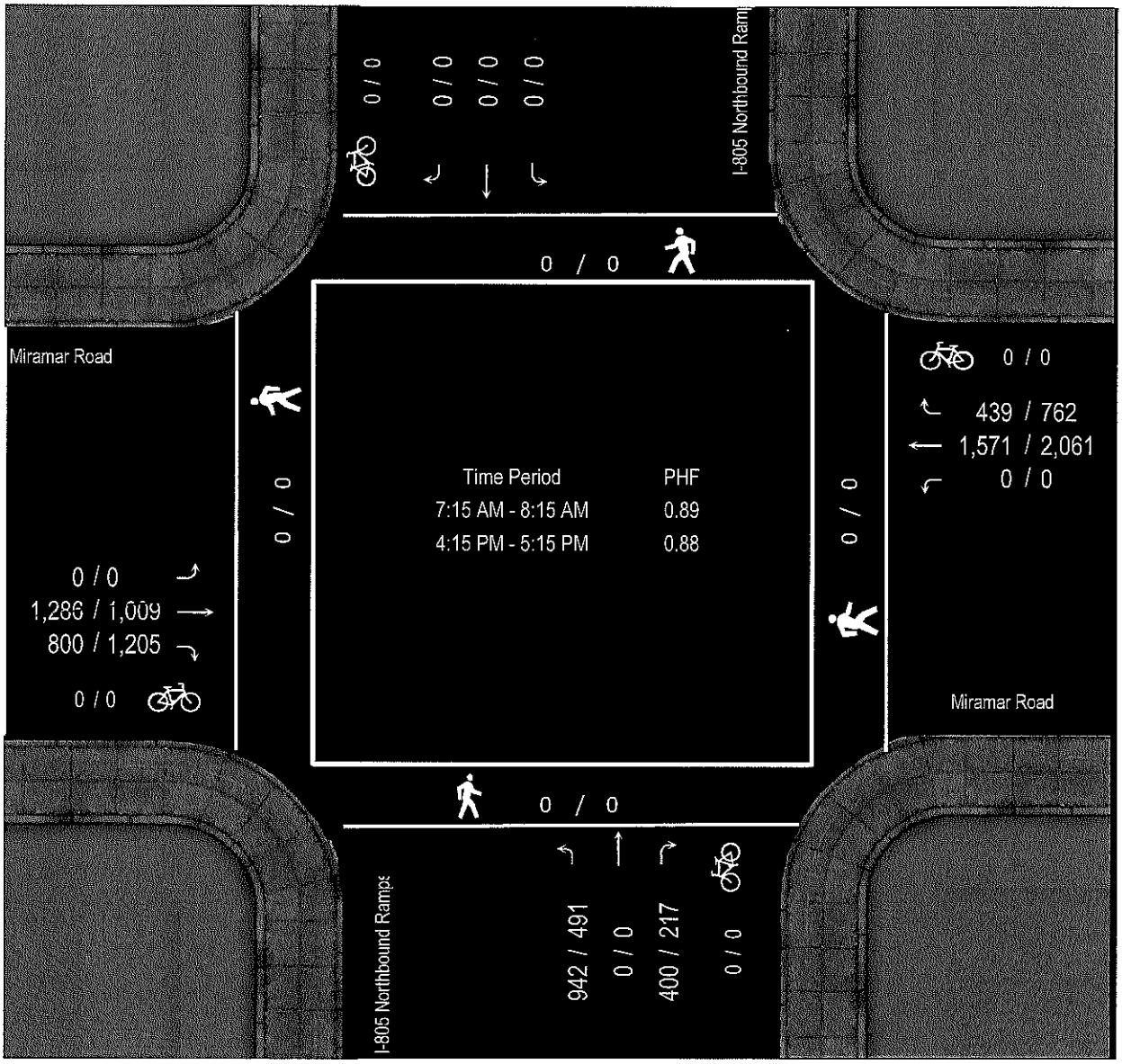
Location: Miramar Road @ I-805 Northbound Ramps

Date of Count: *Wednesday, May 06, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: Miramar Road @ I-805 Northbound Ramps

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	0	0	83	337	0	110	0	221	117	233	0	1,101
7:15 AM	0	0	0	104	529	0	98	0	261	69	360	0	1,421
7:30 AM	0	0	0	103	206	0	94	0	247	214	296	0	1,160
7:45 AM	0	0	0	124	468	0	113	0	233	271	324	0	1,533
8:00 AM	0	0	0	108	368	0	95	0	201	246	306	0	1,324
8:15 AM	0	0	0	101	381	0	62	0	201	122	270	0	1,137
8:30 AM	0	0	0	125	386	0	79	0	225	225	264	0	1,304
8:45 AM	0	0	0	129	374	0	87	0	199	231	275	0	1,295
Total	0	0	0	877	3,049	0	738	0	1,788	1,495	2,328	0	10,275

AM Intersection Peak Hour : **7:15 AM - 8:15 AM** Intersection PHF : **0.89**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	0	0	439	1,571	0	400	0	942	800	1,286	0	5,438
PHF	#####	#####	#####	0.89	0.74	#####	0.88	#####	0.90	0.74	0.89	#####	0.89
Movement PHF	#DIV/0!			0.79			0.93			0.88			0.89

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	0	0	182	589	0	55	0	109	311	222	0	1,468
4:15 PM	0	0	0	202	551	0	50	0	98	271	213	0	1,385
4:30 PM	0	0	0	175	355	0	67	0	161	238	377	0	1,373
4:45 PM	0	0	0	175	494	0	47	0	121	320	207	0	1,364
5:00 PM	0	0	0	210	661	0	53	0	111	376	212	0	1,623
5:15 PM	0	0	0	189	334	0	45	0	121	233	331	0	1,253
5:30 PM	0	0	0	164	374	0	41	0	151	323	279	0	1,332
5:45 PM	0	0	0	161	437	0	37	0	161	218	198	0	1,212
Total	0	0	0	1,458	3,795	0	395	0	1,033	2,290	2,039	0	11,010

PM Intersection Peak Hour : **4:15 PM - 5:15 PM** Intersection PHF : **0.88**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	0	0	762	2061	0	217	0	491	1205	1009	0	5745
PHF	#####	#####	#####	0.907	0.78	#####	0.81	#####	0.762	0.801	0.669	#####	0.88
Movement PHF	#DIV/0!			0.81			0.78			0.90			0.88

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#12	File Name:	ITM-18-133-12
Intersection:	Costa Verde Boulevard & Loop Road North	Project:	LLG Ref. 3-14-2408
Date of Count:	Thursday, October 04, 2018		Costa Verde Center

AM	Costa Verde Blvd Southbound			Loop Road North Westbound			Costa Verde Blvd Northbound			- Eastbound			
	Left	Thru	Right	Left	Thru	Right	U-Turn	Thru	Right	Left	Thru	Right	Total
7:00	6	9	0	2	0	3	1	17	5	0	0	0	43
7:15	7	11	0	3	0	0	1	17	6	0	0	0	45
7:30	6	15	0	1	0	1	4	37	0	0	0	0	64
7:45	5	21	0	0	0	2	6	25	2	0	0	0	61
8:00	7	18	0	3	0	0	5	24	2	0	0	0	59
8:15	5	8	0	2	0	4	1	32	2	0	0	0	54
8:30	3	22	0	1	0	0	3	31	2	0	0	0	62
8:45	5	26	0	2	0	1	1	25	5	0	0	0	65
Total	44	130	0	14	0	11	22	208	24	0	0	0	453
Approach%	25.3	74.7	-	56.0	-	44.0	8.7	81.9	9.4	-	-	-	
Total%	9.7	28.7	-	3.1	-	2.4	4.9	45.9	5.3	-	-	-	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	20	74	-	8	-	5	10	112	11	-	-	-	240
Approach%	21.3	78.7	-	61.5	-	38.5	7.5	84.2	8.3	-	-	-	
Total%	8.3	30.8	-	3.3	-	2.1	4.2	46.7	4.6	-	-	-	
PHF			0.76			0.54			0.92			#DIV/0!	0.92

PM	Costa Verde Blvd Southbound			Loop Road North Westbound			Costa Verde Blvd Northbound			- Eastbound			
	Left	Thru	Right	Left	Thru	Right	U-turn	Thru	Right	Left	Thru	Right	Total
16:00	2	42	0	2	0	3	7	19	4	0	0	0	79
16:15	4	42	0	6	0	1	6	18	3	0	0	0	80
16:30	0	48	0	8	0	6	2	22	4	0	0	0	90
16:45	0	33	0	2	0	4	4	10	4	0	0	0	57
17:00	0	40	0	6	0	4	2	15	3	0	0	0	70
17:15	3	43	0	5	0	1	3	23	2	0	0	0	80
17:30	3	30	0	4	0	0	2	19	2	0	0	0	60
17:45	8	37	0	9	0	0	3	20	4	0	0	0	81
Total	20	315	0	42	0	19	29	146	26	0	0	0	597
Approach%	6.0	94.0	-	68.9	-	31.1	14.4	72.6	12.9	-	-	-	
Total%	3.4	52.8	-	7.0	-	3.2	4.9	24.5	4.4	-	-	-	

PM Intersection Peak Hour: **16:00 to 17:00**

Volume	6	165	-	18	-	14	19	69	15	-	-	-	306
Approach%	3.5	96.5	-	56.3	-	43.8	18.4	67.0	14.6	-	-	-	
Total%	2.0	53.9	-	5.9	-	4.6	6.2	22.5	4.9	-	-	-	
PHF			0.89			0.57			0.86			#DIV/0!	0.85

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#12	File Name:	ITM-18-133-12
Intersection:	Costa Verde Boulevard & Loop Road North	Project:	LLG Ref. 3-14-2408
Date of Count:	Thursday, October 04, 2018		Costa Verde Center

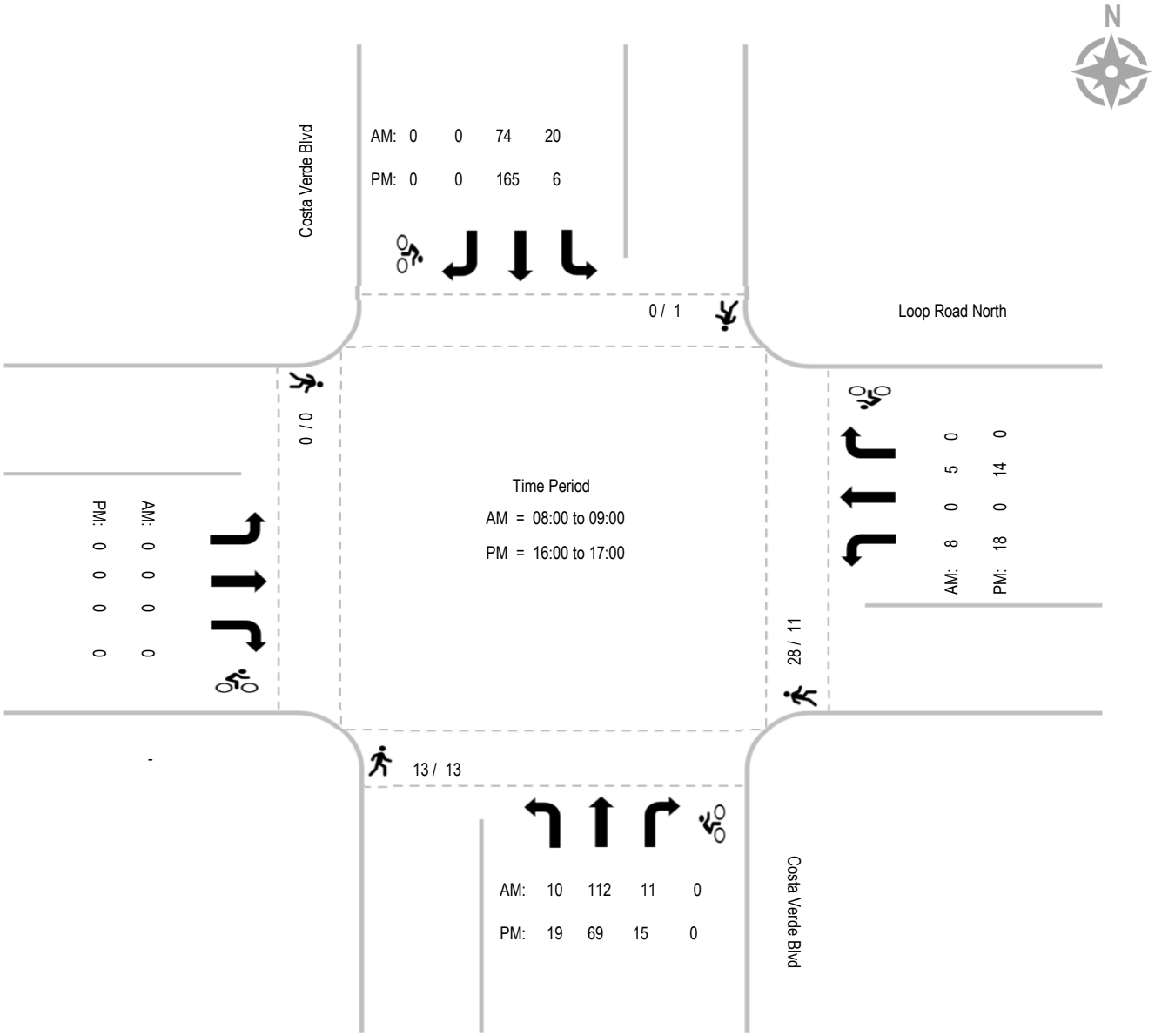
AM	Costa Verde Blvd Southbound				Loop Road North Westbound				Costa Verde Blvd Northbound				- Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0
7:15	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6	0
7:30	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	3	0
7:45	0	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	5	0
8:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
8:15	0	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	5	0
8:30	0	0	0	0	7	0	0	0	3	0	0	0	0	0	0	0	10	0
8:45	0	0	0	0	5	0	0	0	3	0	0	0	0	0	0	0	8	0
Ped Total	0				28				13				0				41	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Costa Verde Blvd Southbound				Loop Road North Westbound				Costa Verde Blvd Northbound				- Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
16:15	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	8	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0
17:30	1	0	0	0	2	0	0	0	4	0	0	0	0	0	0	0	7	0
17:45	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
Ped Total	1				11				13				0				25	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Report Generated by Bearcat Enterprises LLC, DBA "Count Data" | 619-987-5136 | info@yourcountdata.com

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#12	File Name: ITM-18-133-12
	Intersection:	Costa Verde Boulevard & Loop Road North	Project: LLG Ref. 3-14-2408
	Date of Count:	Thursday, October 04, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#13	File Name:	ITM-18-133-13
Intersection:	Costa Verde Boulevard & Loop Road South	Project:	LLG Ref. 3-14-2408
Date of Count:	Thursday, October 04, 2018		Costa Verde Center

AM	Costa Verde Boulevard Southbound			Loop Road South Westbound			Costa Verde Boulevard Northbound			- Eastbound			
	Left	Thru	Right	Left	Thru	Right	U-Turn	Thru	Right	Left	Thru	Right	Total
7:00	8	12	0	10	0	2	0	12	12	0	0	0	56
7:15	4	15	0	10	0	7	0	14	32	0	0	0	82
7:30	8	13	0	9	0	14	0	25	16	0	0	0	85
7:45	12	20	0	8	0	15	0	24	15	0	0	0	94
8:00	6	7	0	8	0	7	0	17	17	0	0	0	62
8:15	10	16	0	17	0	11	0	28	15	0	0	0	97
8:30	9	14	0	14	0	7	0	18	21	0	0	0	83
8:45	4	17	0	14	0	7	0	21	20	0	0	0	83
Total	61	114	0	90	0	70	0	159	148	0	0	0	642
Approach%	34.9	65.1	-	56.3	-	43.8	-	51.8	48.2	-	-	-	
Total%	9.5	17.8	-	14.0	-	10.9	-	24.8	23.1	-	-	-	

AM Intersection Peak Hour: **07:30 to 08:30**

Volume	36	56	-	42	-	47	-	94	63	-	-	-	338
Approach%	39.1	60.9	-	47.2	-	52.8	-	59.9	40.1	-	-	-	
Total%	10.7	16.6	-	12.4	-	13.9	-	27.8	18.6	-	-	-	
PHF			0.72			0.79			0.91			#DIV/0!	0.87

PM	Costa Verde Boulevard Southbound			Loop Road South Westbound			Costa Verde Boulevard Northbound			- Eastbound			
	Left	Thru	Right	Left	Thru	Right	U-turn	Thru	Right	Left	Thru	Right	Total
16:00	11	34	0	43	0	13	a	34	34	0	0	0	169
16:15	14	28	0	30	0	15	0	40	35	0	0	0	162
16:30	15	34	0	39	0	22	1	37	42	0	0	0	190
16:45	18	50	0	42	0	18	0	28	44	0	0	0	200
17:00	22	33	0	42	0	16	0	26	39	0	0	0	178
17:15	24	43	0	44	0	21	3	41	31	0	0	0	207
17:30	12	47	0	50	0	15	0	36	35	0	0	0	195
17:45	8	36	0	47	0	12	0	49	32	0	0	0	184
Total	124	305	0	337	0	132	4	291	292	0	0	0	1485
Approach%	28.9	71.1	-	71.9	-	28.1	0.7	49.6	49.7	-	-	-	
Total%	8.4	20.5	-	22.7	-	8.9	0.3	19.6	19.7	-	-	-	

PM Intersection Peak Hour: **16:45 to 17:45**

Volume	76	173	-	178	-	70	3	131	149	-	-	-	780
Approach%	30.5	69.5	-	71.8	-	28.2	1.1	46.3	52.7	-	-	-	
Total%	9.7	22.2	-	22.8	-	9.0	0.4	16.8	19.1	-	-	-	
PHF			0.92			0.95			0.94			#DIV/0!	0.94

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

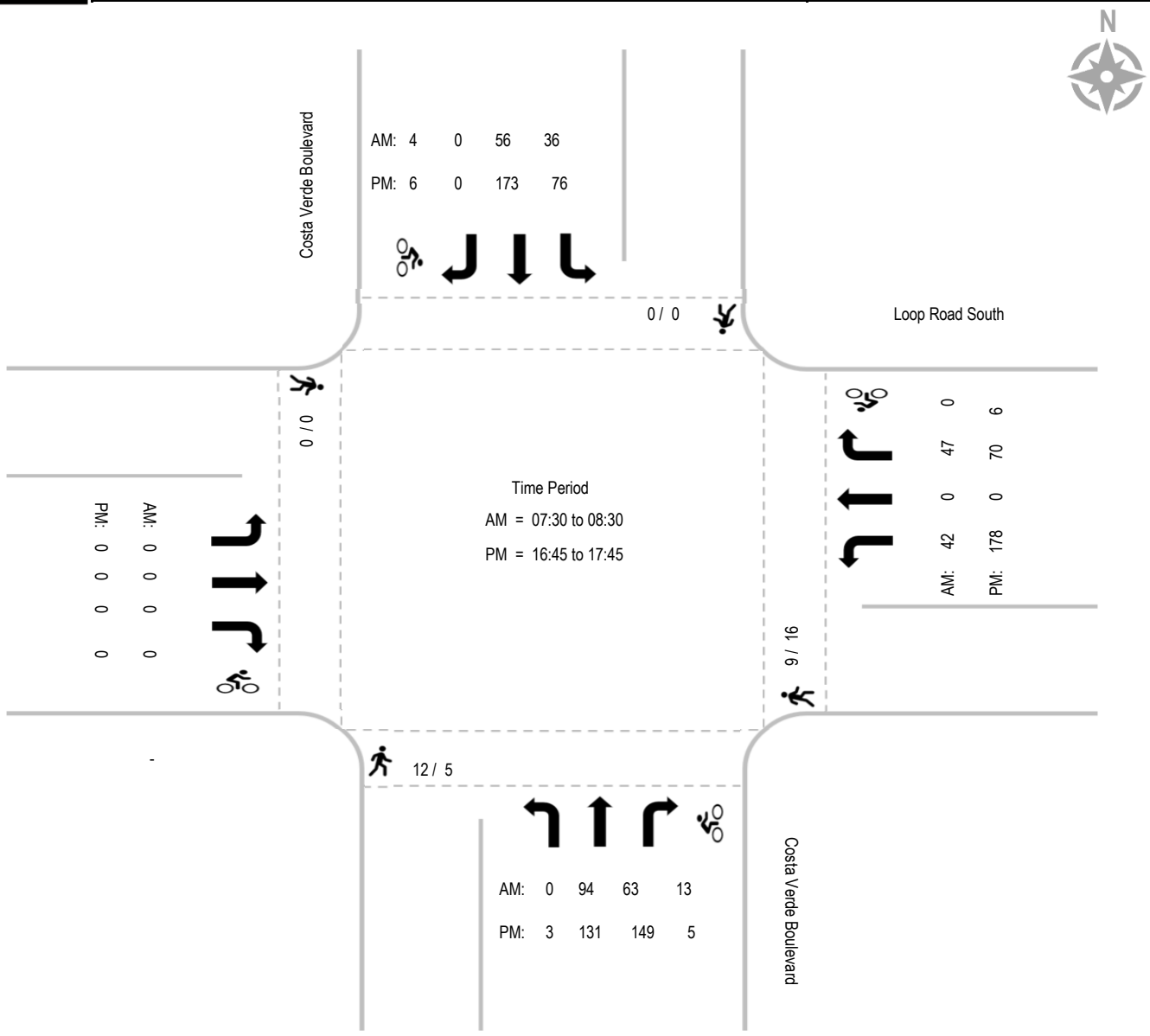
Location:	#13	File Name:	ITM-18-133-13
Intersection:	Costa Verde Boulevard & Loop Road South	Project:	LLG Ref. 3-14-2408
Date of Count:	Thursday, October 04, 2018		Costa Verde Center

AM	Costa Verde Boulevard Southbound				Loop Road South Westbound				Costa Verde Boulevard Northbound				- Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1
7:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30	0	1	1	0	1	0	0	0	2	0	0	0	0	0	0	0	3	2
7:45	0	0	0	0	2	0	0	0	3	0	5	1	0	0	0	0	5	6
8:00	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	1	3
8:15	0	0	0	0	2	0	0	0	4	0	2	0	0	0	0	0	6	2
8:30	0	0	1	0	2	0	0	0	1	0	0	0	0	0	0	0	3	1
8:45	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2
Ped Total	0				9				12				0				21	
Bike Total		1	3	0		0	0	0		0	12	1		0	0	0		17

PM	Costa Verde Boulevard Southbound				Loop Road South Westbound				Costa Verde Boulevard Northbound				- Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1
16:15	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	3	0
16:30	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	2	1
16:45	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	2	1
17:00	0	1	3	0	4	1	0	0	0	0	1	0	0	0	0	0	4	6
17:15	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	3
17:30	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	2	1
17:45	0	0	2	0	6	0	0	1	1	0	1	0	0	0	0	0	7	4
Ped Total	0				16				5				0				21	
Bike Total		1	5	0		4	1	1		0	4	1		0	0	0		17

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#13	File Name: ITM-18-133-13
	Intersection:	Costa Verde Boulevard & Loop Road South	Project: LLG Ref. 3-14-2408
	Date of Count:	Thursday, October 04, 2018	Costa Verde Center



LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

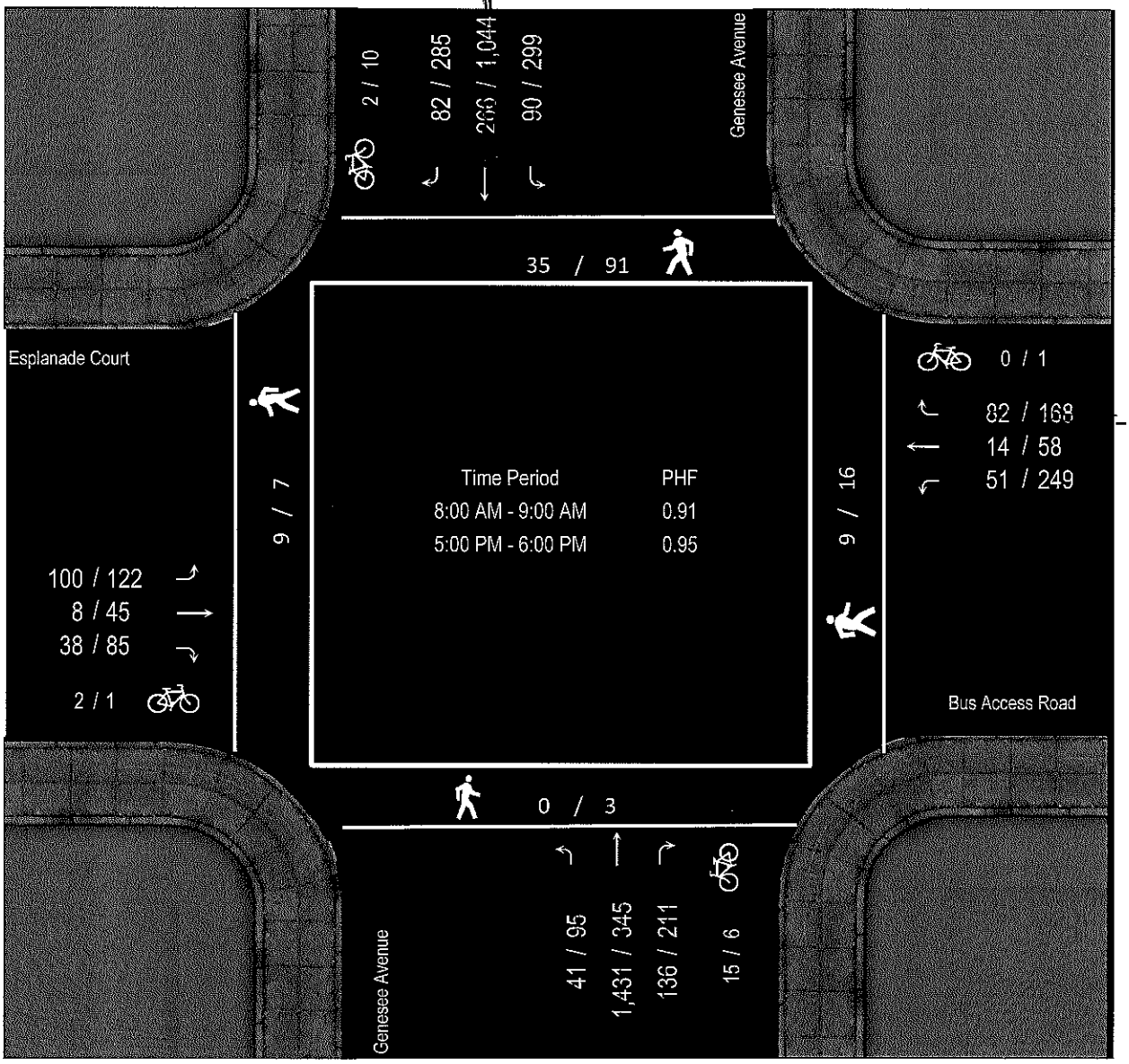
Location: Esplanade Court - Bus Access Ro @ Genesee Avenue

Date of Count: *Wednesday, May 06, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



266/1047
90/300
82/169
41/97
1431/359
136/215

* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: splanade Court - Bus Access Road @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	19	43	13	21	7	18	26	178	16	9	2	26	378
7:15 AM	11	38	22	18	0	12	17	215	9	6	3	30	381
7:30 AM	21	58	20	17	1	10	29	333	17	5	3	24	538
7:45 AM	20	52	38	23	2	21	38	369	11	6	5	37	622
8:00 AM	13	67	22	23	5	19	32	344	11	9	0	23	568
8:15 AM	18	55	21	18	5	13	23	361	10	11	3	32	570
8:30 AM	23	62	17	21	4	11	35	341	12	7	1	25	559
8:45 AM	28	82	30	20	0	8	46	385	8	11	4	20	642
Total	153	457	183	161	24	112	246	2,526	94	64	21	217	4,258

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.91**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	82	266	90	82	14	51	136	1,431	41	38	8	100	2,339
PHF	0.73	0.81	0.75	0.89	0.70	0.67	0.74	0.93	0.85	0.86	0.50	0.78	0.91
Movement PHF		0.78			0.78			0.92			0.79		0.91

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	58	281	60	32	5	54	51	103	21	19	13	30	727
4:15 PM	44	307	58	28	18	61	42	105	23	27	5	44	762
4:30 PM	59	300	55	30	9	61	57	112	9	31	9	33	765
4:45 PM	61	258	67	42	12	60	60	86	27	19	16	29	737
5:00 PM	53	292	45	40	20	64	49	67	27	15	13	39	724
5:15 PM	68	259	69	38	13	49	69	90	16	16	13	31	731
5:30 PM	91	251	99	45	16	76	37	100	24	17	12	20	788
5:45 PM	73	242	86	45	9	60	56	88	28	37	7	32	763
Total	507	2190	539	300	102	485	421	751	175	181	88	258	5,997

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.95**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	285	1044	299	168	58	249	211	345	95	85	45	122	3006
PHF	0.78	0.894	0.755	0.933	0.725	0.819	0.764	0.863	0.848	0.574	0.865	0.782	0.95
Movement PHF		0.92			0.87			0.93			0.83		0.95

LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: Costa Verde Shopping Center Driv @ Genesee Avenue

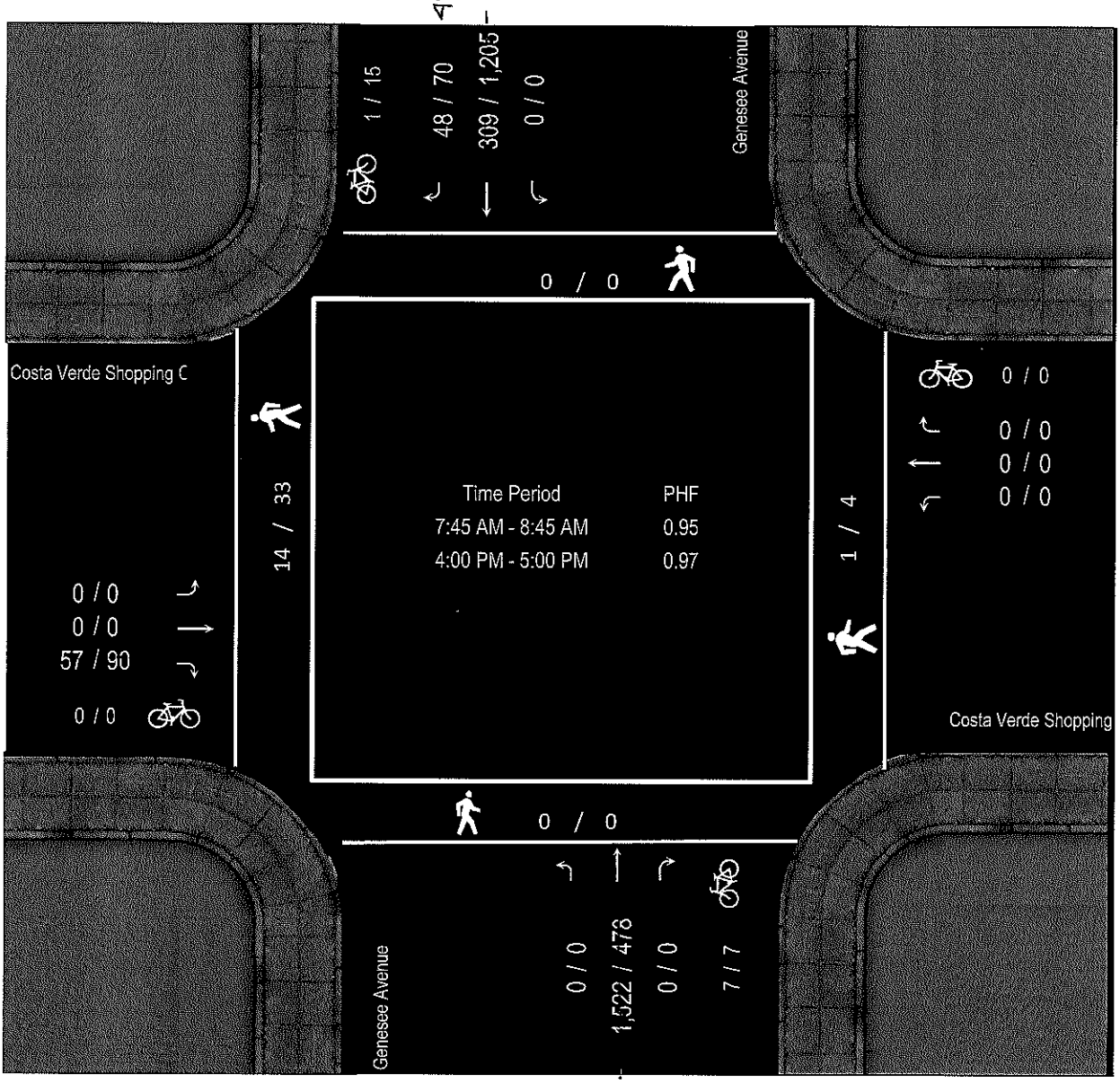
Date of Count: *Wednesday, July 22, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0383*

48/74
309/1307



57/92

* Balancing Adjustments

1608/666

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: Shopping Center Driveway (South) @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	8	41	0	0	0	0	0	227	0	6	0	0	282
7:15 AM	11	52	0	0	0	0	0	304	0	9	0	0	376
7:30 AM	4	48	0	0	0	0	0	389	0	5	0	0	446
7:45 AM	16	66	0	0	0	0	0	413	0	17	0	0	512
8:00 AM	9	69	0	0	0	0	0	338	0	13	0	0	429
8:15 AM	9	83	0	0	0	0	0	398	0	10	0	0	500
8:30 AM	14	91	0	0	0	0	0	373	0	17	0	0	495
8:45 AM	14	85	0	0	0	0	0	398	0	10	0	0	507
Total	85	535	0	0	0	0	0	2,840	0	87	0	0	3,547

AM Intersection Peak Hour : **7:45 AM - 8:45 AM** Intersection PHF : **0.95**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	48	309	0	0	0	0	0	1,522	0	57	0	0	1,936
PHF	0.75	0.85	#####	#####	#####	#####	#####	0.92	#####	0.84	#####	#####	0.95
Movement PHF		0.85			#DIV/0!			0.92			0.84		0.95

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	18	291	0	0	0	0	0	113	0	21	0	0	443
4:15 PM	18	290	0	0	0	0	0	135	0	21	0	0	464
4:30 PM	19	302	0	0	0	0	0	117	0	25	0	0	463
4:45 PM	15	322	0	0	0	0	0	113	0	23	0	0	473
5:00 PM	13	278	0	0	0	0	0	110	0	21	0	0	422
5:15 PM	19	231	0	0	0	0	0	142	0	16	0	0	408
5:30 PM	20	239	0	0	0	0	0	130	0	21	0	0	410
5:45 PM	19	298	0	0	0	0	0	136	0	16	0	0	469
Total	141	2251	0	0	0	0	0	996	0	164	0	0	3,552

PM Intersection Peak Hour : **4:00 PM - 5:00 PM** Intersection PHF : **0.97**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	70	1205	0	0	0	0	0	478	0	90	0	0	1843
PHF	0.92	0.936	#####	#####	#####	#####	#####	0.885	#####	0.9	#####	#####	0.97
Movement PHF		0.95			#DIV/0!			0.89			0.90		0.97

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#17	File Name:	ITM-18-133-17
Intersection:	Nobel Drive & I-5 Southbound Ramps	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	None			Nobel Drive			I-5 Southbound Ramp			Nobel Drive			
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	0	0	52	138	0	0	0	0	0	34	13	237
7:15	0	0	0	44	162	0	0	0	0	0	43	23	272
7:30	0	0	0	68	175	0	0	0	0	0	56	9	308
7:45	0	0	0	67	222	0	0	0	0	0	60	21	370
8:00	0	0	0	56	169	0	0	0	0	0	62	31	318
8:15	0	0	0	54	211	0	0	0	0	0	71	28	364
8:30	0	0	0	67	186	0	0	0	0	0	97	28	378
8:45	0	0	0	46	216	0	0	0	0	0	85	26	373
Total	0	0	0	454	1479	0	0	0	0	0	508	179	2620
Approach%	-	-	-	23.5	76.5	-	-	-	-	-	73.9	26.1	
Total%	-	-	-	17.3	56.5	-	-	-	-	-	19.4	6.8	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	-	-	-	223	782	-	-	-	-	-	315	113	1,433
Approach%	-	-	-	22.2	77.8	-	-	-	-	-	73.6	26.4	
Total%	-	-	-	15.6	54.6	-	-	-	-	-	22.0	7.9	
PHF			#DIV/0!			0.95			#DIV/0!			0.86	0.95

PM	None			Nobel Drive			I-5 Southbound Ramp			Nobel Drive			
	Southbound			Westbound			Northbound			Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	0	0	127	247	0	a	0	0	0	152	95	621
16:15	0	0	0	133	261	0	0	0	0	0	132	91	617
16:30	0	0	0	178	245	0	0	0	0	0	153	72	648
16:45	0	0	0	141	315	0	0	0	0	0	159	78	693
17:00	0	0	0	168	253	0	0	0	0	0	176	89	686
17:15	0	0	0	154	323	0	0	0	0	0	192	79	748
17:30	0	0	0	118	277	0	0	0	0	0	172	63	630
17:45	0	0	0	123	306	0	0	0	0	0	172	84	685
Total	0	0	0	1142	2227	0	0	0	0	0	1308	651	5328
Approach%	-	-	-	33.9	66.1	-	-	-	-	-	66.8	33.2	
Total%	-	-	-	21.4	41.8	-	-	-	-	-	24.5	12.2	

PM Intersection Peak Hour: **16:30 to 17:30**

Volume	-	-	-	641	1,136	-	-	-	-	-	680	318	2,775
Approach%	-	-	-	36.1	63.9	-	-	-	-	-	68.1	31.9	
Total%	-	-	-	23.1	40.9	-	-	-	-	-	24.5	11.5	
PHF			#DIV/0!			0.93			#DIV/0!			0.92	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#17	File Name:	ITM-18-133-17
Intersection:	Nobel Drive & I-5 Southbound Ramps	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	None				Nobel Drive				I-5 Southbound Ramp				Nobel Drive				Totals	
	Southbound				Westbound				Northbound				Eastbound					
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	2	0	0	0	0	0	4	0	0	0	4	2
7:15	0	0	0	0	0	0	4	0	0	0	0	0	7	0	1	0	7	5
7:30	0	0	0	0	0	0	8	0	2	0	0	0	2	0	0	0	4	8
7:45	0	0	0	0	0	0	9	0	0	0	0	0	4	0	0	0	4	9
8:00	0	0	0	0	0	0	6	0	1	0	0	0	4	0	1	0	5	7
8:15	0	0	0	0	0	0	14	0	1	0	0	0	4	0	2	0	5	16
8:30	0	0	0	0	0	0	19	0	2	0	0	0	5	0	3	0	7	22
8:45	0	0	0	0	0	0	15	0	2	0	0	0	3	0	3	0	5	18
Ped Total	0				0				8				33				41	
Bike Total		0	0	0		0	77	0		0	0	0		0	10	0		87

PM	None				Nobel Drive				I-5 Southbound Ramp				Nobel Drive				Totals	
	Southbound				Westbound				Northbound				Eastbound					
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	3	0	8	0	0	0	8	0	5	0	16	8
16:15	0	0	0	0	0	0	1	0	10	0	0	0	13	0	5	0	23	6
16:30	0	0	0	0	0	0	1	0	5	0	0	0	9	0	7	0	14	8
16:45	0	0	0	0	0	0	3	0	7	0	0	0	10	0	6	0	17	9
17:00	0	0	0	0	0	0	4	0	17	0	0	0	15	0	17	0	32	21
17:15	0	0	0	0	0	0	3	0	14	0	0	0	10	0	9	0	24	12
17:30	0	0	0	0	0	0	1	0	19	0	0	0	2	0	8	0	21	9
17:45	0	0	0	0	0	0	1	0	3	0	0	0	2	0	11	0	5	12
Ped Total	0				0				83				69				152	
Bike Total		0	0	0		0	17	0		0	0	0		0	68	0		85

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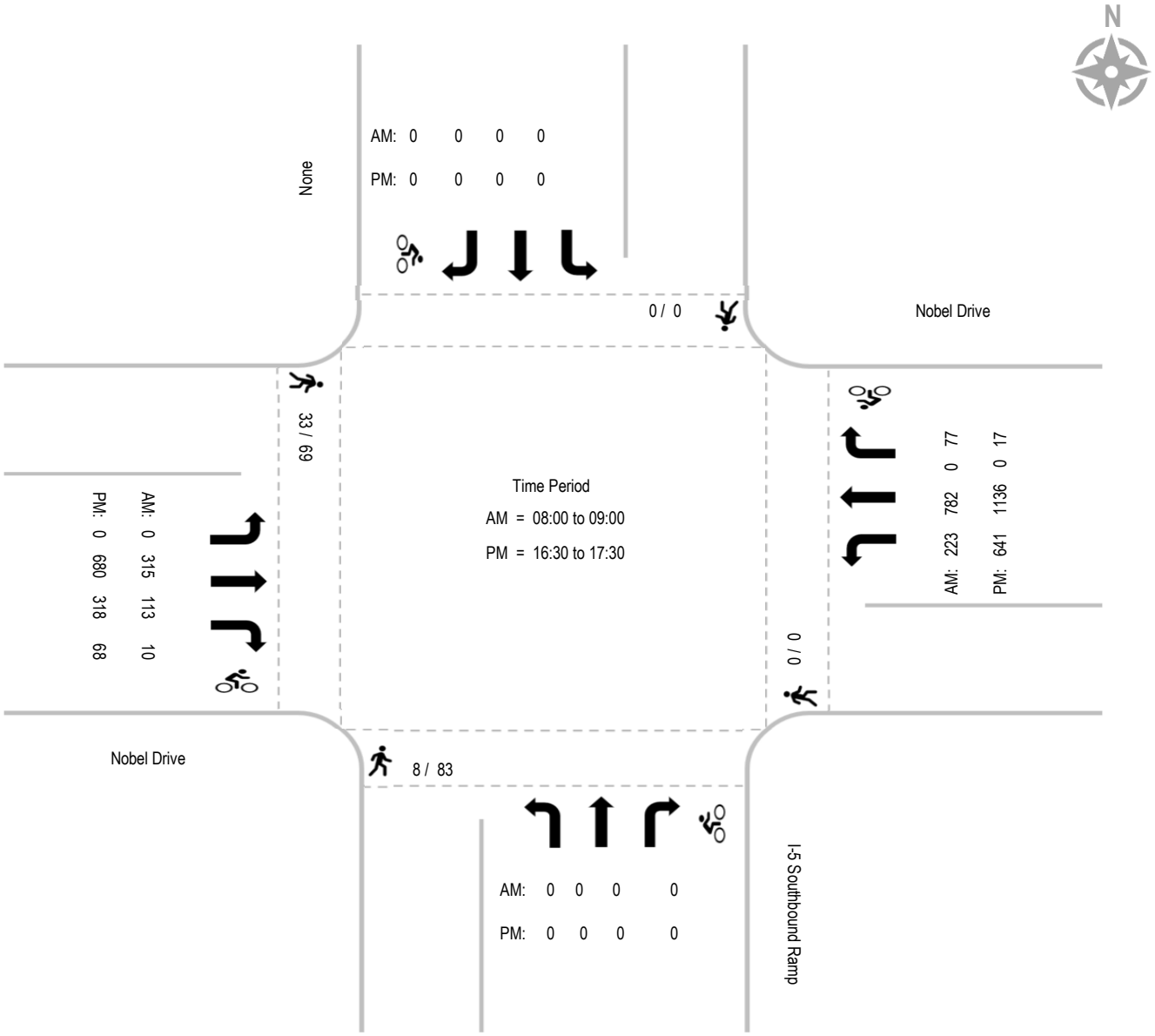
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#17	File Name: ITM-18-133-17
	Intersection:	Nobel Drive & I-5 Southbound Ramps	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#18	File Name:	ITM-18-133-18
Intersection:	Nobel Drive & I-5 Southbound Ramp/ University Ctr Lane	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	University Ctr Lane Southbound			Nobel Drive Westbound			I-5 Northbound Ramp Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	0	4	0	104	2	64	41	57	0	37	0	309
7:15	0	0	9	0	118	3	81	41	69	0	46	0	367
7:30	0	0	6	0	151	10	74	58	58	0	56	0	413
7:45	0	0	19	0	160	21	83	68	98	0	67	0	516
8:00	0	0	15	0	128	8	64	59	94	0	68	0	436
8:15	0	0	13	0	114	9	76	39	98	0	76	0	425
8:30	0	0	15	0	147	6	66	53	85	0	111	0	483
8:45	0	0	17	0	153	3	70	47	88	0	90	0	468
Total	0	0	98	0	1075	62	578	406	647	0	551	0	3417
Approach%	-	-	100.0	-	94.5	5.5	35.4	24.9	39.7	-	100.0	-	
Total%	-	-	2.9	-	31.5	1.8	16.9	11.9	18.9	-	16.1	-	

AM Intersection Peak Hour: **07:45 to 08:45**

Volume	-	-	62	-	549	44	289	219	375	-	322	-	1,860
Approach%	-	-	100.0	-	92.6	7.4	32.7	24.8	42.5	-	100.0	-	
Total%	-	-	3.3	-	29.5	2.4	15.5	11.8	20.2	-	17.3	-	
PHF			0.82			0.82			0.89			0.73	0.90

PM	University Ctr Lane Southbound			Nobel Drive Westbound			I-5 Northbound Ramp Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	0	69	0	227	4	a	12	45	0	147	0	504
16:15	0	0	79	0	204	4	67	11	55	0	145	0	565
16:30	0	0	91	0	221	1	68	11	56	0	155	0	603
16:45	0	0	82	0	249	4	65	8	69	0	162	0	639
17:00	0	0	80	0	218	2	60	3	63	0	180	0	606
17:15	0	0	75	0	301	3	68	13	79	1	206	0	746
17:30	0	0	66	0	227	3	79	11	90	0	191	0	667
17:45	0	0	74	0	266	1	74	6	59	0	182	0	662
Total	0	0	616	0	1913	22	481	75	516	1	1368	0	4992
Approach%	-	-	100.0	-	98.9	1.1	44.9	7.0	48.1	0.1	99.9	-	
Total%	-	-	12.3	-	38.3	0.4	9.6	1.5	10.3	0.0	27.4	-	

PM Intersection Peak Hour: **17:00 to 18:00**

Volume	-	-	295	-	1,012	9	281	33	291	1	759	-	2,681
Approach%	-	-	100.0	-	99.1	0.9	46.4	5.5	48.1	0.1	99.9	-	
Total%	-	-	11.0	-	37.7	0.3	10.5	1.2	10.9	0.0	28.3	-	
PHF			0.92			0.84			0.84			0.92	0.90

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#18	File Name:	ITM-18-133-18
Intersection:	Nobel Drive & I-5 Southbound Ramp/ University Ctr Lane	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	University Ctr Lane Southbound				Nobel Drive Westbound				I-5 Northbound Ramp Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	3	0	0	0	3	0	6	0	0	0	0	0	2	0	0	0	8	6
7:15	6	0	0	0	2	0	8	0	3	0	1	0	5	0	3	0	16	12
7:30	12	0	0	0	1	0	15	0	5	0	0	0	3	0	1	0	21	16
7:45	13	0	0	0	4	0	16	0	2	0	0	0	1	0	2	0	20	18
8:00	4	0	0	0	5	0	2	0	4	0	0	0	8	0	0	0	21	2
8:15	7	0	0	0	4	0	5	0	4	0	0	0	6	0	1	0	21	6
8:30	17	0	0	0	9	0	6	0	8	0	0	0	8	0	1	0	42	7
8:45	10	0	0	0	2	0	8	0	1	0	0	0	5	0	1	0	18	9
Ped Total	72				30				27				38				167	
Bike Total		0	0	0		0	66	0		0	1	0		0	9	0		76

PM	University Ctr Lane Southbound				Nobel Drive Westbound				I-5 Northbound Ramp Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	6	0	0	0	0	0	3	0	5	0	0	0	9	0	11	0	20	14
16:15	1	1	0	0	13	0	1	0	20	0	0	0	12	0	9	0	46	11
16:30	3	0	0	1	8	0	2	0	8	0	0	0	2	0	5	0	21	8
16:45	4	0	0	0	9	0	2	0	9	0	0	0	4	0	10	0	26	12
17:00	2	0	0	0	2	0	1	0	10	0	0	0	14	0	4	0	28	5
17:15	6	0	0	0	7	0	3	0	14	0	0	1	2	0	4	0	29	8
17:30	8	0	0	0	11	0	1	0	12	0	0	1	6	0	2	0	37	4
17:45	5	0	0	0	7	0	0	0	7	0	1	2	2	0	8	0	21	11
Ped Total	35				57				85				51				228	
Bike Total		1	0	1		0	13	0		0	1	4		0	53	0		73

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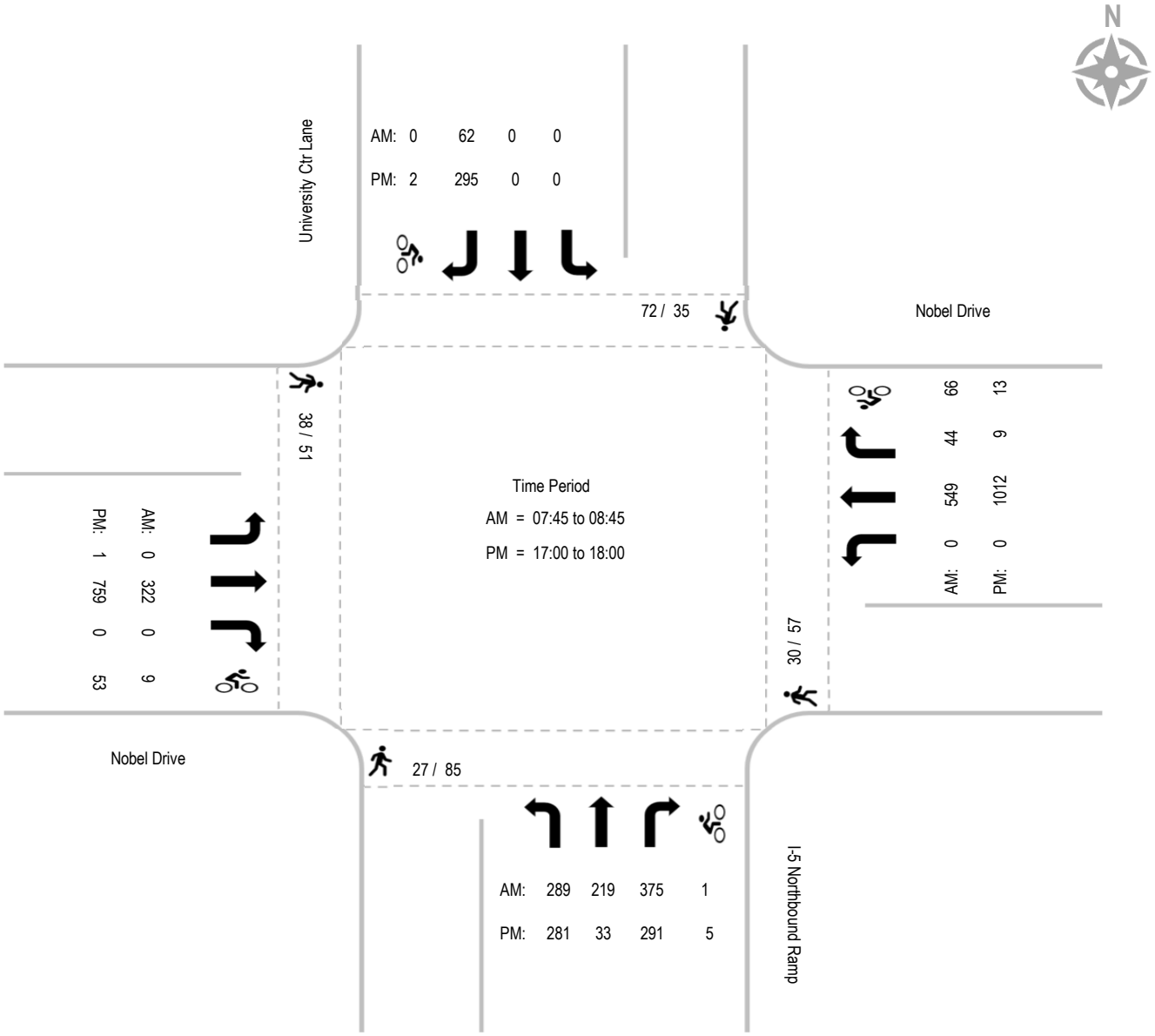
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#18	File Name: ITM-18-133-18
	Intersection:	Nobel Drive & I-5 Southbound Ramp/ University Ctr Lane	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#19	File Name:	ITM-18-133-19
Intersection:	Lebon Drive & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Lebon Drive Southbound			Nobel Drive Westbound			Lebon Drive Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	12	17	12	6	84	19	22	56	21	5	90	8	352
7:15	11	26	7	6	85	33	30	73	21	9	89	11	401
7:30	9	16	13	12	105	39	28	92	42	8	79	8	451
7:45	19	19	23	14	139	45	34	95	25	10	116	16	555
8:00	20	22	10	12	120	48	42	89	32	13	108	15	531
8:15	20	24	16	16	135	43	33	106	35	14	120	5	567
8:30	19	29	16	13	102	55	39	118	37	14	134	17	593
8:45	15	20	8	14	142	78	41	123	41	14	137	24	657
Total	125	173	105	93	912	360	269	752	254	87	873	104	4107
Approach%	31.0	42.9	26.1	6.8	66.8	26.4	21.1	59.0	19.9	8.2	82.0	9.8	
Total%	3.0	4.2	2.6	2.3	22.2	8.8	6.5	18.3	6.2	2.1	21.3	2.5	
AM Intersection Peak Hour:	**08:00 to 09:00**												
Volume	74	95	50	55	499	224	155	436	145	55	499	61	2,348
Approach%	33.8	43.4	22.8	7.1	64.1	28.8	21.1	59.2	19.7	8.9	81.1	9.9	
Total%	3.2	4.0	2.1	2.3	21.3	9.5	6.6	18.6	6.2	2.3	21.3	2.6	
PHF			0.86			0.83			0.90			0.88	0.89

PM	Lebon Drive Southbound			Nobel Drive Westbound			Lebon Drive Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left]	Thru	Right	Left	Thru	Right	Total
16:00	38	53	22	23	202	21	a	27	39	19	130	58	632
16:15	28	57	22	22	176	17	19	28	26	28	136	38	597
16:30	38	56	17	30	218	28	29	46	20	23	159	33	697
16:45	25	68	21	31	228	40	44	61	23	44	155	35	775
17:00	34	76	14	25	220	29	33	40	27	19	174	37	728
17:15	46	86	23	40	288	28	27	57	20	32	205	43	895
17:30	60	83	21	35	234	29	42	67	24	26	225	55	901
17:45	28	85	17	38	241	39	58	79	34	43	143	30	835
Total	297	564	157	244	1807	231	252	405	213	234	1327	329	6060
Approach%	29.2	55.4	15.4	10.7	79.2	10.1	29.0	46.6	24.5	12.4	70.2	17.4	
Total%	4.9	9.3	2.6	4.0	29.8	3.8	4.2	6.7	3.5	3.9	21.9	5.4	
PM Intersection Peak Hour:	**17:00 to 18:00**												
Volume	168	330	75	138	983	125	160	243	105	120	747	165	3,359
Approach%	29.3	57.6	13.1	11.1	78.9	10.0	31.5	47.8	20.7	11.6	72.4	16.0	
Total%	5.0	9.8	2.2	4.1	29.3	3.7	4.8	7.2	3.1	3.6	22.2	4.9	
PHF			0.87			0.88			0.74			0.84	0.93

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#19	File Name:	ITM-18-133-19
Intersection:	Lebon Drive & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Lebon Drive Southbound				Nobel Drive Westbound				Lebon Drive Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	37	0	0	0	9	0	3	0	3	0	1	0	12	0	1	0	61	5
7:15	34	0	0	0	8	0	1	0	3	2	1	0	18	0	0	0	63	4
7:30	40	0	0	0	24	0	2	0	2	2	2	0	8	0	0	0	74	6
7:45	24	0	0	0	18	0	9	0	7	5	3	0	14	0	0	0	63	17
8:00	27	3	0	0	25	0	4	0	3	0	0	0	4	0	16	0	59	23
8:15	52	0	3	0	47	0	0	0	6	0	0	0	42	0	4	0	147	7
8:30	41	1	1	0	16	0	0	0	12	0	0	0	12	0	7	0	81	9
8:45	23	4	2	0	26	0	4	0	7	0	0	0	5	1	5	0	61	16
Ped Total	278				173				43				115				609	
Bike Total		8	6	0		0	23	0		9	7	0		1	33	0		87

PM	Lebon Drive Southbound				Nobel Drive Westbound				Lebon Drive Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	32	0	2	0	0	0	5	1	45	0	1	0	12	0	1	0	89	10
16:15	30	0	0	0	9	0	0	0	34	0	0	0	16	0	0	0	89	0
16:30	17	0	0	0	10	0	5	0	28	0	0	0	10	0	1	0	65	6
16:45	5	0	0	0	11	0	3	0	17	0	2	0	14	0	3	0	47	8
17:00	21	0	2	0	6	0	5	0	29	1	0	0	15	0	6	2	71	16
17:15	15	0	0	0	10	0	0	0	21	0	1	0	6	0	4	0	52	5
17:30	20	0	0	0	5	0	0	0	23	0	0	0	9	0	0	0	57	0
17:45	8	0	1	2	12	1	3	0	32	0	2	0	12	0	14	1	64	24
Ped Total	148				63				229				94				534	
Bike Total		0	5	2		1	21	1		1	6	0		0	29	3		69

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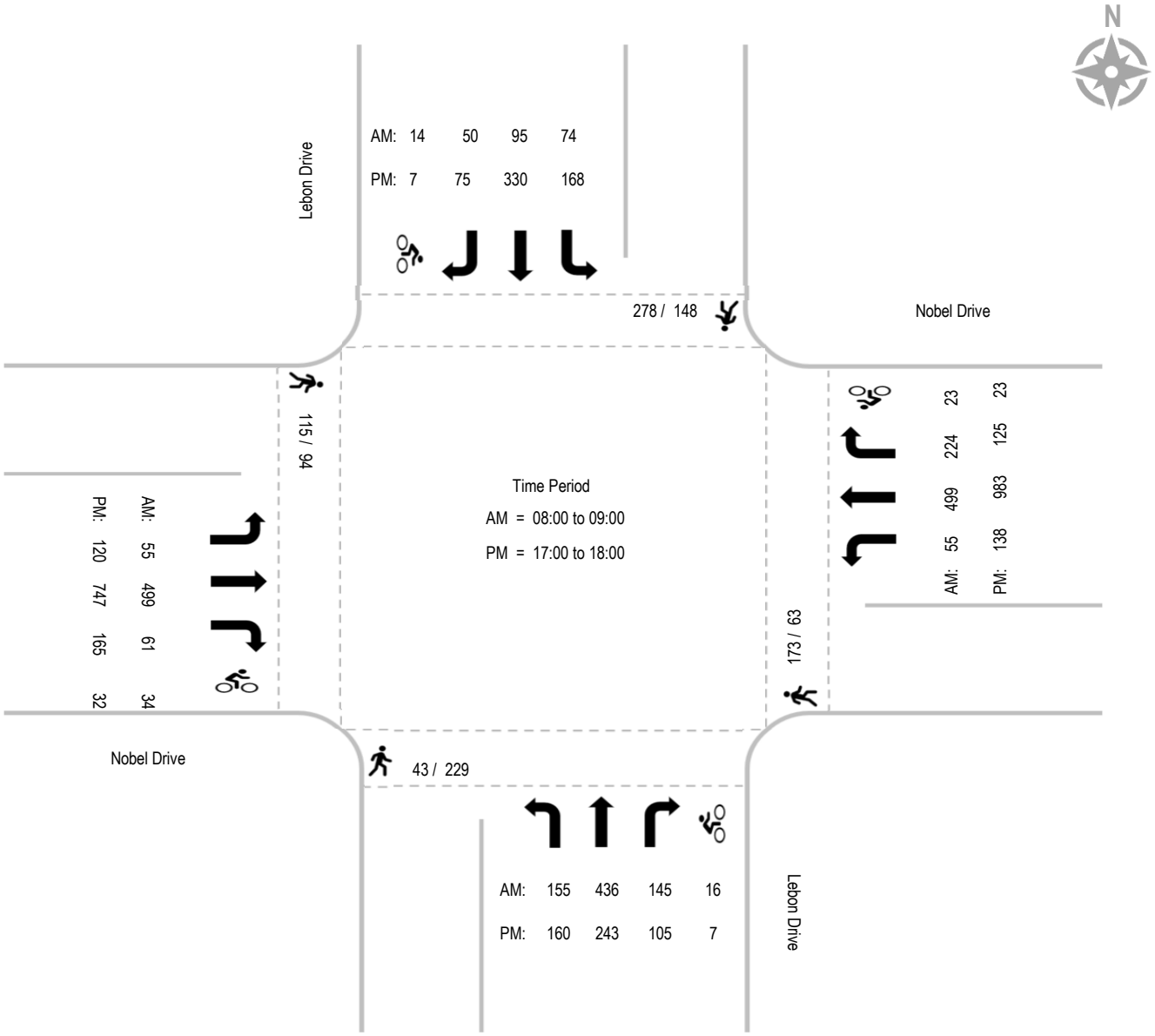
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#19	File Name: ITM-18-133-19
	Intersection:	Lebon Drive & Nobel Drive	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#20	File Name:	ITM-18-133-20
Intersection:	Regents Road & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Regents Road Southbound			Nobel Drive Westbound			Regents Road Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	6	16	17	13	74	22	6	21	18	20	95	6	314
7:15	7	91	8	44	79	35	3	37	16	30	84	12	446
7:30	17	79	9	37	90	38	23	85	54	35	94	11	572
7:45	24	11	18	19	123	49	34	113	69	32	95	14	601
8:00	18	24	21	21	114	41	16	45	43	42	130	10	525
8:15	36	19	18	19	124	39	9	52	24	33	124	6	503
8:30	33	27	32	22	107	51	8	57	18	46	128	11	540
8:45	22	28	31	29	128	59	15	38	31	51	158	11	601
Total	163	295	154	204	839	334	114	448	273	289	908	81	4102
Approach%	26.6	48.2	25.2	14.8	60.9	24.3	13.7	53.7	32.7	22.6	71.0	6.3	
Total%	4.0	7.2	3.8	5.0	20.5	8.1	2.8	10.9	6.7	7.0	22.1	2.0	

AM Intersection Peak Hour: **07:30 to 08:30**

Volume	95	133	66	96	451	167	82	295	190	142	443	41	2,201
Approach%	32.3	45.2	22.4	13.4	63.2	23.4	14.5	52.0	33.5	22.7	70.8	6.5	
Total%	4.3	6.0	3.0	4.4	20.5	7.6	3.7	13.4	8.6	6.5	20.1	1.9	
PHF			0.70			0.93			0.66			0.86	0.92

PM	Regents Road Southbound			Nobel Drive Westbound			Regents Road Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	31	84	67	32	122	26	a	30	14	24	127	17	574
16:15	88	73	55	33	126	13	18	30	20	20	126	15	617
16:30	90	90	72	31	131	24	10	23	16	18	114	12	631
16:45	72	82	42	51	180	18	18	29	36	17	120	25	690
17:00	77	116	69	39	162	26	12	27	33	22	151	25	759
17:15	84	129	89	65	194	34	18	27	40	23	161	30	894
17:30	119	134	60	81	173	31	14	36	48	31	176	21	924
17:45	62	106	67	53	172	32	26	40	41	26	160	26	811
Total	623	814	521	385	1260	204	116	242	248	181	1135	171	5900
Approach%	31.8	41.6	26.6	20.8	68.1	11.0	19.1	39.9	40.9	12.2	76.3	11.5	
Total%	10.6	13.8	8.8	6.5	21.4	3.5	2.0	4.1	4.2	3.1	19.2	2.9	

PM Intersection Peak Hour: **17:00 to 18:00**

Volume	342	485	285	238	701	123	70	130	162	102	648	102	3,388
Approach%	30.8	43.6	25.6	22.4	66.0	11.6	19.3	35.9	44.8	12.0	76.1	12.0	
Total%	10.1	14.3	8.4	7.0	20.7	3.6	2.1	3.8	4.8	3.0	19.1	3.0	
PHF			0.89			0.91			0.85			0.93	0.92

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#20	File Name:	ITM-18-133-20
Intersection:	Regents Road & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Regents Road Southbound				Nobel Drive Westbound				Regents Road Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	2	0	0	0	1	0	1	0	7	0	3	0	9	0	1	0	19	5
7:15	9	0	0	0	8	0	0	0	38	0	8	0	44	1	1	0	99	10
7:30	13	1	2	0	2	0	1	0	22	1	5	0	45	2	0	0	82	12
7:45	7	0	0	0	16	0	2	0	7	0	6	0	15	0	0	0	45	8
8:00	22	0	0	0	12	1	2	0	10	0	5	0	23	1	0	0	67	9
8:15	17	0	0	0	13	0	0	0	30	0	2	0	47	0	1	0	107	3
8:30	23	0	0	0	10	0	2	0	25	0	7	0	102	4	0	0	160	13
8:45	16	0	3	0	8	0	7	0	23	0	15	0	40	0	6	2	87	33
Ped Total	109				70				162				325				666	
Bike Total		1	5	0		1	15	0		1	51	0		8	9	2		93

PM	Regents Road Southbound				Nobel Drive Westbound				Regents Road Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	17	0	6	0	0	0	0	0	10	0	2	0	12	0	1	0	39	9
16:15	27	0	6	0	31	0	1	0	25	0	2	0	33	0	2	0	116	11
16:30	26	1	4	0	10	1	2	0	20	0	1	0	12	1	1	0	68	11
16:45	4	1	4	0	10	1	3	0	7	0	2	2	11	0	0	0	32	13
17:00	22	1	5	0	21	1	1	0	35	0	0	0	25	1	0	1	103	10
17:15	18	3	7	1	24	0	0	2	37	0	6	0	35	0	3	1	114	23
17:30	11	3	6	0	15	0	0	0	23	0	1	0	27	0	3	0	76	13
17:45	12	1	5	0	25	0	1	0	41	0	0	0	45	0	3	1	123	11
Ped Total	137				136				198				200				671	
Bike Total		10	43	1		3	8	2		0	14	2		2	13	3		101

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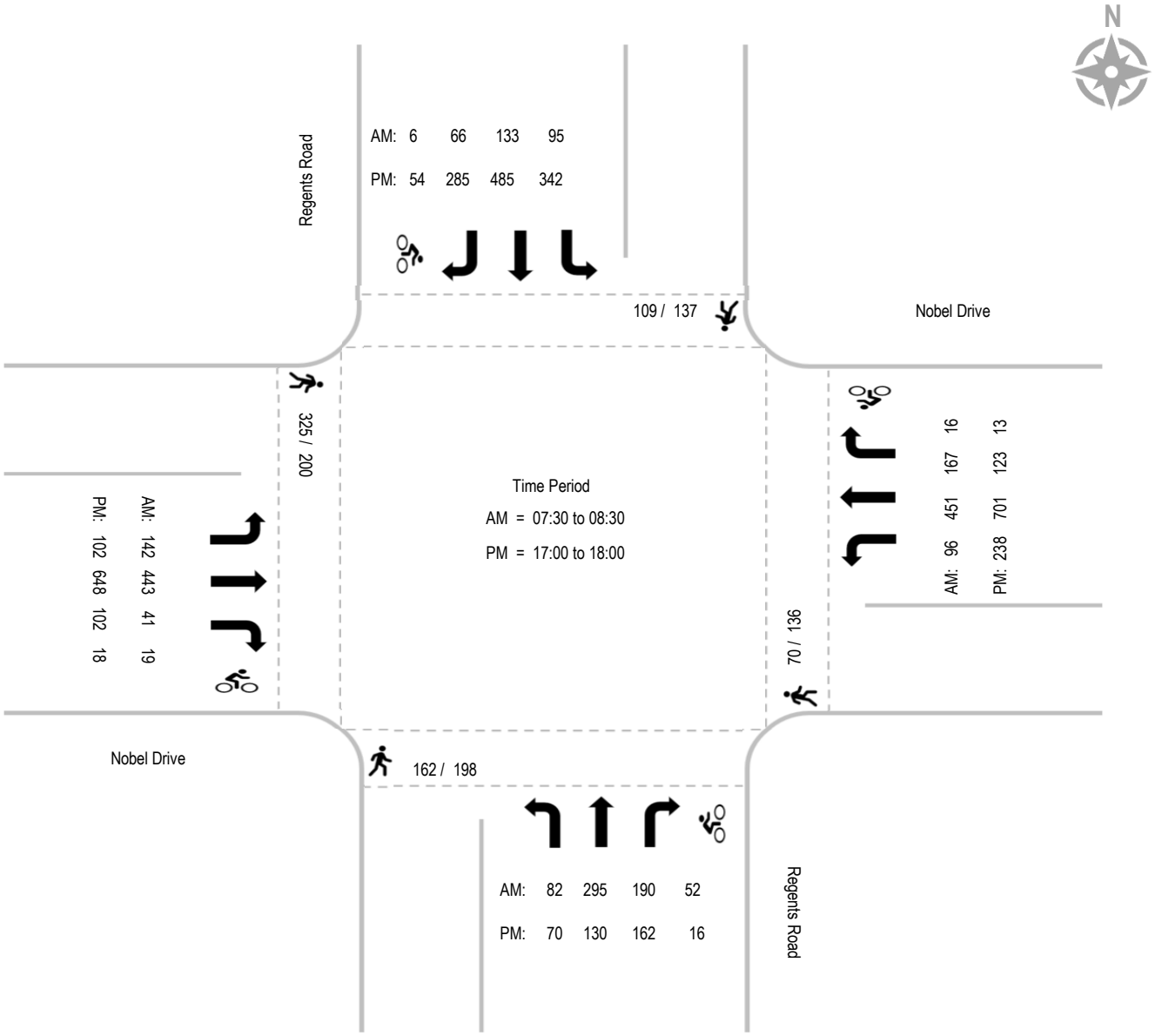
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#20	File Name: ITM-18-133-20
	Intersection:	Regents Road & Nobel Drive	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#21	File Name:	ITM-18-133-21
Intersection:	Cargill Avenue & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Cargill Avenue Southbound			Nobel Drive Westbound			Cargill Avenue Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	19	4	15	1	84	14	12	10	16	22	96	9	302
7:15	11	8	21	6	118	14	26	21	14	23	89	6	357
7:30	11	7	22	13	142	27	20	30	17	37	125	13	464
7:45	17	9	20	9	146	24	16	21	20	32	158	12	484
8:00	25	6	20	7	140	22	16	16	15	29	146	9	451
8:15	23	7	20	4	135	17	19	24	13	32	151	7	452
8:30	24	9	18	11	155	16	22	35	17	40	120	14	481
8:45	26	9	23	14	162	14	24	34	16	26	153	19	520
Total	156	59	159	65	1082	148	155	191	128	241	1038	89	3511
Approach%	41.7	15.8	42.5	5.0	83.6	11.4	32.7	40.3	27.0	17.6	75.9	6.5	
Total%	4.4	1.7	4.5	1.9	30.8	4.2	4.4	5.4	3.6	6.9	29.6	2.5	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	98	31	81	36	592	69	81	109	61	127	570	49	1,904
Approach%	46.7	14.8	38.6	5.2	84.9	9.9	32.3	43.4	24.3	17.0	76.4	6.6	
Total%	5.1	1.6	4.3	1.9	31.1	3.6	4.3	5.7	3.2	6.7	29.9	2.6	
PHF			0.91			0.92			0.85			0.94	0.91

PM	Cargill Avenue Southbound			Nobel Drive Westbound			Cargill Avenue Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	25	11	20	16	137	20	a	6	7	20	161	49	472
16:15	33	23	15	23	141	23	16	10	10	31	170	31	526
16:30	28	17	24	21	161	16	15	11	11	36	146	41	527
16:45	20	31	34	19	239	29	17	16	12	29	164	52	662
17:00	28	26	32	23	256	12	14	14	15	39	171	57	687
17:15	30	35	36	40	237	49	17	13	10	76	150	49	742
17:30	31	24	40	34	208	24	13	12	8	58	177	64	693
17:45	26	29	37	17	193	32	15	5	15	33	179	36	617
Total	221	196	238	193	1572	205	107	87	88	322	1318	379	4926
Approach%	33.7	29.9	36.3	9.8	79.8	10.4	37.9	30.9	31.2	15.9	65.3	18.8	
Total%	4.5	4.0	4.8	3.9	31.9	4.2	2.2	1.8	1.8	6.5	26.8	7.7	

PM Intersection Peak Hour: **16:45 to 17:45**

Volume	109	116	142	116	940	114	61	55	45	202	662	222	2,784
Approach%	29.7	31.6	38.7	9.9	80.3	9.7	37.9	34.2	28.0	18.6	61.0	20.4	
Total%	3.9	4.2	5.1	4.2	33.8	4.1	2.2	2.0	1.6	7.3	23.8	8.0	
PHF			0.91			0.90			0.89			0.91	0.94

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#21	File Name:	ITM-18-133-21
Intersection:	Cargill Avenue & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Cargill Avenue Southbound				Nobel Drive Westbound				Cargill Avenue Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	3	0	0	0	5	0	1	0	2	2	2	1	4	0	0	1	14	7
7:15	1	0	0	0	5	0	3	0	0	0	1	0	3	0	0	0	9	4
7:30	3	0	0	0	3	0	0	0	0	1	2	0	6	0	0	0	12	3
7:45	1	0	0	0	4	0	0	0	2	1	1	0	3	0	2	0	10	4
8:00	7	0	0	0	2	0	6	1	0	1	1	0	1	0	0	0	10	9
8:15	11	0	0	0	6	0	4	0	5	2	2	0	2	0	0	0	24	8
8:30	6	1	0	0	6	0	0	0	5	4	1	0	3	0	0	0	20	6
8:45	2	0	0	1	6	0	5	1	1	2	4	0	2	0	0	0	11	13
Ped Total	34				37				15				24				110	
Bike Total		1	0	1		0	19	2		13	14	1		0	2	1		54

PM	Cargill Avenue Southbound				Nobel Drive Westbound				Cargill Avenue Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	4	3	0	0	0	0	1	0	3	0	0	0	1	0	2	3	8	9
16:15	6	1	0	0	2	0	1	0	5	0	0	1	7	0	1	1	20	5
16:30	8	1	0	0	7	0	0	0	9	0	0	0	6	0	4	2	30	7
16:45	10	2	0	0	5	1	2	0	7	0	1	0	8	1	1	1	30	9
17:00	8	0	0	0	2	0	0	0	9	0	0	0	11	0	1	0	30	1
17:15	2	0	0	0	5	0	0	0	10	0	1	0	4	0	1	0	21	2
17:30	6	0	0	0	4	0	1	0	16	0	0	0	9	0	3	1	35	5
17:45	11	0	0	1	6	0	3	0	10	0	1	0	9	0	1	1	36	7
Ped Total	55				31				69				55				210	
Bike Total		7	0	1		1	8	0		0	3	1		1	14	9		45

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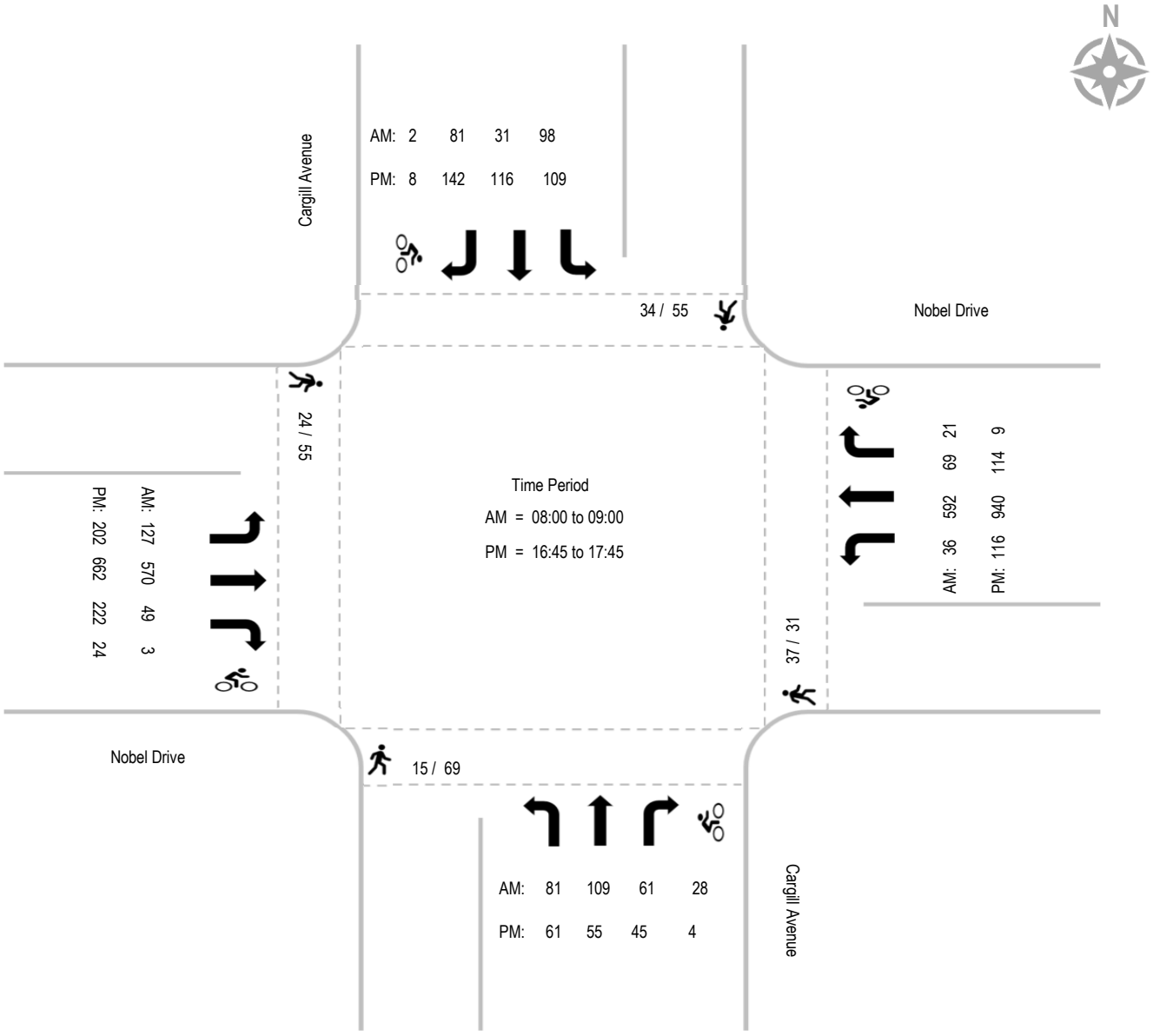
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#21	File Name: ITM-18-133-21
	Intersection:	Cargill Avenue & Nobel Drive	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#22	File Name:	ITM-18-133-22
Intersection:	Costa Verde Center Driveway & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Thursday, October 04, 2018		Costa Verde Center

AM	Costa Verde Ctr Drwy Southbound			Nobel Drive Westbound			- Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	0	5	0	98	16	0	0	0	0	125	0	244
7:15	0	0	9	0	133	16	0	0	0	0	134	0	292
7:30	0	0	5	0	175	24	0	0	0	0	173	0	377
7:45	0	0	12	0	160	27	0	0	0	0	186	0	385
8:00	0	0	9	0	171	24	0	0	0	0	157	0	361
8:15	0	0	8	0	156	23	0	0	0	0	158	0	345
8:30	0	0	5	0	142	26	0	0	0	0	194	0	367
8:45	0	0	9	0	195	26	0	0	0	0	191	0	421
Total	0	0	62	0	1230	182	0	0	0	0	1318	0	2792
Approach%	-	-	100.0	-	87.1	12.9	-	-	-	-	100.0	-	
Total%	-	-	2.2	-	44.1	6.5	-	-	-	-	47.2	-	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	-	-	31	-	664	99	-	-	-	-	700	-	1,494
Approach%	-	-	100.0	-	87.0	13.0	-	-	-	-	100.0	-	
Total%	-	-	2.1	-	44.4	6.6	-	-	-	-	46.9	-	
PHF			0.86			0.86			#DIV/0!			0.90	0.89

PM	Costa Verde Ctr Drwy Southbound			Nobel Drive Westbound			- Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	0	17	0	183	34	a	0	0	0	204	0	438
16:15	0	0	25	0	196	35	0	0	0	0	174	0	430
16:30	0	0	23	0	191	34	0	0	0	0	169	0	417
16:45	0	0	24	0	233	48	0	0	0	0	201	0	506
17:00	0	0	22	0	292	36	0	0	0	0	213	0	563
17:15	0	0	17	0	288	39	0	0	0	0	223	0	567
17:30	0	0	13	0	270	41	0	0	0	0	222	0	546
17:45	0	0	15	0	230	37	0	0	0	0	238	0	520
Total	0	0	156	0	1883	304	0	0	0	0	1644	0	3987
Approach%	-	-	100.0	-	86.1	13.9	-	-	-	-	100.0	-	
Total%	-	-	3.9	-	47.2	7.6	-	-	-	-	41.2	-	

PM Intersection Peak Hour: **17:00 to 18:00**

Volume	-	-	67	-	1,080	153	-	-	-	-	896	-	2,196
Approach%	-	-	100.0	-	87.6	12.4	-	-	-	-	100.0	-	
Total%	-	-	3.1	-	49.2	7.0	-	-	-	-	40.8	-	
PHF			0.76			0.94			#DIV/0!			0.94	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#22	File Name:	ITM-18-133-22
Intersection:	Costa Verde Center Driveway & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Thursday, October 04, 2018		Costa Verde Center

AM	Costa Verde Ctr Drwy Southbound				Nobel Drive Westbound				- Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	3
7:15	1	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0	1	5
7:30	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	1
7:45	5	0	0	0	0	0	5	0	0	0	0	0	0	0	4	0	5	9
8:00	4	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	4	2
8:15	3	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	3	4
8:30	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5	1
8:45	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	1
Ped Total	27				0				0				0				27	
Bike Total		1	0	0		0	11	0		0	0	0		0	14	0		26

PM	Costa Verde Ctr Drwy Southbound				Nobel Drive Westbound				- Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	1	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	1	6
16:15	4	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	4	4
16:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:45	4	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	4	4
17:00	5	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	5	3
17:15	4	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	4	4
17:30	4	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	4	4
17:45	14	0	0	0	0	0	5	0	0	0	0	0	0	0	1	0	14	6
Ped Total	37				0				0				0				37	
Bike Total		0	0	0		0	18	0		0	0	0		0	13	0		31

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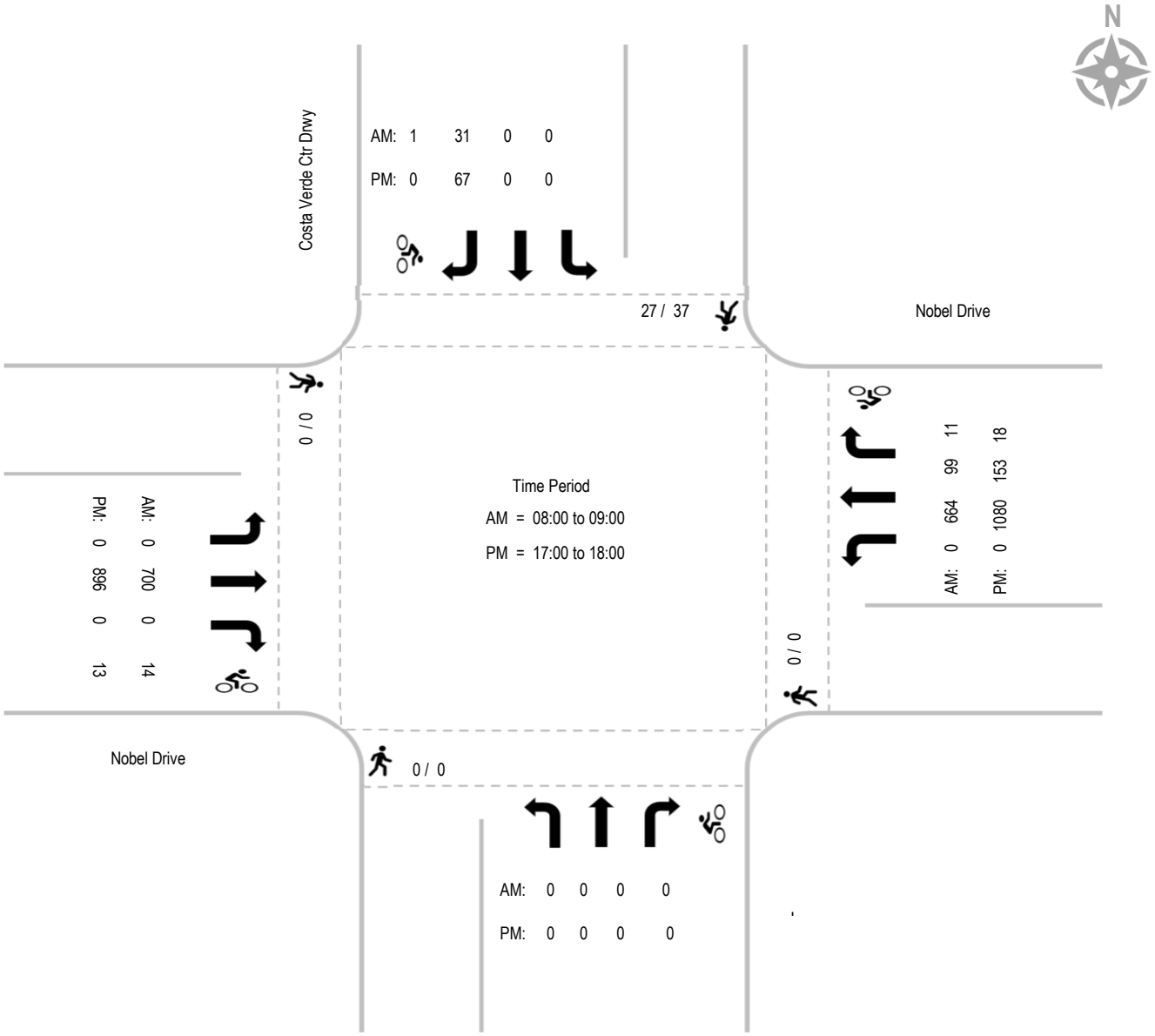
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#22	File Name: ITM-18-133-22
	Intersection:	Costa Verde Center Driveway & Nobel Drive	Project: LLG Ref. 3-14-2408
	Date of Count:	Thursday, October 04, 2018	Costa Verde Center



LINSCOTT LAW & GREENSPAN engineers

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

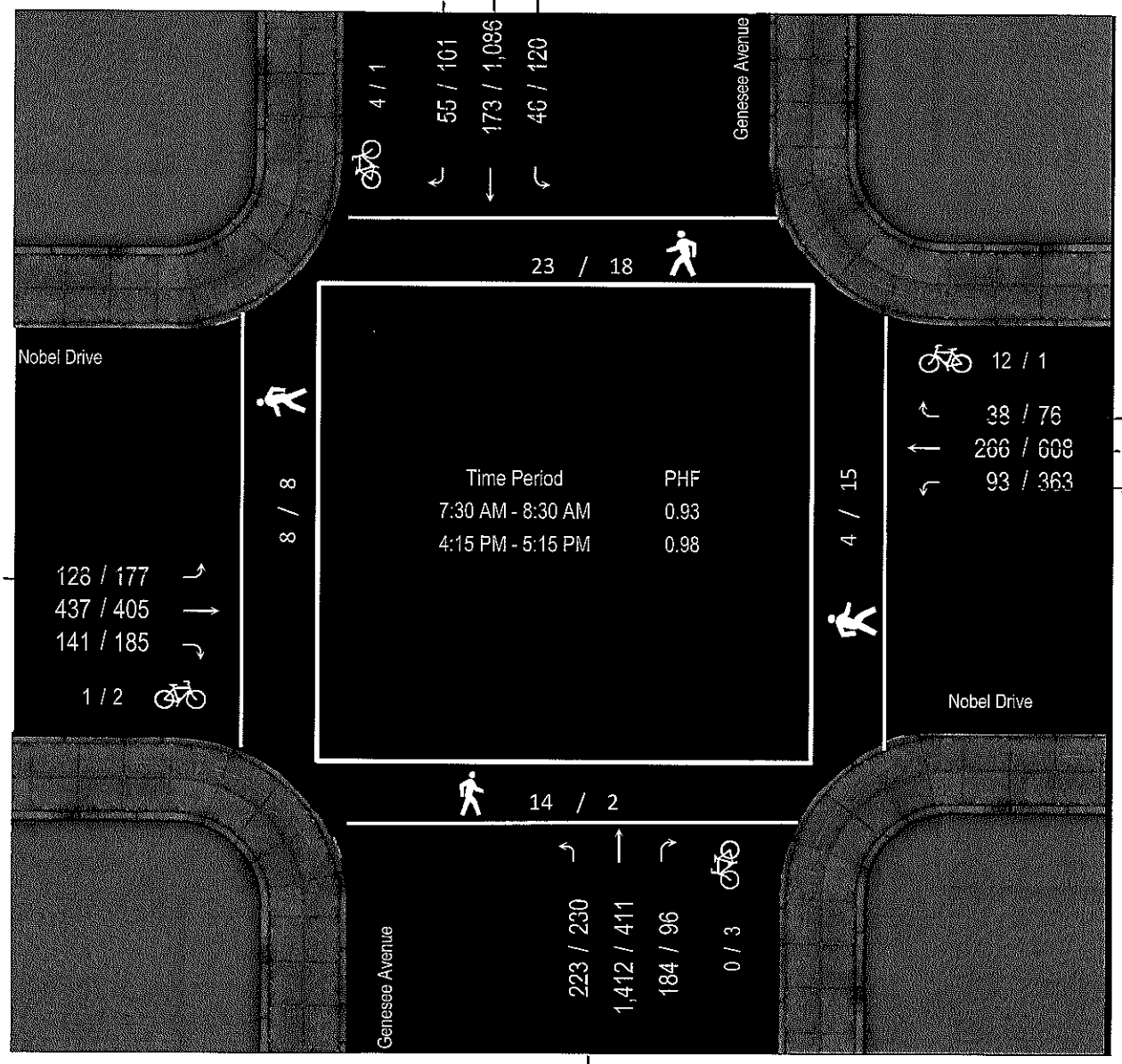
Location: Nobel Drive @ Genesee Avenue

Date of Count: *Wednesday, May 06, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0347*



84/124 — 223/1,145 — 59/128

39/76 — 316/721 — 93/363

130/178

265/273 — 1,139/412

* Balancing Adjustments

LINSCOTT LAW & GREENSPAN engineers

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: Nobel Drive @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	12	42	7	9	54	19	30	186	41	24	82	25	531
7:15 AM	12	28	7	5	89	17	54	220	58	22	75	16	603
7:30 AM	8	38	13	11	67	27	51	334	61	38	111	34	793
7:45 AM	12	56	15	10	76	24	51	376	65	33	107	32	857
8:00 AM	11	23	10	6	61	22	43	351	53	32	112	30	754
8:15 AM	24	56	8	11	62	20	39	351	44	38	107	32	792
8:30 AM	12	38	10	6	61	24	41	351	56	41	112	31	783
8:45 AM	6	57	15	14	60	24	42	389	38	29	93	36	803
Total	97	338	85	72	530	177	351	2,558	416	257	799	236	5,916

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.93**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	55	173	46	38	266	93	184	1,412	223	141	437	128	3,196
PHF	0.57	0.77	0.77	0.86	0.88	0.86	0.90	0.94	0.86	0.93	0.98	0.94	0.93
Movement PHF		0.78			0.90			0.92			0.96		0.93

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	17	246	21	15	129	81	35	122	65	57	88	38	914
4:15 PM	31	292	30	20	141	94	23	112	53	43	85	38	962
4:30 PM	19	261	28	16	153	93	22	107	56	43	118	55	971
4:45 PM	25	243	22	17	164	86	28	105	59	53	84	51	937
5:00 PM	26	290	40	23	150	90	23	87	62	46	118	33	988
5:15 PM	24	214	23	15	156	97	26	109	62	61	95	51	933
5:30 PM	19	278	33	13	172	98	33	99	49	47	96	49	986
5:45 PM	31	234	35	23	132	86	20	102	65	35	112	47	922
Total	192	2058	232	142	1,197	725	210	843	471	385	796	362	7,613

PM Intersection Peak Hour : **4:15 PM - 5:15 PM** Intersection PHF : **0.98**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	101	1086	120	76	608	363	96	411	230	185	405	177	3858
PHF	0.81	0.93	0.75	0.826	0.927	0.965	0.857	0.917	0.927	0.873	0.858	0.805	0.98
Movement PHF		0.92			0.98			0.96			0.89		0.98

Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#24	File Name:	ITM-18-133-24
Intersection:	Towne Center Drive & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Towne Center Drive Southbound			Nobel Drive Westbound			Towne Center Drive Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	36	6	1	17	9	52	70	0	1	2	23	217
7:15	1	45	15	2	18	6	60	63	1	6	8	41	266
7:30	1	45	11	3	41	15	64	84	0	5	9	46	324
7:45	6	50	10	5	62	16	107	127	2	2	6	33	426
8:00	3	55	16	3	55	17	109	142	3	4	7	35	449
8:15	4	53	15	5	40	20	102	107	5	4	10	61	426
8:30	4	57	14	4	48	25	111	134	0	7	19	45	468
8:45	5	55	21	9	49	26	97	126	3	4	13	59	467
Total	24	396	108	32	330	134	702	853	14	33	74	343	3043
Approach%	4.5	75.0	20.5	6.5	66.5	27.0	44.7	54.4	0.9	7.3	16.4	76.2	
Total%	0.8	13.0	3.5	1.1	10.8	4.4	23.1	28.0	0.5	1.1	2.4	11.3	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	16	220	66	21	192	88	419	509	11	19	49	200	1,810
Approach%	5.3	72.8	21.9	7.0	63.8	29.2	44.6	54.2	1.2	7.1	18.3	74.6	
Total%	0.9	12.2	3.6	1.2	10.6	4.9	23.1	28.1	0.6	1.0	2.7	11.0	
PHF			0.93			0.90			0.92			0.88	0.97

PM	Towne Center Drive Southbound			Nobel Drive Westbound			Towne Center Drive Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	26	97	6	7	5	2	a	72	2	10	43	104	374
16:15	29	148	10	1	6	9	75	66	3	10	47	102	506
16:30	28	107	9	3	7	3	53	75	11	8	36	105	445
16:45	22	164	15	1	7	8	77	78	4	4	49	137	566
17:00	28	168	11	2	4	6	72	84	7	9	51	137	579
17:15	15	173	14	3	12	7	103	88	3	19	52	110	599
17:30	25	153	6	4	5	5	102	80	4	13	53	133	583
17:45	13	139	27	4	7	6	72	99	4	12	22	92	497
Total	186	1149	98	25	53	46	554	642	38	85	353	920	4149
Approach%	13.0	80.2	6.8	20.2	42.7	37.1	44.9	52.0	3.1	6.3	26.0	67.7	
Total%	4.5	27.7	2.4	0.6	1.3	1.1	13.4	15.5	0.9	2.0	8.5	22.2	

PM Intersection Peak Hour: **16:45 to 17:45**

Volume	90	658	46	10	28	26	354	330	18	45	205	517	2,327
Approach%	11.3	82.9	5.8	15.6	43.8	40.6	50.4	47.0	2.6	5.9	26.7	67.4	
Total%	3.9	28.3	2.0	0.4	1.2	1.1	15.2	14.2	0.8	1.9	8.8	22.2	
PHF			0.96			0.73			0.90			0.96	0.97

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#24	File Name:	ITM-18-133-24
Intersection:	Towne Center Drive & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Towne Center Drive Southbound				Nobel Drive Westbound				Towne Center Drive Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	4	0	0	0	0	0	1	0	3	0	0	0	0	0	0	0	7	1
7:15	2	0	0	1	0	2	0	1	0	1	2	0	0	0	0	0	2	7
7:30	2	0	0	0	2	0	1	1	3	0	0	0	0	0	0	0	7	2
7:45	4	0	0	0	3	0	0	0	1	1	0	0	0	0	1	0	8	2
8:00	1	0	1	0	1	0	2	0	4	0	1	0	0	0	0	0	6	4
8:15	7	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	8	1
8:30	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0
8:45	1	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	1	3
Ped Total	22				7				13				0				42	
Bike Total		0	1	1		2	4	3		2	4	0		0	3	0		20

PM	Towne Center Drive Southbound				Nobel Drive Westbound				Towne Center Drive Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	3	1
16:15	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	5	0
16:30	0	0	1	0	0	0	0	0	2	3	0	0	0	0	1	0	2	5
16:45	3	0	1	0	1	0	1	0	4	0	0	0	0	0	0	0	8	2
17:00	4	0	1	0	0	0	0	0	7	0	0	0	1	0	0	0	12	1
17:15	2	1	0	0	3	0	0	0	2	0	1	0	0	0	0	0	7	2
17:30	2	0	0	0	2	0	0	0	9	0	1	0	0	1	0	0	13	2
17:45	0	2	0	0	0	0	0	0	4	0	0	0	0	0	1	0	4	3
Ped Total	15				7				31				1				54	
Bike Total		3	3	0		0	2	0		3	2	0		1	2	0		16

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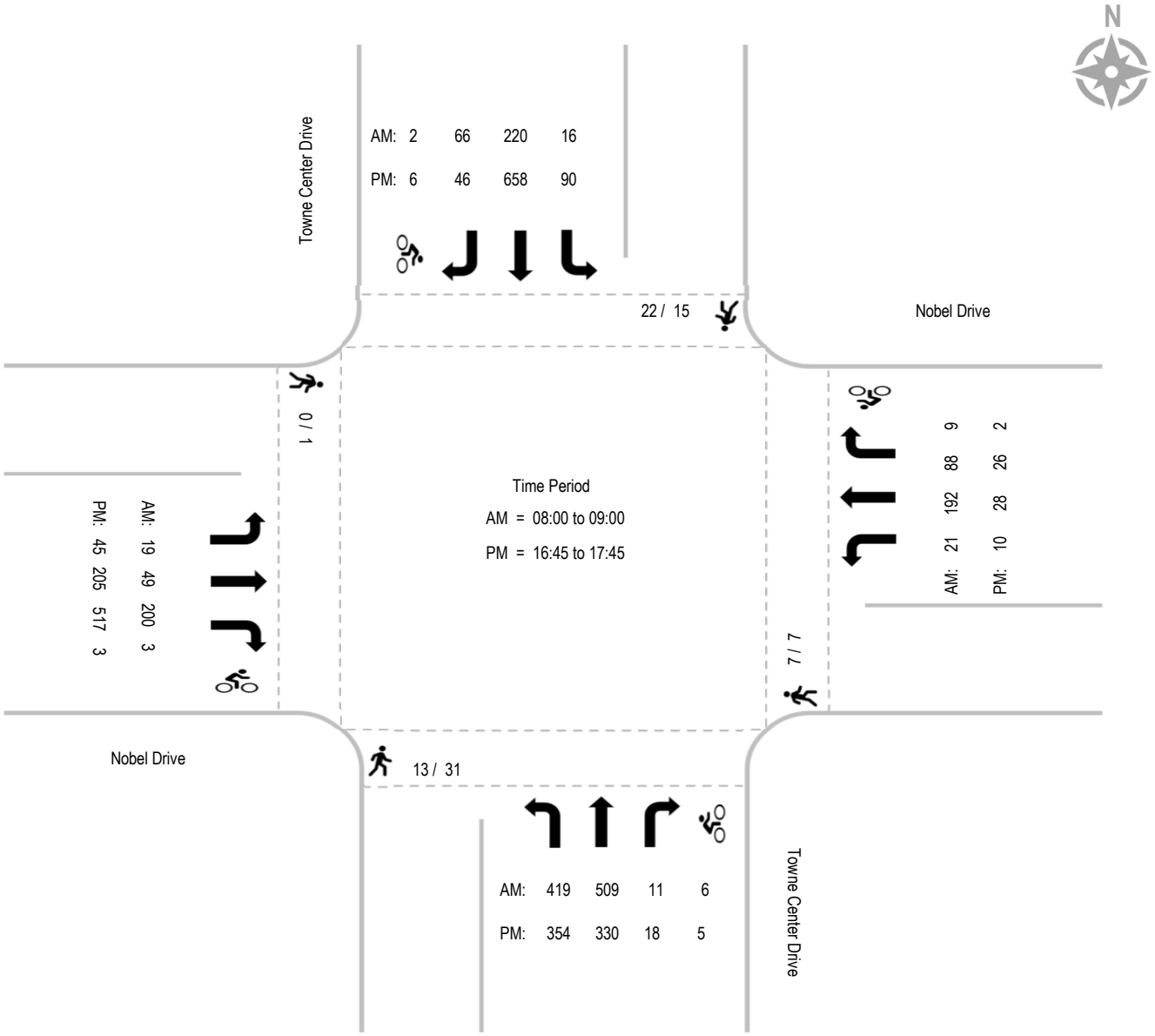
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#24	File Name: ITM-18-133-24
	Intersection:	Towne Center Drive & Nobel Drive	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#25	File Name:	ITM-18-133-25
Intersection:	Shoreline Drive & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Shoreline Drive Southbound			Nobel Drive Westbound			Shoreline Drive Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	26	0	1	1	42	10	3	0	13	1	80	3	180
7:15	26	0	5	0	44	6	5	2	15	5	70	3	181
7:30	42	2	7	2	51	14	2	0	24	2	120	3	269
7:45	36	0	11	4	42	12	14	1	20	4	127	4	275
8:00	29	0	1	2	64	11	6	2	14	2	148	2	281
8:15	37	1	12	1	56	19	9	2	16	3	124	1	281
8:30	33	1	9	3	61	13	9	1	16	9	158	2	315
8:45	32	0	7	0	73	12	4	0	10	3	145	2	288
Total	261	4	53	13	433	97	52	8	128	29	972	20	2070
Approach%	82.1	1.3	16.7	2.4	79.7	17.9	27.7	4.3	68.1	2.8	95.2	2.0	
Total%	12.6	0.2	2.6	0.6	20.9	4.7	2.5	0.4	6.2	1.4	47.0	1.0	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	131	2	29	6	254	55	28	5	56	17	575	7	1,165
Approach%	80.9	1.2	17.9	1.9	80.6	17.5	31.5	5.6	62.9	2.8	96.0	1.2	
Total%	11.2	0.2	2.5	0.5	21.8	4.7	2.4	0.4	4.8	1.5	49.4	0.6	
PHF			0.81			0.93			0.82			0.89	0.92

PM	Shoreline Drive Southbound			Nobel Drive Westbound			Shoreline Drive Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	11	1	5	11	141	20	a	0	0	10	69	4	272
16:15	12	1	6	2	152	27	2	0	0	4	74	8	288
16:30	14	0	7	5	171	36	2	1	0	10	57	3	306
16:45	24	0	13	9	180	49	1	0	2	14	68	12	372
17:00	13	2	9	15	194	37	5	2	3	8	89	1	378
17:15	13	1	7	15	174	47	2	1	5	9	91	7	372
17:30	11	4	3	16	182	39	2	0	6	15	75	6	359
17:45	18	1	12	13	148	52	6	2	0	14	86	13	365
Total	116	10	62	86	1342	307	20	6	16	84	609	54	2712
Approach%	61.7	5.3	33.0	5.0	77.3	17.7	47.6	14.3	38.1	11.2	81.5	7.2	
Total%	4.3	0.4	2.3	3.2	49.5	11.3	0.7	0.2	0.6	3.1	22.5	2.0	

PM Intersection Peak Hour: **16:45 to 17:45**

Volume	61	7	32	55	730	172	10	3	16	46	323	26	1,481
Approach%	61.0	7.0	32.0	5.7	76.3	18.0	34.5	10.3	55.2	11.6	81.8	6.6	
Total%	4.1	0.5	2.2	3.7	49.3	11.6	0.7	0.2	1.1	3.1	21.8	1.8	
PHF			0.68			0.97			0.73			0.92	0.98

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#25	File Name:	ITM-18-133-25
Intersection:	Shoreline Drive & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Shoreline Drive Southbound				Nobel Drive Westbound				Shoreline Drive Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	6	0	0	0	4	0	0	0	0	0	1	0	0	0	1	0	10	2
7:15	2	0	0	0	1	0	0	0	0	1	0	0	3	0	1	0	6	2
7:30	5	0	0	0	1	0	0	0	0	0	1	0	1	0	3	0	7	4
7:45	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5	0
8:00	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	3	1
8:15	1	0	1	0	0	0	0	0	0	0	1	0	4	0	1	0	5	3
8:30	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	3	0
8:45	2	0	0	0	1	0	0	0	0	0	1	0	3	1	2	0	6	4
Ped Total	19				10				0				16				45	
Bike Total		0	1	0		0	0	0		1	4	0		1	9	0		16

PM	Shoreline Drive Southbound				Nobel Drive Westbound				Shoreline Drive Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
16:15	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
16:30	2	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	3	1
16:45	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	1
17:00	2	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	3	2
17:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
17:30	6	0	0	0	0	0	1	0	0	0	0	0	6	0	0	0	12	1
17:45	9	0	0	0	0	0	1	0	0	0	0	0	2	0	2	0	11	3
Ped Total	26				0				0				10				36	
Bike Total		0	1	1		0	7	0		0	0	0		0	3	0		12

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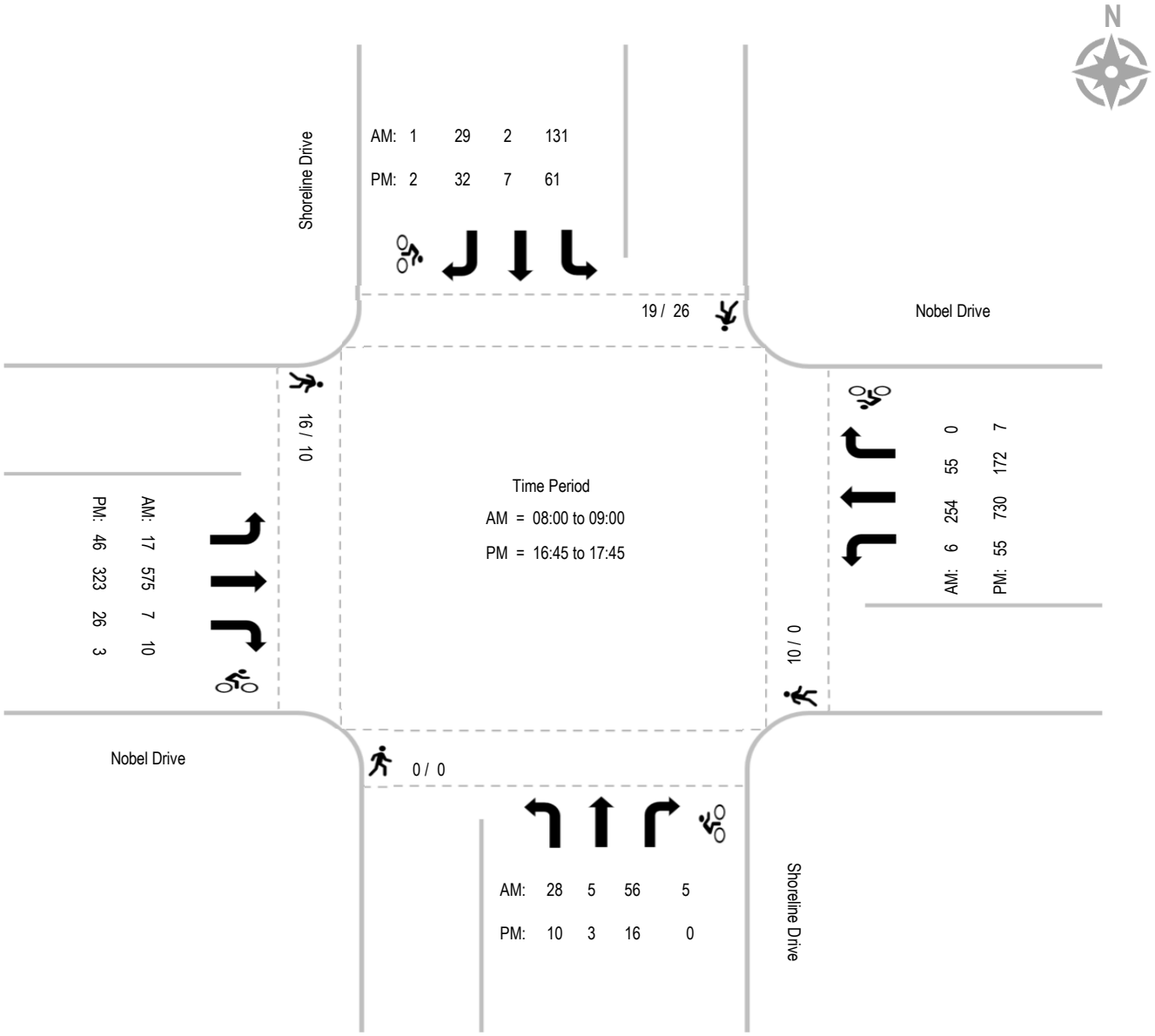
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#25	File Name: ITM-18-133-25
	Intersection:	Shoreline Drive & Nobel Drive	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#26	File Name:	ITM-18-133-26
Intersection:	Judicial Drive & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Judicial Drive Southbound			Nobel Drive Westbound			- Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	54	0	6	0	44	181	0	0	0	20	107	0	412
7:15	48	0	13	0	42	216	0	0	0	15	94	0	428
7:30	69	0	8	0	57	245	0	0	0	34	156	0	569
7:45	73	0	8	0	51	289	0	0	0	34	140	0	595
8:00	62	0	10	0	66	263	0	0	0	56	155	0	612
8:15	81	0	8	0	75	274	0	0	0	48	141	0	627
8:30	64	0	18	0	55	280	0	0	0	34	168	0	619
8:45	61	0	8	0	79	261	0	0	0	36	162	0	607
Total	512	0	79	0	469	2009	0	0	0	277	1123	0	4469
Approach%	86.6	-	13.4	-	18.9	81.1	-	-	-	19.8	80.2	-	
Total%	11.5	-	1.8	-	10.5	45.0	-	-	-	6.2	25.1	-	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	268	-	44	-	275	1,078	-	-	-	174	626	-	2,465
Approach%	85.9	-	14.1	-	20.3	79.7	-	-	-	21.8	78.3	-	
Total%	10.9	-	1.8	-	11.2	43.7	-	-	-	7.1	25.4	-	
PHF			0.88			0.97			#DIV/0!			0.95	0.95

PM	Judicial Drive Southbound			Nobel Drive Westbound			- Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	152	0	47	0	133	50	a	0	0	18	66	0	466
16:15	147	0	36	0	137	54	0	0	0	12	72	0	458
16:30	155	0	49	0	161	56	0	0	0	17	71	0	509
16:45	154	0	48	0	208	68	0	0	0	17	76	0	571
17:00	197	0	58	0	185	60	0	0	0	27	79	0	606
17:15	188	0	64	0	187	78	0	0	0	20	101	0	638
17:30	164	0	63	0	160	66	0	0	0	17	80	0	550
17:45	142	0	49	0	159	88	0	0	0	40	93	0	571
Total	1299	0	414	0	1330	520	0	0	0	168	638	0	4369
Approach%	75.8	-	24.2	-	71.9	28.1	-	-	-	20.8	79.2	-	
Total%	29.7	-	9.5	-	30.4	11.9	-	-	-	3.8	14.6	-	

PM Intersection Peak Hour: **16:45 to 17:45**

Volume	703	-	233	-	740	272	-	-	-	81	336	-	2,365
Approach%	75.1	-	24.9	-	73.1	26.9	-	-	-	19.4	80.6	-	
Total%	29.7	-	9.9	-	31.3	11.5	-	-	-	3.4	14.2	-	
PHF			0.92			0.92			#DIV/0!			0.86	0.99

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

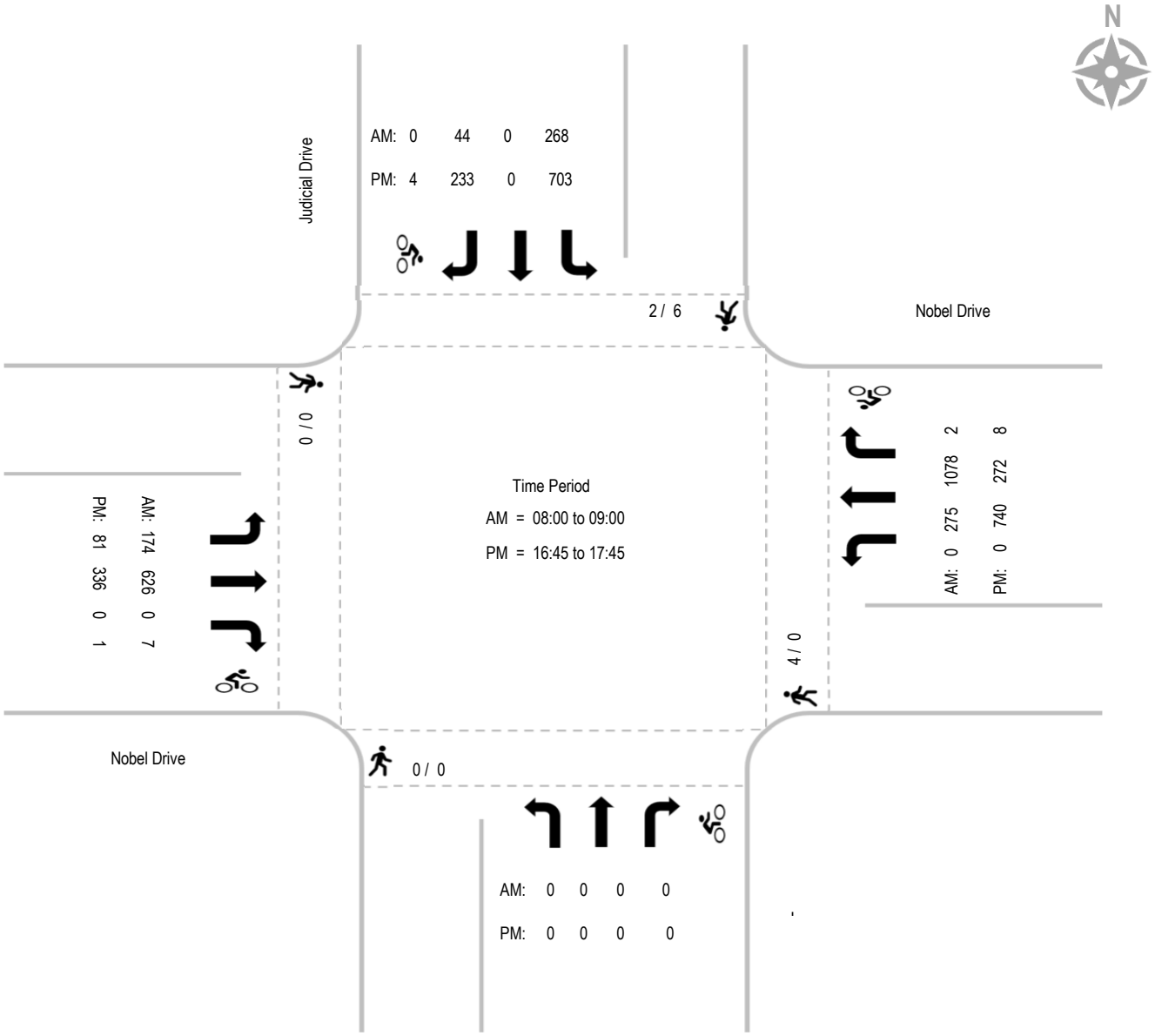
Location:	#26	File Name:	ITM-18-133-26
Intersection:	Judicial Drive & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Judicial Drive Southbound				Nobel Drive Westbound				- Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	1
7:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
7:30	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	2	1
7:45	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	1
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	2				4				0				0				6	
Bike Total		0	0	0		0	2	0		0	0	0		2	5	0		9

PM	Judicial Drive Southbound				Nobel Drive Westbound				- Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
16:30	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:45	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	1
17:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:15	1	1	0	1	0	0	2	0	0	0	0	0	0	0	1	0	1	5
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4
Ped Total	6				0				0				0				6	
Bike Total		3	0	1		0	8	0		0	0	0		0	1	0		13

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#26	File Name: ITM-18-133-26
	Intersection:	Judicial Drive & Nobel Drive	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#27	File Name:	ITM-18-133-27
Intersection:	I-805 Southbound On Ramp & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Southbound			Nobel Drive Westbound			I-805 SB On Ramp Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	0	0	22	241	0	0	0	0	0	47	104	414
7:15	0	0	0	29	249	0	0	0	0	0	47	101	426
7:30	0	0	0	34	315	0	0	0	0	0	61	152	562
7:45	0	0	0	26	348	0	0	0	0	0	83	143	600
8:00	0	0	0	38	384	0	0	0	0	0	87	133	642
8:15	0	0	0	39	339	0	0	0	0	0	78	144	600
8:30	0	0	0	46	343	0	0	0	0	0	86	131	606
8:45	0	0	0	51	379	0	0	0	0	0	98	139	667
Total	0	0	0	285	2598	0	0	0	0	0	587	1047	4517
Approach%	-	-	-	9.9	90.1	-	-	-	-	-	35.9	64.1	
Total%	-	-	-	6.3	57.5	-	-	-	-	-	13.0	23.2	

AM Intersection Peak Hour: **08:00 to 09:00**

Volume	-	-	-	174	1,445	-	-	-	-	-	349	547	2,515
Approach%	-	-	-	10.7	89.3	-	-	-	-	-	39.0	61.0	
Total%	-	-	-	6.9	57.5	-	-	-	-	-	13.9	21.7	
PHF			#DIV/0!			0.94			#DIV/0!			0.95	0.95

PM	0 Southbound			Nobel Drive Westbound			I-805 SB On Ramp Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	0	0	73	184	0	a	0	0	0	103	122	482
16:15	0	0	0	50	194	0	0	0	0	0	113	113	470
16:30	0	0	0	54	227	0	0	0	0	0	122	104	507
16:45	0	0	0	59	261	0	0	0	0	0	103	107	530
17:00	0	0	0	86	294	0	0	0	0	0	123	121	624
17:15	0	0	0	94	247	0	0	0	0	0	157	145	643
17:30	0	0	0	48	237	0	0	0	0	0	137	126	548
17:45	0	0	0	59	308	0	0	0	0	0	107	123	597
Total	0	0	0	523	1952	0	0	0	0	0	965	961	4401
Approach%	-	-	-	21.1	78.9	-	-	-	-	-	50.1	49.9	
Total%	-	-	-	11.9	44.4	-	-	-	-	-	21.9	21.8	

PM Intersection Peak Hour: **17:00 to 18:00**

Volume	-	-	-	287	1,086	-	-	-	-	-	524	515	2,412
Approach%	-	-	-	20.9	79.1	-	-	-	-	-	50.4	49.6	
Total%	-	-	-	11.9	45.0	-	-	-	-	-	21.7	21.4	
PHF			#DIV/0!			0.90			#DIV/0!			0.86	0.94

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#27	File Name:	ITM-18-133-27
Intersection:	I-805 Southbound On Ramp & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

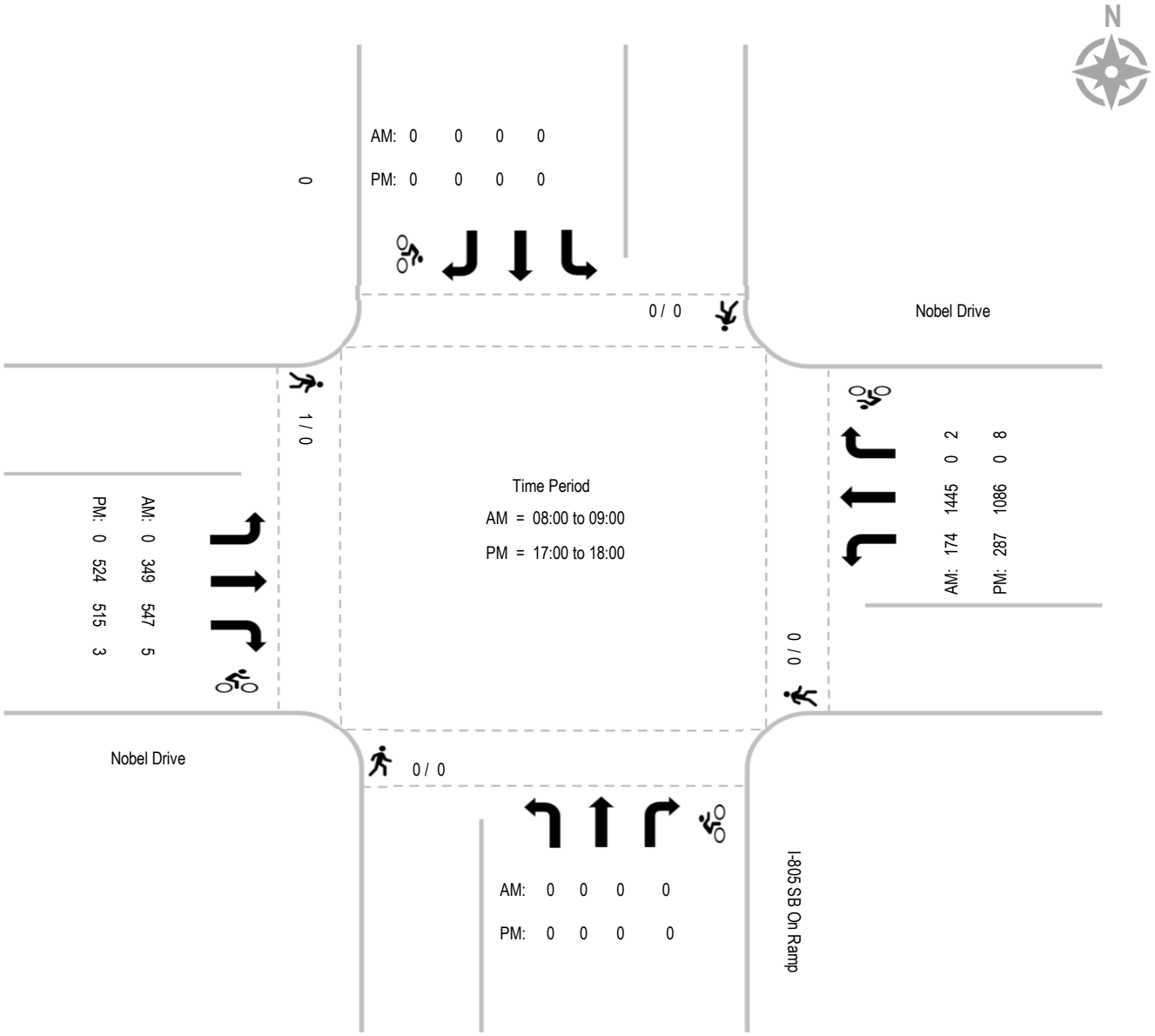
AM	0 Southbound				Nobel Drive Westbound				I-805 SB On Ramp Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
7:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				1				1	
Bike Total		0	0	0		0	2	0		0	0	0		0	5	0		7

PM	0 Southbound				Nobel Drive Westbound				I-805 SB On Ramp Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	0	5
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	8	0		0	0	0		0	3	0		11

Report Generated by Bearcat Enterprises LLC, DBA "Count Data" | 619-987-5136 | info@yourcountdata.com

Intersection Turning Movement - Peak Hour Summary

Location:	#27	File Name:	ITM-18-133-27
Intersection:	I-805 Southbound On Ramp & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#28	File Name:	ITM-18-133-28
Intersection:	I-805 Northbound Off Ramp & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	Southbound			Nobel Drive Westbound			I-805 NB Off Ramp Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	0	0	0	78	0	173	0	238	0	45	0	534
7:15	0	0	0	0	99	0	188	0	212	0	42	0	541
7:30	0	0	0	0	126	0	233	0	199	0	59	0	617
7:45	0	0	0	0	168	0	207	0	214	0	83	0	672
8:00	0	0	0	0	180	0	201	0	183	0	91	0	655
8:15	0	0	0	0	159	0	228	0	161	0	83	0	631
8:30	0	0	0	0	156	0	237	0	175	0	90	0	658
8:45	0	0	0	0	155	0	232	0	161	0	82	0	630
Total	0	0	0	0	1121	0	1699	0	1543	0	575	0	4938
Approach%	-	-	-	-	100.0	-	52.4	-	47.6	-	100.0	-	
Total%	-	-	-	-	22.7	-	34.4	-	31.2	-	11.6	-	

AM Intersection Peak Hour: **07:45 to 08:45**

Volume	-	-	-	-	663	-	873	-	733	-	347	-	2,616
Approach%	-	-	-	-	100.0	-	54.4	-	45.6	-	100.0	-	
Total%	-	-	-	-	25.3	-	33.4	-	28.0	-	13.3	-	
PHF			#DIV/0!			0.92			0.95			0.95	0.97

PM	0 Southbound			Nobel Drive Westbound			I-805 NB Off Ramp Northbound			Nobel Drive Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	0	0	0	0	165	0	109	0	173	0	88	0	535
16:15	0	0	0	0	100	0	114	0	159	0	118	0	491
16:30	0	0	0	0	168	0	122	0	137	0	110	0	537
16:45	0	0	0	0	169	0	144	0	150	0	103	0	566
17:00	0	0	0	0	173	0	159	0	140	0	134	0	606
17:15	0	0	0	0	201	0	153	0	162	0	141	0	657
17:30	0	0	0	0	138	0	131	0	155	0	131	0	555
17:45	0	0	0	0	126	0	177	0	121	0	107	0	531
Total	0	0	0	0	1240	0	1109	0	1197	0	932	0	4478
Approach%	-	-	-	-	100.0	-	48.1	-	51.9	-	100.0	-	
Total%	-	-	-	-	27.7	-	24.8	-	26.7	-	20.8	-	

PM Intersection Peak Hour: **16:45 to 17:45**

Volume	-	-	-	-	681	-	587	-	607	-	509	-	2,384
Approach%	-	-	-	-	100.0	-	49.2	-	50.8	-	100.0	-	
Total%	-	-	-	-	28.6	-	24.6	-	25.5	-	21.4	-	
PHF			#DIV/0!			0.85			0.95			0.90	0.91

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#28	File Name:	ITM-18-133-28
Intersection:	I-805 Northbound Off Ramp & Nobel Drive	Project:	LLG Ref. 3-14-2408
Date of Count:	Wednesday, October 03, 2018		Costa Verde Center

AM	0 Southbound				Nobel Drive Westbound				I-805 NB Off Ramp Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	2	0		0	0	0		0	5	0		7

PM	0 Southbound				Nobel Drive Westbound				I-805 NB Off Ramp Northbound				Nobel Drive Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
17:45	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Ped Total	0				0				0				0				0	
Bike Total		0	0	0		0	8	0		0	0	0		0	2	0		10

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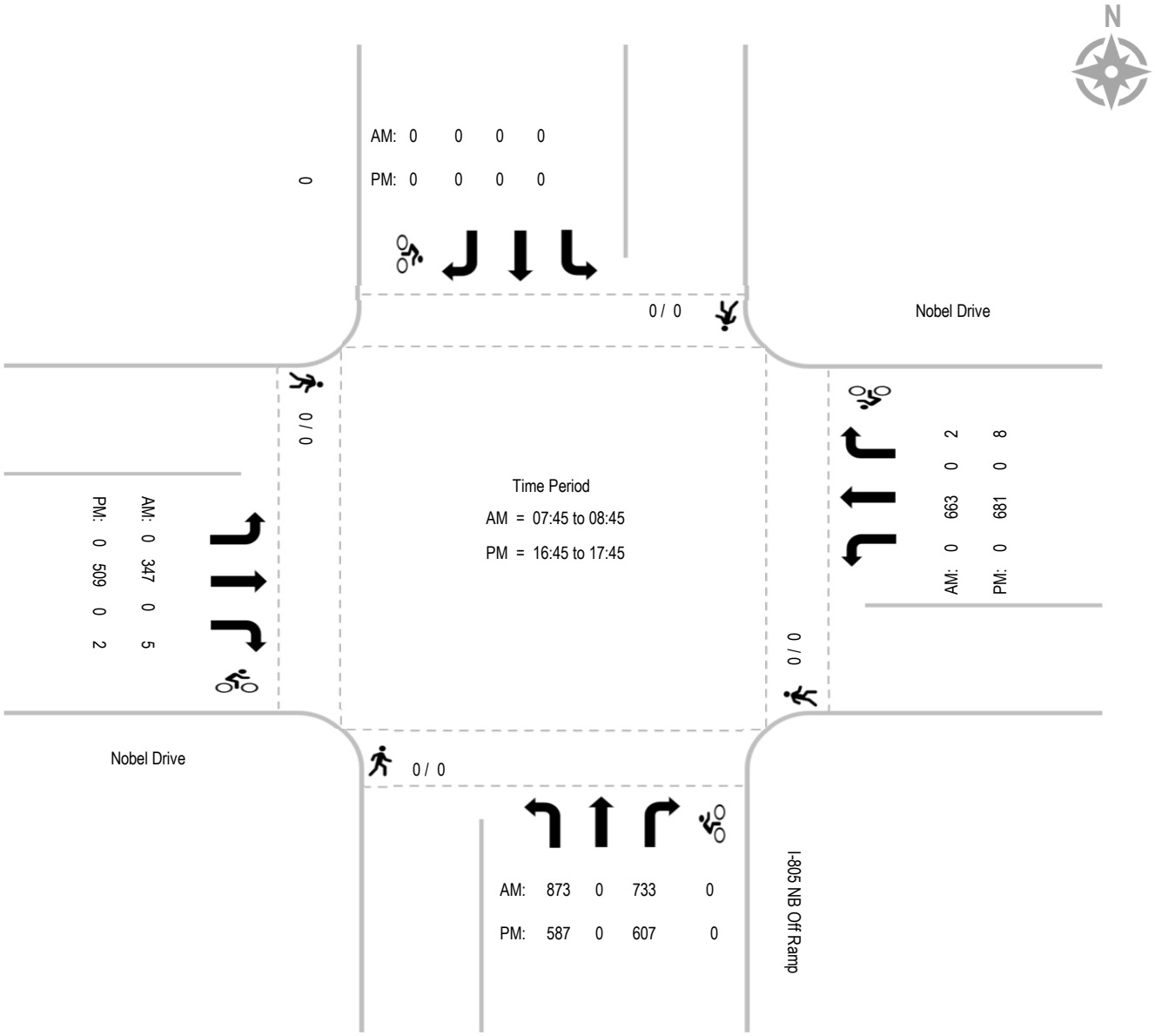
Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#28	File Name: ITM-18-133-28
	Intersection:	I-805 Northbound Off Ramp & Nobel Drive	Project: LLG Ref. 3-14-2408
	Date of Count:	Wednesday, October 03, 2018	Costa Verde Center



Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Decoro Street @ Genesee Avenue

Date of Count: *Tuesday, May 12, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0345*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Decoro Street @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	4	98	0	3	3	14	10	495	25	35	7	2	696
7:15 AM	12	135	0	5	10	12	31	338	54	40	2	6	645
7:30 AM	19	166	3	5	9	15	34	422	31	48	12	7	771
7:45 AM	6	122	2	9	2	12	46	447	39	50	7	8	750
8:00 AM	4	100	4	5	3	10	52	396	49	36	5	6	670
8:15 AM	8	103	1	11	2	5	30	413	20	32	5	11	641
8:30 AM	6	103	2	10	7	10	26	473	37	32	14	11	731
8:45 AM	6	109	3	8	1	3	24	462	19	28	7	10	680
Total	65	936	15	56	37	81	253	3,446	274	301	59	61	5,584

AM Intersection Peak Hour : **7:00 AM - 8:00 AM** Intersection PHF : **0.93**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	41	521	5	22	24	53	121	1,702	149	173	28	23	2,862
PHF	0.54	0.78	0.42	0.61	0.60	0.88	0.66	0.86	0.69	0.87	0.58	0.72	0.93
Movement PHF		0.75			0.85			0.93			0.84		0.93

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	19	380	6	1	3	39	12	154	21	49	3	5	692
4:15 PM	13	417	5	4	5	65	10	157	43	45	5	6	775
4:30 PM	10	371	7	2	6	70	8	151	29	40	5	2	701
4:45 PM	14	397	5	3	4	44	10	188	25	54	10	8	762
5:00 PM	15	439	2	1	4	60	2	175	37	62	8	5	810
5:15 PM	12	414	2	1	8	85	6	212	49	49	3	8	849
5:30 PM	9	488	4	10	17	65	12	140	46	56	10	3	860
5:45 PM	13	510	6	3	9	35	9	197	47	41	4	5	879
Total	105	3416	37	25	56	463	69	1,374	297	396	48	42	6,328

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.97**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	49	1851	14	15	38	245	29	724	179	208	25	21	3398
PHF	0.82	0.907	0.583	0.375	0.559	0.721	0.604	0.854	0.913	0.839	0.625	0.656	0.97
Movement PHF		0.90			0.79			0.87			0.85		0.97

U-Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-1536

Location: Decoro Street @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)					
	Southbound U-Turn	Westbound U-Turn	Northbound U-Turn	Eastbound U-Turn	TOTAL
7:00 AM	1	1	0	0	2
7:15 AM	1	0	0	1	2
7:30 AM	1	1	0	0	2
7:45 AM	0	0	0	0	0
8:00 AM	1	1	0	0	2
8:15 AM	1	0	1	0	2
8:30 AM	1	0	0	1	2
8:45 AM	1	0	0	0	1
Total	7	3	1	2	13

AM Intersection Peak Hour : **7:00 AM - 8:00 AM** Intersection PHF : **0.75**

	North Leg EB	East Leg SB	South Leg EB	West Leg SB	TOTAL
Volume	3	2	0	1	6
PHF	0.75	0.50	#DIV/0!	0.25	0.75
Movement PHF	0.75	0.50	#DIV/0!	0.25	0.75

PM Period (4:00 PM - 6:00 PM)					
	Southbound U-Turn	Westbound U-Turn	Northbound U-Turn	Eastbound U-Turn	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	2	0	0	0	2
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
Total	3	0	0	0	3

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.25**

	North Leg EB	East Leg SB	South Leg EB	West Leg SB	TOTAL
Volume	2	0	0	0	2
PHF	0.25	#DIV/0!	#DIV/0!	#DIV/0!	0.25
Movement PHF	0.25	#DIV/0!	#DIV/0!	#DIV/0!	0.25

Bike Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Decoro Street @ Genesee Avenue

Date of Count: *Tuesday, May 12, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0345*

Bike Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Decoro Street @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	1	0	0	1	0	0	0	4	0	2	2	0	10
7:15 AM	0	2	0	1	0	0	0	3	0	0	1	1	8
7:30 AM	0	0	0	0	0	0	0	8	0	1	1	1	11
7:45 AM	0	0	0	0	1	0	1	5	0	0	0	0	7
8:00 AM	1	0	0	2	0	0	0	8	1	1	1	0	14
8:15 AM	1	1	0	1	0	0	0	6	0	1	1	0	11
8:30 AM	0	0	0	1	2	0	0	8	0	0	1	0	12
8:45 AM	0	0	0	1	0	0	0	7	0	0	1	0	9
Total	3	3	0	7	3	0	1	49	1	5	8	2	82

AM Intersection Peak Hour : **8:00 AM - 9:00 AM** Intersection PHF : **0.82**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	2	1	0	5	2	0	0	29	1	2	4	0	46
PHF	0.50	0.25	#####	0.63	0.25	#####	#####	0.91	0.25	0.50	1.00	#####	0.82
Movement PHF		0.38			0.58			0.83			0.75		0.82

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	1	0	0	0	0	1	0	0	1	0	0	3
4:15 PM	0	5	0	0	0	0	0	2	0	3	2	0	12
4:30 PM	0	2	0	0	0	1	0	2	1	0	3	0	9
4:45 PM	0	8	1	0	0	0	0	2	2	1	1	0	15
5:00 PM	2	2	1	0	1	0	0	0	0	1	6	0	13
5:15 PM	1	7	0	0	0	0	0	2	0	2	0	0	12
5:30 PM	0	5	0	0	0	0	0	1	0	0	0	0	6
5:45 PM	0	4	0	0	0	0	0	2	0	1	1	1	9
Total	3	34	2	0	1	1	1	11	3	9	13	1	79

PM Intersection Peak Hour : **4:15 PM - 5:15 PM** Intersection PHF : **0.82**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	2	17	2	0	1	1	0	6	3	5	12	0	49
PHF	0.25	0.531	0.5	#####	0.25	0.25	#####	0.75	0.375	0.417	0.5	#####	0.82
Movement PHF		0.58			0.50			0.56			0.61		0.82

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Governor Drive @ Genesee Avenue

Date of Count: *Tuesday, May 12, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0345*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Governor Drive @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	38	147	35	78	42	48	24	356	12	16	66	139	1,001
7:15 AM	84	132	59	70	42	52	43	306	8	22	63	118	999
7:30 AM	63	115	51	48	67	41	99	317	10	41	76	68	996
7:45 AM	71	105	35	53	85	99	57	370	24	63	101	122	1,185
8:00 AM	31	97	26	35	45	57	68	349	22	73	88	95	986
8:15 AM	28	130	34	62	49	63	65	320	12	22	48	73	906
8:30 AM	43	89	38	53	37	44	96	346	30	25	68	72	941
8:45 AM	43	94	36	33	40	50	68	381	19	30	57	80	931
Total	401	909	314	432	407	454	520	2,745	137	292	567	767	7,945

AM Intersection Peak Hour : **7:00 AM - 8:00 AM** Intersection PHF : **0.88**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	256	499	180	249	236	240	223	1,349	54	142	306	447	4,181
PHF	0.76	0.85	0.76	0.80	0.69	0.61	0.56	0.91	0.56	0.56	0.76	0.80	0.88
Movement PHF		0.85			0.76			0.90			0.78		0.88

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	79	330	52	14	54	51	43	110	24	22	82	56	917
4:15 PM	72	360	84	40	67	76	48	117	42	32	53	49	1,040
4:30 PM	83	283	76	45	97	68	64	84	43	34	92	56	1,025
4:45 PM	64	333	102	35	81	69	58	127	34	16	60	42	1,021
5:00 PM	110	357	97	22	67	84	49	135	36	31	66	49	1,103
5:15 PM	95	301	86	37	102	79	73	133	45	24	72	57	1,104
5:30 PM	123	399	104	29	77	82	60	132	54	39	63	35	1,197
5:45 PM	136	319	110	26	88	65	68	111	30	24	78	53	1,108
Total	762	2682	711	248	633	574	463	949	308	222	566	397	8,515

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.94**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	464	1376	397	114	334	310	250	511	165	118	279	194	4512
PHF	0.85	0.862	0.902	0.77	0.819	0.923	0.856	0.946	0.764	0.756	0.894	0.851	0.94
Movement PHF		0.89			0.87			0.92			0.95		0.94

U-Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-1536

Location: Governor Drive @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)					
	Southbound U-Turn	Westbound U-Turn	Northbound U-Turn	Eastbound U-Turn	TOTAL
7:00 AM	0	0	5	2	7
7:15 AM	1	2	4	0	7
7:30 AM	0	3	4	3	10
7:45 AM	0	2	4	3	9
8:00 AM	3	2	0	0	5
8:15 AM	1	1	0	0	2
8:30 AM	0	1	1	0	2
8:45 AM	0	1	1	0	2
Total	5	12	19	8	44

AM Intersection Peak Hour : **7:00 AM - 8:00 AM** Intersection PHF : **0.83**

	North Leg EB	East Leg SB	South Leg EB	West Leg SB	TOTAL
Volume	1	7	17	8	33
PHF	0.25	0.58	0.85	0.67	0.83
Movement PHF	0.25	0.58	0.85	0.67	0.83

PM Period (4:00 PM - 6:00 PM)					
	Southbound U-Turn	Westbound U-Turn	Northbound U-Turn	Eastbound U-Turn	TOTAL
4:00 PM	1	0	0	0	1
4:15 PM	2	0	1	0	3
4:30 PM	1	1	1	0	3
4:45 PM	3	2	7	0	12
5:00 PM	5	0	8	1	14
5:15 PM	0	4	8	0	12
5:30 PM	0	0	5	0	5
5:45 PM	0	0	3	0	3
Total	12	7	33	1	53

PM Intersection Peak Hour : **5:00 PM - 6:00 PM** Intersection PHF : **0.61**

	North Leg EB	East Leg SB	South Leg EB	West Leg SB	TOTAL
Volume	5	4	24	1	34
PHF	0.25	0.25	0.75	0.25	0.61
Movement PHF	0.25	0.25	0.75	0.25	0.61

Bike Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

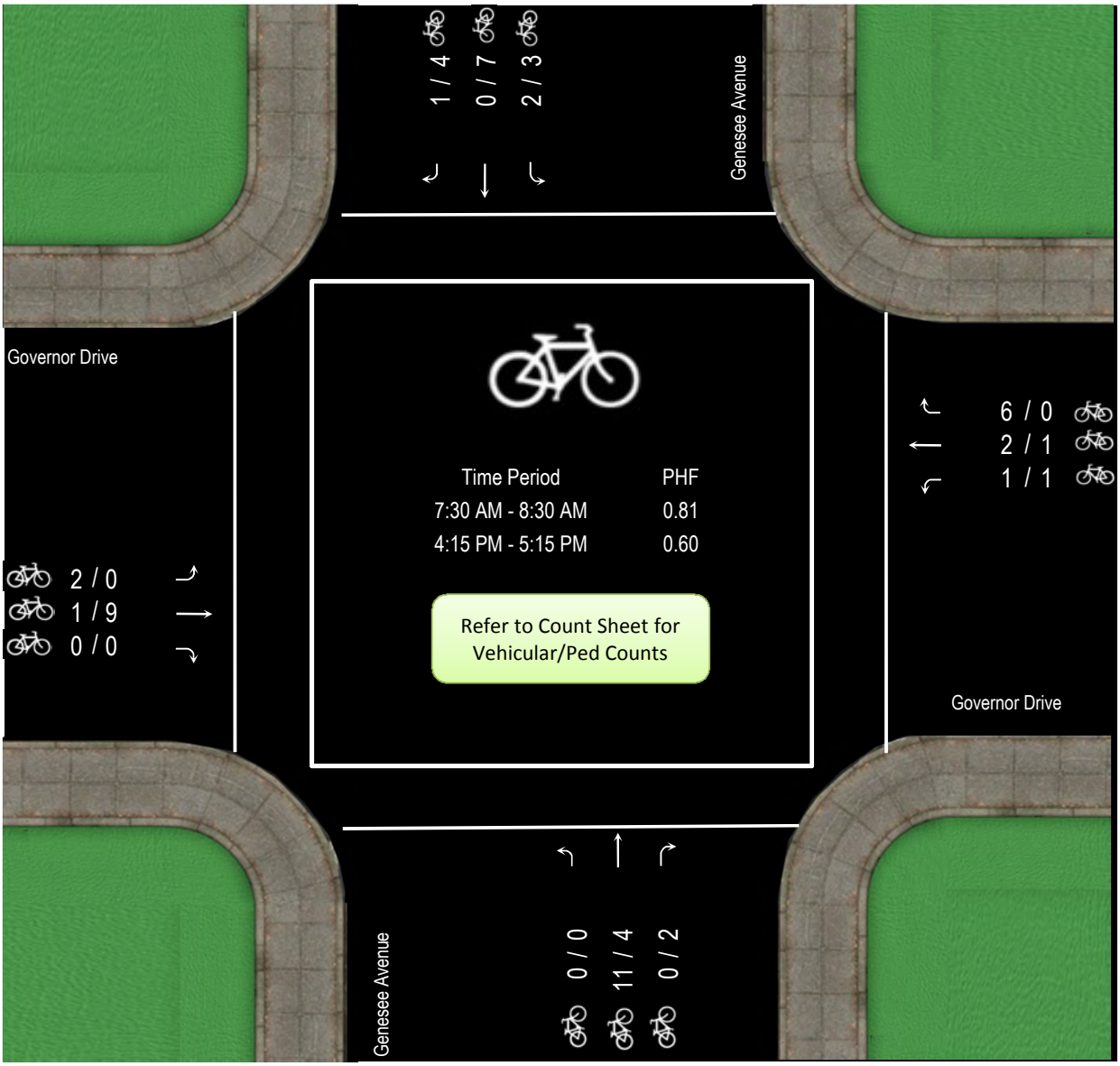
Location: Governor Drive @ Genesee Avenue

Date of Count: *Tuesday, May 12, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0345*



Bike Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: Governor Drive @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	1	0	1	0	0	0	3	0	0	0	0	5
7:15 AM	0	0	0	1	2	0	0	2	0	0	1	0	6
7:30 AM	0	0	1	1	0	0	0	5	0	0	0	0	7
7:45 AM	0	0	0	2	1	0	0	0	0	0	1	1	5
8:00 AM	1	0	0	2	0	0	0	3	0	0	0	0	6
8:15 AM	0	0	1	1	1	1	0	3	0	0	0	1	8
8:30 AM	0	0	1	0	0	0	0	3	0	0	0	0	4
8:45 AM	1	0	1	0	0	0	0	1	0	0	0	5	8
Total	2	1	4	8	4	1	0	20	0	0	2	7	49

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.81**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	1	0	2	6	2	1	0	11	0	0	1	2	26
PHF	0.25	#####	0.50	0.75	0.50	0.25	#####	0.55	#####	#####	0.25	0.50	0.81
Movement PHF		0.75			0.75			0.55			0.38		0.81

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	0	1	0	0	0	0	0	0	0	1	1	3
4:15 PM	2	3	0	0	0	0	2	0	0	0	6	0	13
4:30 PM	2	0	1	0	0	0	0	0	0	0	2	0	5
4:45 PM	0	1	2	0	1	0	0	2	0	0	1	0	7
5:00 PM	0	3	0	0	0	1	0	2	0	0	0	0	6
5:15 PM	0	4	1	0	1	0	0	1	0	0	3	0	10
5:30 PM	0	1	1	1	3	0	0	0	0	0	1	0	7
5:45 PM	1	2	0	1	1	0	1	1	0	0	1	0	8
Total	5	14	6	2	6	1	3	6	0	0	15	1	59

PM Intersection Peak Hour : **4:15 PM - 5:15 PM** Intersection PHF : **0.60**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	4	7	3	0	1	1	2	4	0	0	9	0	31
PHF	0.50	0.583	0.375	#####	0.25	0.25	0.25	0.5	#####	#####	0.375	#####	0.60
Movement PHF		0.70			0.50			0.75			0.38		0.60

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR-52 WB Ramps @ Genesee Avenue

Date of Count: *Tuesday, May 12, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0345*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR-52 WB Ramps @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	22	153	0	149	0	0	0	319	84	25	0	0	752
7:15 AM	31	185	0	140	0	0	0	206	116	34	0	0	712
7:30 AM	29	225	0	219	0	0	0	264	100	35	0	0	872
7:45 AM	29	272	0	238	0	0	0	291	120	29	0	0	979
8:00 AM	21	228	0	202	0	0	0	153	119	26	0	0	749
8:15 AM	34	162	0	193	0	0	0	234	81	41	0	0	745
8:30 AM	26	138	0	172	0	0	0	235	93	25	0	0	689
8:45 AM	32	173	0	194	0	0	0	341	73	34	0	0	847
Total	224	1,536	0	1,507	0	0	0	2,043	786	249	0	0	6,345

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.85**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	113	887	0	852	0	0	0	942	420	131	0	0	3,345
PHF	0.83	0.82	#####	0.89	#####	#####	#####	0.81	0.88	0.80	#####	#####	0.85
Movement PHF		0.83			0.89			0.83			0.80		0.85

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	75	404	0	88	0	0	0	143	54	70	0	0	834
4:15 PM	69	393	0	90	0	0	0	94	69	66	0	0	781
4:30 PM	71	338	0	71	0	0	0	105	69	85	0	0	739
4:45 PM	63	456	0	77	0	0	0	147	68	84	0	0	895
5:00 PM	74	412	0	97	0	0	0	130	74	84	0	0	871
5:15 PM	96	365	0	87	0	0	0	106	74	130	0	0	858
5:30 PM	105	325	0	90	0	0	0	72	115	124	0	0	831
5:45 PM	97	380	0	83	0	0	0	92	79	107	0	0	838
Total	650	3073	0	683	0	0	0	889	602	750	0	0	6,647

PM Intersection Peak Hour : **4:45 PM - 5:45 PM** Intersection PHF : **0.97**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	338	1558	0	351	0	0	0	455	331	422	0	0	3455
PHF	0.80	0.854	#####	0.905	#####	#####	#####	0.774	0.72	0.812	#####	#####	0.97
Movement PHF		0.91			0.90			0.91			0.81		0.97

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR-52 EB On/Off Ramps @ Genesee Avenue

Date of Count: *Tuesday, May 12, 2015*

Analysts: *LV/CD*

Weather: *Sunny*

AVC Proj No: *15-0345*

Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: SR-52 EB On/Off Ramps @ Genesee Avenue

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
7:00 AM	0	91	84	78	0	17	136	322	0	0	0	0	728
7:15 AM	0	112	105	52	0	20	138	268	0	0	0	0	695
7:30 AM	0	126	132	38	0	30	193	324	0	0	0	0	843
7:45 AM	0	179	121	31	0	48	193	379	0	0	0	0	951
8:00 AM	0	143	110	41	0	23	172	230	0	0	0	0	719
8:15 AM	0	133	69	60	0	31	163	254	0	0	0	0	710
8:30 AM	0	88	75	57	0	28	124	271	0	0	0	0	643
8:45 AM	0	135	72	94	0	41	165	320	0	0	0	0	827
Total	0	1,007	768	451	0	238	1,284	2,368	0	0	0	0	6,116

AM Intersection Peak Hour : **7:30 AM - 8:30 AM** Intersection PHF : **0.85**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	581	432	170	0	132	721	1,187	0	0	0	0	3,223
PHF	#####	0.81	0.82	0.71	#####	0.69	0.93	0.78	#####	#####	#####	#####	0.85
Movement PHF		0.84			0.83			0.83			#DIV/0!		0.85

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	TOTAL
4:00 PM	0	276	198	54	0	57	112	143	0	0	0	0	840
4:15 PM	0	286	173	35	0	76	92	128	0	0	0	0	790
4:30 PM	0	260	163	68	0	52	78	106	0	0	0	0	727
4:45 PM	0	301	239	67	0	100	89	148	0	0	0	0	944
5:00 PM	0	308	188	47	0	65	74	157	0	0	0	0	839
5:15 PM	0	311	184	52	0	111	79	128	0	0	0	0	865
5:30 PM	0	300	149	59	0	76	58	128	0	0	0	0	770
5:45 PM	0	327	160	58	0	75	57	113	0	0	0	0	790
Total	0	2369	1454	440	0	612	639	1,051	0	0	0	0	6,565

PM Intersection Peak Hour : **4:45 PM - 5:45 PM** Intersection PHF : **0.91**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	1220	760	225	0	352	300	561	0	0	0	0	3418
PHF	#####	0.981	0.795	0.84	#####	0.793	0.843	0.893	#####	#####	#####	#####	0.91
Movement PHF		0.92			0.86			0.91			#DIV/0!		0.91

Prepared by NDS/ATD

VOLUME

La Jolla Village Dr Bet. I-5 NB Ramps & Lebon Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,397	24,035	46,432

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			66		39		105		12:00			257		316		573	
00:15			53		29		82		12:15			335		372		707	
00:30			35		35		70		12:30			318		372		690	
00:45			38	192	12	115	50	307	12:45			311	1221	293	1353	604	2574
01:00			26		18		44		13:00			295		311		606	
01:15			22		12		34		13:15			299		327		626	
01:30			13		19		32		13:30			289		334		623	
01:45			15	76	10	59	25	135	13:45			301	1184	395	1367	696	2551
02:00			6		9		15		14:00			292		365		657	
02:15			8		9		17		14:15			312		379		691	
02:30			9		5		14		14:30			263		406		669	
02:45			8	31	8	31	16	62	14:45			273	1140	444	1594	717	2734
03:00			8		5		13		15:00			284		496		780	
03:15			10		12		22		15:15			320		505		825	
03:30			10		5		15		15:30			374		454		828	
03:45			12	40	10	32	22	72	15:45			326	1304	454	1909	780	3213
04:00			14		12		26		16:00			301		498		799	
04:15			28		17		45		16:15			289		482		771	
04:30			33		18		51		16:30			352		544		896	
04:45			48	123	26	73	74	196	16:45			382	1324	539	2063	921	3387
05:00			76		30		106		17:00			429		511		940	
05:15			73		40		113		17:15			385		522		907	
05:30			124		60		184		17:30			453		531		984	
05:45			181	454	79	209	260	663	17:45			403	1670	482	2046	885	3716
06:00			187		78		265		18:00			354		509		863	
06:15			245		115		360		18:15			395		501		896	
06:30			286		171		457		18:30			425		401		826	
06:45			295	1013	215	579	510	1592	18:45			372	1546	419	1830	791	3376
07:00			323		232		555		19:00			307		363		670	
07:15			376		318		694		19:15			294		271		565	
07:30			380		416		796		19:30			280		296		576	
07:45			434	1513	493	1459	927	2972	19:45			277	1158	291	1221	568	2379
08:00			411		403		814		20:00			277		257		534	
08:15			446		374		820		20:15			261		230		491	
08:30			461		427		888		20:30			238		240		478	
08:45			445	1763	395	1599	840	3362	20:45			222	998	242	969	464	1967
09:00			415		433		848		21:00			239		225		464	
09:15			415		441		856		21:15			251		207		458	
09:30			400		365		765		21:30			198		184		382	
09:45			354	1584	340	1579	694	3163	21:45			164	852	148	764	312	1616
10:00			293		288		581		22:00			145		129		274	
10:15			269		297		566		22:15			137		98		235	
10:30			278		318		596		22:30			135		110		245	
10:45			305	1145	373	1276	678	2421	22:45			101	518	74	411	175	929
11:00			301		277		578		23:00			112		94		206	
11:15			303		314		617		23:15			107		48		155	
11:30			264		343		607		23:30			98		52		150	
11:45			303	1171	321	1255	624	2426	23:45			60	377	48	242	108	619
TOTALS				9105		8266		17371	TOTALS				13292		15769		29061
SPLIT %				52.4%		47.6%		37.4%	SPLIT %				45.7%		54.3%		62.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,397	24,035	46,432

AM Peak Hour				08:15		07:45		07:45	PM Peak Hour				17:00		16:30		16:45
AM Pk Volume				1767		1697		3449	PM Pk Volume				1670		2116		3752
Pk Hr Factor				0.958		0.861		0.930	Pk Hr Factor				0.922		0.972		0.953
7 - 9 Volume	0	0		3276		3058		6334	4 - 6 Volume	0	0		2994		4109		7103
7 - 9 Peak Hour				08:00		07:45		07:45	4 - 6 Peak Hour				17:00		16:30		16:45
7 - 9 Pk Volume	0	0		1763		1697		3449	4 - 6 Pk Volume	0	0		1670		2116		3752
Pk Hr Factor	0.000	0.000		0.956		0.861		0.930	Pk Hr Factor	0.000	0.000		0.922		0.972		0.953

LINSCOTT LAW & GREENSPAN engineers

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: b) La Jolla Village Drive, Between Lebon Drive and Regents Road

Orientation: *East-West*

Date of Count: *Wednesday, May 06, 2015*

Analysts: *DASH*

Weather: *Sunny*

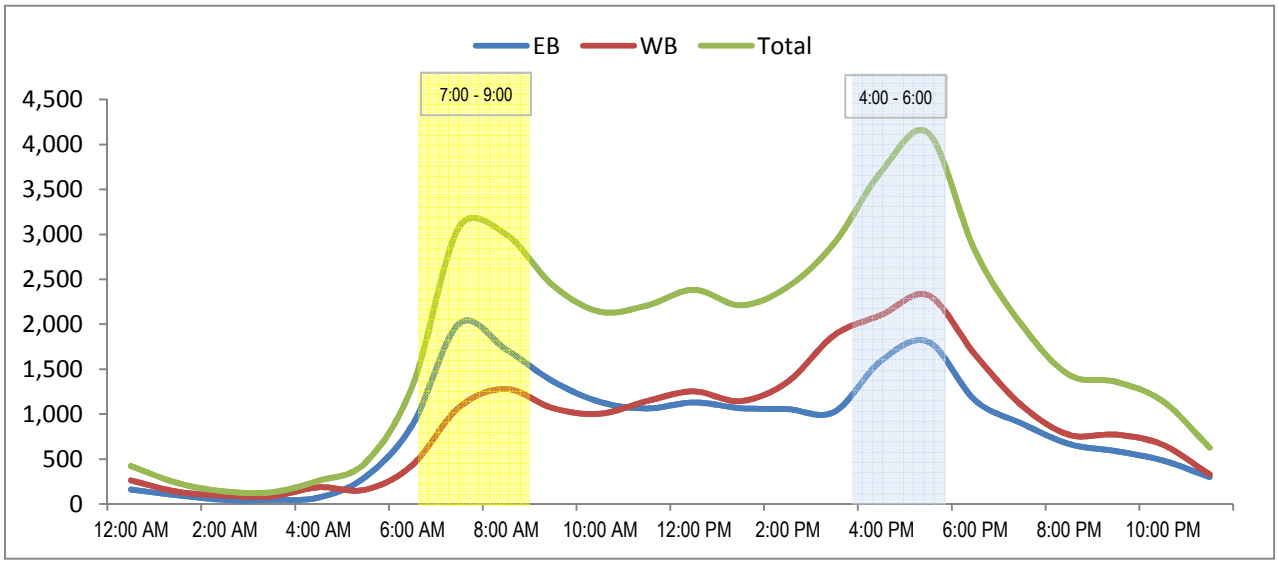
AVC Proj. No: *15-0349*

24 Hour Segment Volume			*42,941*

Time	Hourly Volume		
	EB	WB	Total
12:00 AM - 1:00 AM	161	263	424
1:00 AM - 2:00 AM	96	136	232
2:00 AM - 3:00 AM	46	95	141
3:00 AM - 4:00 AM	46	85	131
4:00 AM - 5:00 AM	72	187	259
5:00 AM - 6:00 AM	301	159	460
6:00 AM - 7:00 AM	878	433	1,311
7:00 AM - 8:00 AM	2,008	1,078	3,086
8:00 AM - 9:00 AM	1,720	1,280	3,000
9:00 AM - 10:00 AM	1,365	1,066	2,431
10:00 AM - 11:00 AM	1,136	1,004	2,140
11:00 AM - 12:00 PM	1,063	1,145	2208
Total	**8,892**	**6,931**	**15,823**

Time	Hourly Volume		
	EB	WB	Total
12:00 PM - 1:00 PM	1,131	1,253	2,384
1:00 PM - 2:00 PM	1,066	1,145	2,211
2:00 PM - 3:00 PM	1,056	1,359	2,415
3:00 PM - 4:00 PM	1,026	1,880	2,906
4:00 PM - 5:00 PM	1,597	2,104	3,701
5:00 PM - 6:00 PM	1,805	2,322	4,127
6:00 PM - 7:00 PM	1,153	1,661	2,814
7:00 PM - 8:00 PM	895	1,094	1,989
8:00 PM - 9:00 PM	668	770	1,438
9:00 PM - 10:00 PM	588	772	1,360
10:00 PM - 11:00 PM	485	660	1,145
11:00 PM - 12:00 AM	299	329	628
Total	**11,769**	**15,349**	**27,118**

24-Hour EB Volume	*20,661*	*24-Hour WB Volume*	*22,280*



Prepared by NDS/ATD

VOLUME

La Jolla Village Dr Bet. Regents Rd & Costa Verde Blvd

Day: Thursday
Date: 10/4/2018

City: San Diego
Project #: CA18_4345_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	17,962	17,275	35,237

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			56		48		104		12:00			248		234		482	
00:15			32		25		57		12:15			293		299		592	
00:30			35		17		52		12:30			322		244		566	
00:45			26	149	20	110	46	259	12:45			323	1186	233	1010	556	2196
01:00			19		14		33		13:00			278		266		544	
01:15			13		14		27		13:15			228		263		491	
01:30			21		14		35		13:30			266		267		533	
01:45			13	66	11	53	24	119	13:45			227	999	272	1068	499	2067
02:00			8		6		14		14:00			264		253		517	
02:15			8		10		18		14:15			241		279		520	
02:30			17		9		26		14:30			245		300		545	
02:45			13	46	15	40	28	86	14:45			260	1010	327	1159	587	2169
03:00			5		6		11		15:00			235		343		578	
03:15			7		9		16		15:15			259		355		614	
03:30			9		7		16		15:30			287		371		658	
03:45			9	30	5	27	14	57	15:45			303	1084	377	1446	680	2530
04:00			7		13		20		16:00			308		367		675	
04:15			12		17		29		16:15			281		372		653	
04:30			15		23		38		16:30			275		379		654	
04:45			31	65	31	84	62	149	16:45			291	1155	360	1478	651	2633
05:00			29		31		60		17:00			285		383		668	
05:15			54		45		99		17:15			318		365		683	
05:30			61		55		116		17:30			302		350		652	
05:45			99	243	76	207	175	450	17:45			292	1197	372	1470	664	2667
06:00			96		88		184		18:00			280		378		658	
06:15			119		101		220		18:15			278		392		670	
06:30			174		123		297		18:30			331		338		669	
06:45			182	571	145	457	327	1028	18:45			292	1181	284	1392	576	2573
07:00			222		148		370		19:00			262		265		527	
07:15			260		170		430		19:15			302		266		568	
07:30			273		250		523		19:30			220		216		436	
07:45			338	1093	228	796	566	1889	19:45			223	1007	237	984	460	1991
08:00			297		233		530		20:00			208		209		417	
08:15			312		221		533		20:15			204		183		387	
08:30			308		203		511		20:30			180		174		354	
08:45			307	1224	209	866	516	2090	20:45			165	757	182	748	347	1505
09:00			286		196		482		21:00			186		186		372	
09:15			264		244		508		21:15			193		190		383	
09:30			286		226		512		21:30			186		131		317	
09:45			294	1130	182	848	476	1978	21:45			220	785	149	656	369	1441
10:00			299		189		488		22:00			141		117		258	
10:15			223		213		436		22:15			143		101		244	
10:30			235		233		468		22:30			141		93		234	
10:45			248	1005	232	867	480	1872	22:45			105	530	73	384	178	914
11:00			303		186		489		23:00			118		69		187	
11:15			249		279		528		23:15			102		38		140	
11:30			237		246		483		23:30			86		36		122	
11:45			257	1046	236	947	493	1993	23:45			97	403	35	178	132	581
TOTALS				6668		5302		11970	TOTALS				11294		11973		23267
SPLIT %				55.7%		44.3%		34.0%	SPLIT %				48.5%		51.5%		66.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	17,962	17,275	35,237

AM Peak Hour			07:45	11:30	07:30	PM Peak Hour	12:15	15:45	17:00
AM Pk Volume			1255	1015	2152	PM Pk Volume	1216	1495	2667
Pk Hr Factor			0.928	0.849	0.951	Pk Hr Factor	0.941	0.986	0.976
7 - 9 Volume	0	0	2317	1662	3979	4 - 6 Volume	0	0	2352	2948	5300
7 - 9 Peak Hour			07:45	07:30	07:30	4 - 6 Peak Hour			17:00	16:15	17:00
7 - 9 Pk Volume	0	0	1255	932	2152	4 - 6 Pk Volume	0	0	1197	1494	2667
Pk Hr Factor	0.000	0.000	0.928	0.932	0.951	Pk Hr Factor	0.000	0.000	0.941	0.975	0.976

LINSCOTT LAW & GREENSPAN engineers

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: d) La Jolla Village Drive, Between Costa Verde Blvd/Regents Garden Road and Genesee Avenue

Orientation: *East-West*

Date of Count: *Thursday, May 07, 2015*

Analysts: *DASH*

Weather: *Sunny*

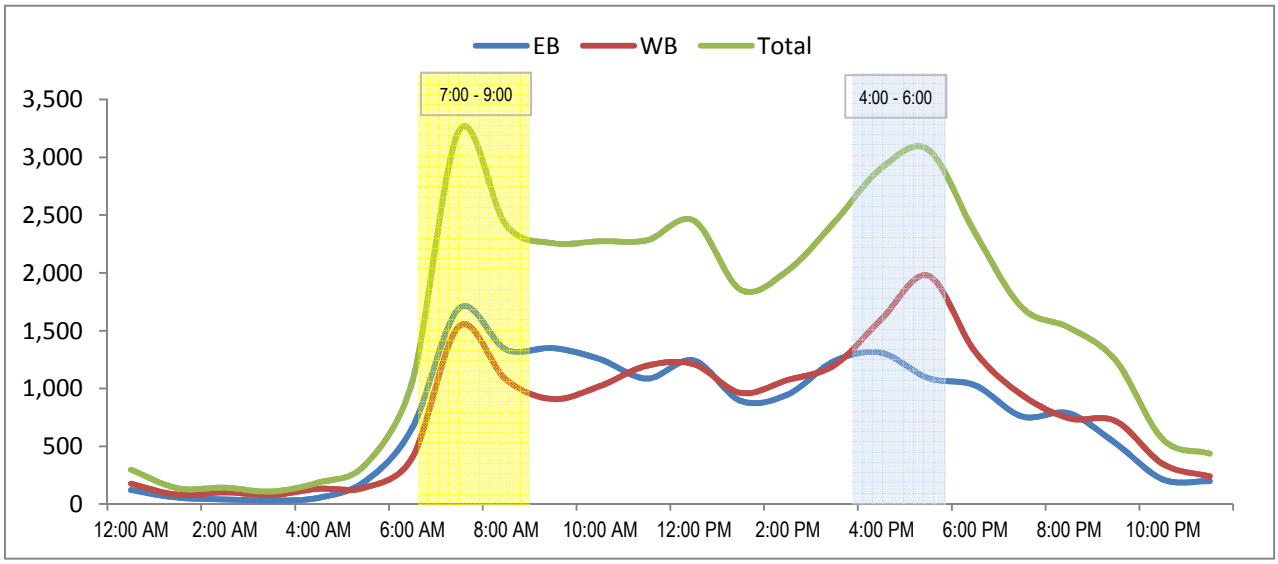
AVC Proj. No: *15-0349*

24 Hour Segment Volume			*37,282*

Time	Hourly Volume		
	EB	WB	Total
12:00 AM - 1:00 AM	121	176	297
1:00 AM - 2:00 AM	55	81	136
2:00 AM - 3:00 AM	40	101	141
3:00 AM - 4:00 AM	31	78	109
4:00 AM - 5:00 AM	54	132	186
5:00 AM - 6:00 AM	199	143	342
6:00 AM - 7:00 AM	660	403	1,063
7:00 AM - 8:00 AM	1,694	1,540	3,234
8:00 AM - 9:00 AM	1,336	1,076	2,412
9:00 AM - 10:00 AM	1,349	908	2,257
10:00 AM - 11:00 AM	1,254	1,021	2,275
11:00 AM - 12:00 PM	1,085	1,197	2282
Total	**7,878**	**6,856**	**14,734**

Time	Hourly Volume		
	EB	WB	Total
12:00 PM - 1:00 PM	1,243	1,210	2,453
1:00 PM - 2:00 PM	893	961	1,854
2:00 PM - 3:00 PM	947	1,073	2,020
3:00 PM - 4:00 PM	1,238	1,202	2,440
4:00 PM - 5:00 PM	1,308	1,599	2,907
5:00 PM - 6:00 PM	1,090	1,976	3,066
6:00 PM - 7:00 PM	1,027	1,317	2,344
7:00 PM - 8:00 PM	757	943	1,700
8:00 PM - 9:00 PM	785	742	1,527
9:00 PM - 10:00 PM	524	717	1,241
10:00 PM - 11:00 PM	213	347	560
11:00 PM - 12:00 AM	197	239	436
Total	**10,222**	**12,326**	**22,548**

24-Hour	*EB*	*Volume*	*18,100*	*24-Hour*	*WB*	*Volume*	*19,182*



LINSCOTT LAW & GREENSPAN engineers

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: e)La Jolla Village Drive, Between Genesee Avenue and Executive Way

Orientation: *East-West*

Date of Count: *Thursday, May 07, 2015*

Analysts: *DASH*

Weather: *Sunny*

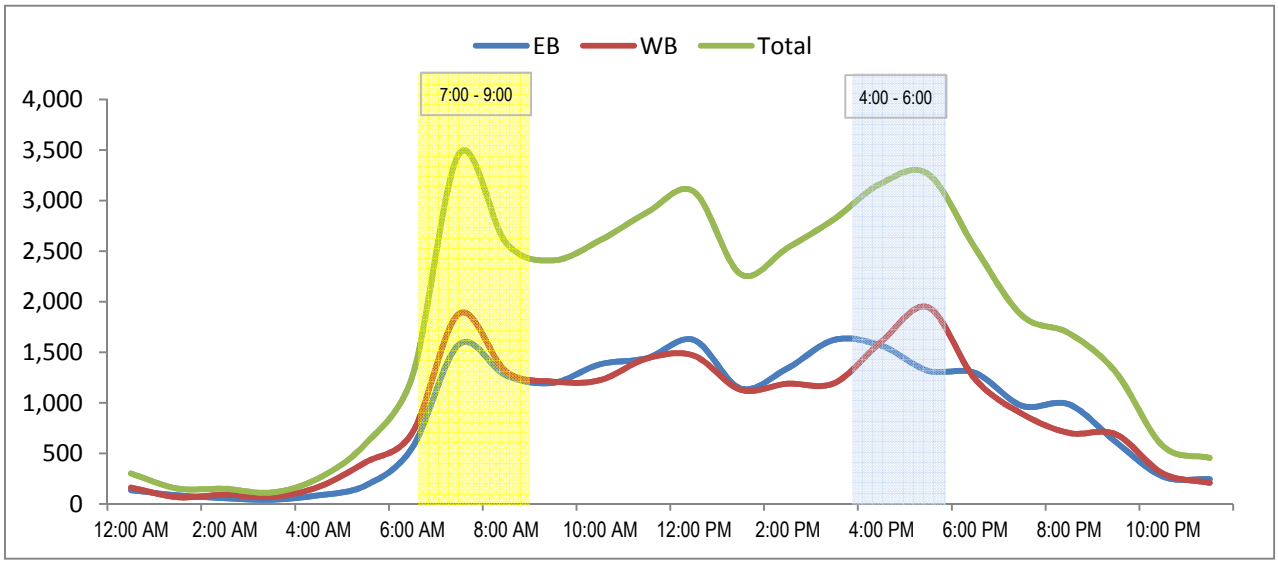
AVC Proj. No: *15-0349*

24 Hour Segment Volume			*42,348*

Time	Hourly Volume		
	EB	WB	Total
12:00 AM - 1:00 AM	138	164	302
1:00 AM - 2:00 AM	85	68	153
2:00 AM - 3:00 AM	58	93	151
3:00 AM - 4:00 AM	43	71	114
4:00 AM - 5:00 AM	86	169	255
5:00 AM - 6:00 AM	183	412	595
6:00 AM - 7:00 AM	559	705	1,264
7:00 AM - 8:00 AM	1,580	1,885	3,465
8:00 AM - 9:00 AM	1,270	1,311	2,581
9:00 AM - 10:00 AM	1,198	1,211	2,409
10:00 AM - 11:00 AM	1,382	1,225	2,607
11:00 AM - 12:00 PM	1,443	1,439	2882
Total	**8,025**	**8,753**	**16,778**

Time	Hourly Volume		
	EB	WB	Total
12:00 PM - 1:00 PM	1,623	1,468	3,091
1:00 PM - 2:00 PM	1,143	1,130	2,273
2:00 PM - 3:00 PM	1,343	1,190	2,533
3:00 PM - 4:00 PM	1,624	1,196	2,820
4:00 PM - 5:00 PM	1,566	1,607	3,173
5:00 PM - 6:00 PM	1,317	1,945	3,262
6:00 PM - 7:00 PM	1,297	1,235	2,532
7:00 PM - 8:00 PM	971	892	1,863
8:00 PM - 9:00 PM	986	703	1,689
9:00 PM - 10:00 PM	614	689	1,303
10:00 PM - 11:00 PM	272	303	575
11:00 PM - 12:00 AM	246	210	456
Total	**13,002**	**12,568**	**25,570**

24-Hour	*EB*	*Volume*	*21,027*	*24-Hour*	*WB*	*Volume*	*21,321*



LINSCOTT LAW & GREENSPAN engineers

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: f) La Jolla Village Drive, Between Executive Way and Towne Center Drive

Orientation: *East-West*

Date of Count: *Tuesday, May 05, 2015*

Analysts: *DASH*

Weather: *Sunny*

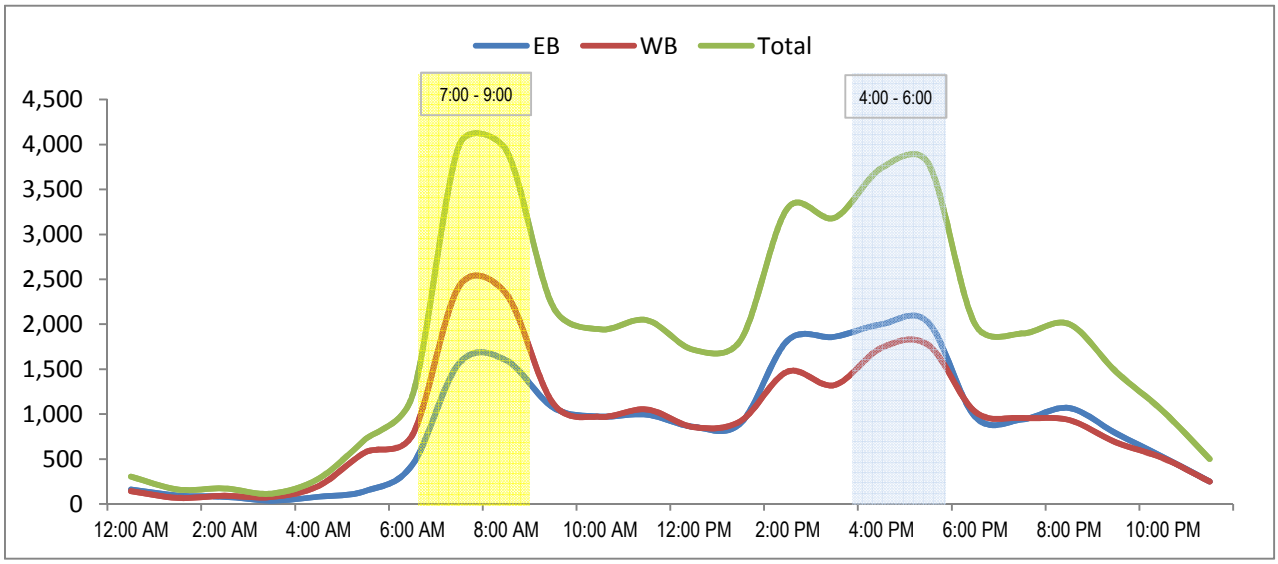
AVC Proj. No: *15-0349*

24 Hour Segment Volume			*43,527*

Time	Hourly Volume		
	EB	WB	Total
12:00 AM - 1:00 AM	162	143	305
1:00 AM - 2:00 AM	94	68	162
2:00 AM - 3:00 AM	81	92	173
3:00 AM - 4:00 AM	38	78	116
4:00 AM - 5:00 AM	81	201	282
5:00 AM - 6:00 AM	145	576	721
6:00 AM - 7:00 AM	436	767	1,203
7:00 AM - 8:00 AM	1,567	2,425	3,992
8:00 AM - 9:00 AM	1,600	2,339	3,939
9:00 AM - 10:00 AM	1,074	1,122	2,196
10:00 AM - 11:00 AM	974	970	1,944
11:00 AM - 12:00 PM	994	1,052	2046
Total	**7,246**	**9,833**	**17,079**

Time	Hourly Volume		
	EB	WB	Total
12:00 PM - 1:00 PM	858	856	1,714
1:00 PM - 2:00 PM	900	924	1,824
2:00 PM - 3:00 PM	1,818	1,473	3,291
3:00 PM - 4:00 PM	1,861	1,323	3,184
4:00 PM - 5:00 PM	2,000	1,737	3,737
5:00 PM - 6:00 PM	2,020	1,770	3,790
6:00 PM - 7:00 PM	971	1,027	1,998
7:00 PM - 8:00 PM	940	957	1,897
8:00 PM - 9:00 PM	1,068	935	2,003
9:00 PM - 10:00 PM	787	686	1,473
10:00 PM - 11:00 PM	524	512	1,036
11:00 PM - 12:00 AM	251	250	501
Total	**13,998**	**12,450**	**26,448**

24-Hour EB Volume	*21,244*	*24-Hour WB Volume*	*22,283*



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: g) La Jolla Village Drive, Between Towne Center Drive and I-805 SB Ramps

Orientation: *East-West*

Date of Count: *Wednesday, May 06, 2015*

Analysts: *DASH*

Weather: *Sunny*

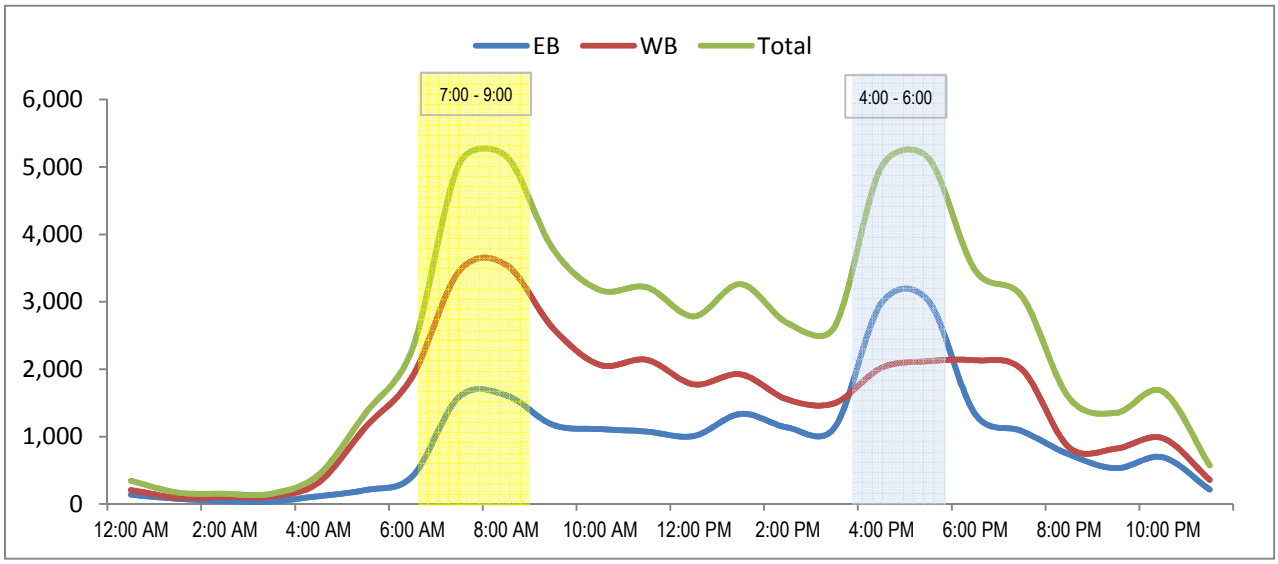
AVC Proj. No: *15-0345*

24 Hour Segment Volume			*58,490*

Time	Hourly Volume		
	EB	WB	Total
12:00 AM - 1:00 AM	138	206	344
1:00 AM - 2:00 AM	76	94	170
2:00 AM - 3:00 AM	45	107	152
3:00 AM - 4:00 AM	40	114	154
4:00 AM - 5:00 AM	117	318	435
5:00 AM - 6:00 AM	208	1,139	1,347
6:00 AM - 7:00 AM	411	1,890	2,301
7:00 AM - 8:00 AM	1,591	3,456	5,047
8:00 AM - 9:00 AM	1,614	3,548	5,162
9:00 AM - 10:00 AM	1,174	2,609	3,783
10:00 AM - 11:00 AM	1,110	2,063	3,173
11:00 AM - 12:00 PM	1,076	2,139	3215
Total	**7,600**	**17,683**	**25,283**

Time	Hourly Volume		
	EB	WB	Total
12:00 PM - 1:00 PM	1,008	1,775	2,783
1:00 PM - 2:00 PM	1,338	1,924	3,262
2:00 PM - 3:00 PM	1,135	1,549	2,684
3:00 PM - 4:00 PM	1,132	1,496	2,628
4:00 PM - 5:00 PM	2,980	2,020	5,000
5:00 PM - 6:00 PM	3,016	2,119	5,135
6:00 PM - 7:00 PM	1,334	2,133	3,467
7:00 PM - 8:00 PM	1,083	1,994	3,077
8:00 PM - 9:00 PM	736	841	1,577
9:00 PM - 10:00 PM	531	821	1,352
10:00 PM - 11:00 PM	694	976	1,670
11:00 PM - 12:00 AM	214	358	572
Total	**15,201**	**18,006**	**33,207**

24-Hour	*EB*	*Volume*	*22,801*	*24-Hour*	*WB*	*Volume*	*35,689*



Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. I-5 Ramps & Lebon Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,345	11,387	22,732

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			44		22		66		12:00			163		167		330	
00:15			28		26		54		12:15			198		173		371	
00:30			33		20		53		12:30			201		191		392	
00:45			17	122	15	83	32	205	12:45			203	765	167	698	370	1463
01:00			22		12		34		13:00			190		170		360	
01:15			13		7		20		13:15			173		198		371	
01:30			13		14		27		13:30			168		146		314	
01:45			11	59	12	45	23	104	13:45			184	715	166	680	350	1395
02:00			6		8		14		14:00			146		154		300	
02:15			8		2		10		14:15			176		187		363	
02:30			4		2		6		14:30			184		183		367	
02:45			6	24	5	17	11	41	14:45			175	681	200	724	375	1405
03:00			5		4		9		15:00			131		188		319	
03:15			3		4		7		15:15			196		200		396	
03:30			6		4		10		15:30			191		216		407	
03:45			6	20	2	14	8	34	15:45			189	707	228	832	417	1539
04:00			6		7		13		16:00			205		213		418	
04:15			8		7		15		16:15			190		230		420	
04:30			11		21		32		16:30			183		234		417	
04:45			16	41	9	44	25	85	16:45			243	821	251	928	494	1749
05:00			21		12		33		17:00			238		237		475	
05:15			25		17		42		17:15			216		255		471	
05:30			33		27		60		17:30			237		244		481	
05:45			51	130	40	96	91	226	17:45			228	919	259	995	487	1914
06:00			40		34		74		18:00			211		243		454	
06:15			94		42		136		18:15			228		220		448	
06:30			79		67		146		18:30			202		236		438	
06:45			100	313	66	209	166	522	18:45			165	806	201	900	366	1706
07:00			94		108		202		19:00			218		235		453	
07:15			100		118		218		19:15			221		185		406	
07:30			116		141		257		19:30			213		166		379	
07:45			126	436	202	569	328	1005	19:45			140	792	155	741	295	1533
08:00			146		181		327		20:00			185		128		313	
08:15			158		142		300		20:15			155		159		314	
08:30			144		175		319		20:30			155		140		295	
08:45			135	583	141	639	276	1222	20:45			133	628	106	533	239	1161
09:00			127		153		280		21:00			140		122		262	
09:15			121		162		283		21:15			121		105		226	
09:30			152		118		270		21:30			148		119		267	
09:45			144	544	151	584	295	1128	21:45			147	556	88	434	235	990
10:00			121		141		262		22:00			127		75		202	
10:15			122		121		243		22:15			89		57		146	
10:30			139		162		301		22:30			82		49		131	
10:45			133	515	143	567	276	1082	22:45			60	358	51	232	111	590
11:00			145		154		299		23:00			61		35		96	
11:15			140		164		304		23:15			54		37		91	
11:30			151		153		304		23:30			45		43		88	
11:45			158	594	200	671	358	1265	23:45			56	216	37	152	93	368
TOTALS				3381		3538		6919	TOTALS				7964		7849		15813
SPLIT %				48.9%		51.1%		30.4%	SPLIT %				50.4%		49.6%		69.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,345	11,387	22,732

AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			16:45	17:15	16:45
AM Pk Volume			720	731	1451	PM Pk Volume			934	1001	1921
Pk Hr Factor			0.896	0.914	0.925	Pk Hr Factor			0.961	0.966	0.972
7 - 9 Volume	0	0	1019	1208	2227	4 - 6 Volume	0	0	1740	1923	3663
7 - 9 Peak Hour			08:00	07:45	07:45	4 - 6 Peak Hour			16:45	17:00	16:45
7 - 9 Pk Volume	0	0	583	700	1274	4 - 6 Pk Volume	0	0	934	995	1921
Pk Hr Factor	0.000	0.000	0.922	0.866	0.971	Pk Hr Factor	0.000	0.000	0.961	0.960	0.972

Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. Lebon Dr & Regents Rd

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,391	11,940	24,331

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			47		29		76		12:00			176		157		333	
00:15			33		27		60		12:15			223		190		413	
00:30			30		21		51		12:30			211		182		393	
00:45			26	136	19	96	45	232	12:45			213	823	171	700	384	1523
01:00			23		14		37		13:00			230		182		412	
01:15			17		6		23		13:15			194		183		377	
01:30			18		15		33		13:30			175		166		341	
01:45			14	72	8	43	22	115	13:45			195	794	169	700	364	1494
02:00			6		6		12		14:00			179		174		353	
02:15			10		4		14		14:15			162		178		340	
02:30			5		2		7		14:30			175		197		372	
02:45			6	27	3	15	9	42	14:45			185	701	183	732	368	1433
03:00			7		4		11		15:00			142		201		343	
03:15			6		8		14		15:15			182		222		404	
03:30			6		6		12		15:30			199		193		392	
03:45			9	28	4	22	13	50	15:45			206	729	239	855	445	1584
04:00			10		9		19		16:00			191		210		401	
04:15			12		12		24		16:15			201		230		431	
04:30			16		18		34		16:30			206		268		474	
04:45			15	53	10	49	25	102	16:45			243	841	275	983	518	1824
05:00			23		9		32		17:00			262		273		535	
05:15			25		16		41		17:15			240		267		507	
05:30			38		27		65		17:30			244		266		510	
05:45			55	141	39	91	94	232	17:45			263	1009	268	1074	531	2083
06:00			48		35		83		18:00			218		265		483	
06:15			104		43		147		18:15			222		220		442	
06:30			95		78		173		18:30			239		249		488	
06:45			107	354	87	243	194	597	18:45			212	891	218	952	430	1843
07:00			114		119		233		19:00			225		218		443	
07:15			141		138		279		19:15			241		194		435	
07:30			151		167		318		19:30			194		172		366	
07:45			150	556	197	621	347	1177	19:45			167	827	130	714	297	1541
08:00			170		180		350		20:00			195		150		345	
08:15			187		156		343		20:15			163		153		316	
08:30			159		199		358		20:30			132		138		270	
08:45			168	684	163	698	331	1382	20:45			138	628	105	546	243	1174
09:00			136		171		307		21:00			151		131		282	
09:15			165		159		324		21:15			146		117		263	
09:30			160		134		294		21:30			157		122		279	
09:45			156	617	157	621	313	1238	21:45			141	595	95	465	236	1060
10:00			129		148		277		22:00			121		80		201	
10:15			145		143		288		22:15			105		73		178	
10:30			157		156		313		22:30			92		65		157	
10:45			143	574	145	592	288	1166	22:45			76	394	70	288	146	682
11:00			157		144		301		23:00			70		50		120	
11:15			163		158		321		23:15			73		51		124	
11:30			156		159		315		23:30			62		48		110	
11:45			181	657	187	648	368	1305	23:45			55	260	43	192	98	452
TOTALS				3899		3739		7638	TOTALS				8492		8201		16693
SPLIT %				51.0%		49.0%		31.4%	SPLIT %				50.9%		49.1%		68.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,391	11,940	24,331

AM Peak Hour			11:45	07:45	11:45	PM Peak Hour			17:00	16:30	17:00
AM Pk Volume			791	732	1507	PM Pk Volume			1009	1083	2083
Pk Hr Factor			0.887	0.920	0.912	Pk Hr Factor			0.959	0.985	0.973
7 - 9 Volume	0	0	1240	1319	2559	4 - 6 Volume	0	0	1850	2057	3907
7 - 9 Peak Hour			08:00	07:45	07:45	4 - 6 Peak Hour			17:00	16:30	17:00
7 - 9 Pk Volume	0	0	684	732	1398	4 - 6 Pk Volume	0	0	1009	1083	2083
Pk Hr Factor	0.000	0.000	0.914	0.920	0.976	Pk Hr Factor	0.000	0.000	0.959	0.985	0.973

Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. Regents Rd & Costa Verde Blvd

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,590	12,984	24,574

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			42		25		67		12:00			142		188		330	
00:15			31		39		70		12:15			198		196		394	
00:30			25		32		57		12:30			175		189		364	
00:45			20	118	25	121	45	239	12:45			161	676	181	754	342	1430
01:00			14		19		33		13:00			229		183		412	
01:15			16		18		34		13:15			171		187		358	
01:30			13		12		25		13:30			155		194		349	
01:45			11	54	11	60	22	114	13:45			167	722	185	749	352	1471
02:00			7		6		13		14:00			189		166		355	
02:15			11		4		15		14:15			196		192		388	
02:30			5		6		11		14:30			172		218		390	
02:45			4	27	4	20	8	47	14:45			173	730	171	747	344	1477
03:00			7		8		15		15:00			155		188		343	
03:15			7		7		14		15:15			168		209		377	
03:30			3		5		8		15:30			195		193		388	
03:45			8	25	5	25	13	50	15:45			242	760	241	831	483	1591
04:00			10		9		19		16:00			213		213		426	
04:15			12		9		21		16:15			203		250		453	
04:30			12		16		28		16:30			212		279		491	
04:45			15	49	14	48	29	97	16:45			256	884	269	1011	525	1895
05:00			24		10		34		17:00			242		296		538	
05:15			26		16		42		17:15			239		281		520	
05:30			39		27		66		17:30			227		289		516	
05:45			42	131	46	99	88	230	17:45			245	953	265	1131	510	2084
06:00			49		56		105		18:00			206		268		474	
06:15			78		76		154		18:15			198		223		421	
06:30			95		92		187		18:30			196		244		440	
06:45			100	322	98	322	198	644	18:45			239	839	217	952	456	1791
07:00			109		145		254		19:00			216		238		454	
07:15			139		203		342		19:15			203		228		431	
07:30			180		207		387		19:30			189		178		367	
07:45			182	610	211	766	393	1376	19:45			143	751	176	820	319	1571
08:00			146		207		353		20:00			176		185		361	
08:15			174		207		381		20:15			137		167		304	
08:30			160		202		362		20:30			136		159		295	
08:45			163	643	195	811	358	1454	20:45			124	573	133	644	257	1217
09:00			156		175		331		21:00			122		148		270	
09:15			125		188		313		21:15			162		168		330	
09:30			138		144		282		21:30			102		135		237	
09:45			141	560	171	678	312	1238	21:45			111	497	110	561	221	1058
10:00			123		159		282		22:00			93		103		196	
10:15			131		138		269		22:15			88		86		174	
10:30			150		169		319		22:30			64		84		148	
10:45			120	524	167	633	287	1157	22:45			62	307	81	354	143	661
11:00			140		157		297		23:00			57		58		115	
11:15			159		149		308		23:15			56		60		116	
11:30			153		167		320		23:30			59		52		111	
11:45			160	612	160	633	320	1245	23:45			51	223	44	214	95	437
TOTALS				3675		4216		7891	TOTALS				7915		8768		16683
SPLIT %				46.6%		53.4%		32.1%	SPLIT %				47.4%		52.6%		67.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	11,590	12,984	24,574

AM Peak Hour				07:30		07:30		07:30	PM Peak Hour				16:45		16:45		16:45
AM Pk Volume				682		832		1514	PM Pk Volume				964		1135		2099
Pk Hr Factor				0.937		0.986		0.963	Pk Hr Factor				0.941		0.959		0.975
7 - 9 Volume	0	0		1253		1577		2830	4 - 6 Volume	0	0		1837		2142		3979
7 - 9 Peak Hour				07:30		07:30		07:30	4 - 6 Peak Hour				16:45		16:45		16:45
7 - 9 Pk Volume	0	0		682		832		1514	4 - 6 Pk Volume	0	0		964		1135		2099
Pk Hr Factor	0.000	0.000		0.937		0.986		0.963	Pk Hr Factor	0.000	0.000		0.941		0.959		0.975

Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. Costa Verde Blvd & Genesee Ave

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_011

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,741	11,665	22,406

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			36		21		57		12:00			137		181		318	
00:15			31		35		66		12:15			165		190		355	
00:30			24		29		53		12:30			160		171		331	
00:45			17	108	20	105	37	213	12:45			161	623	163	705	324	1328
01:00			19		21		40		13:00			195		171		366	
01:15			17		15		32		13:15			164		178		342	
01:30			6		14		20		13:30			149		186		335	
01:45			10	52	11	61	21	113	13:45			149	657	167	702	316	1359
02:00			10		4		14		14:00			154		161		315	
02:15			10		4		14		14:15			190		176		366	
02:30			4		4		8		14:30			182		187		369	
02:45			2	26	6	18	8	44	14:45			159	685	168	692	327	1377
03:00			6		10		16		15:00			155		175		330	
03:15			7		7		14		15:15			158		156		314	
03:30			4		4		8		15:30			179		154		333	
03:45			6	23	5	26	11	49	15:45			202	694	194	679	396	1373
04:00			7		5		12		16:00			185		193		378	
04:15			9		6		15		16:15			178		218		396	
04:30			11		11		22		16:30			181		237		418	
04:45			14	41	12	34	26	75	16:45			208	752	240	888	448	1640
05:00			22		9		31		17:00			196		276		472	
05:15			28		22		50		17:15			219		278		497	
05:30			29		29		58		17:30			199		287		486	
05:45			47	126	38	98	85	224	17:45			207	821	245	1086	452	1907
06:00			52		53		105		18:00			193		258		451	
06:15			74		68		142		18:15			193		212		405	
06:30			78		89		167		18:30			185		202		387	
06:45			90	294	78	288	168	582	18:45			212	783	203	875	415	1658
07:00			111		121		232		19:00			196		235		431	
07:15			152		174		326		19:15			185		183		368	
07:30			176		175		351		19:30			180		177		357	
07:45			199	638	160	630	359	1268	19:45			129	690	141	736	270	1426
08:00			160		185		345		20:00			165		161		326	
08:15			154		167		321		20:15			147		148		295	
08:30			165		168		333		20:30			120		149		269	
08:45			176	655	163	683	339	1338	20:45			117	549	134	592	251	1141
09:00			158		155		313		21:00			124		141		265	
09:15			131		162		293		21:15			136		144		280	
09:30			141		116		257		21:30			101		133		234	
09:45			135	565	159	592	294	1157	21:45			78	439	93	511	171	950
10:00			108		130		238		22:00			81		93		174	
10:15			120		135		255		22:15			80		72		152	
10:30			106		139		245		22:30			59		74		133	
10:45			122	456	149	553	271	1009	22:45			42	262	72	311	114	573
11:00			139		135		274		23:00			63		53		116	
11:15			151		160		311		23:15			61		58		119	
11:30			147		143		290		23:30			48		43		91	
11:45			143	580	167	605	310	1185	23:45			50	222	41	195	91	417
TOTALS				3564		3693		7257	TOTALS				7177		7972		15149
SPLIT %				49.1%		50.9%		32.4%	SPLIT %				47.4%		52.6%		67.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,741	11,665	22,406

AM Peak Hour			07:30	11:45	07:15	PM Peak Hour	16:45	17:00	17:00
AM Pk Volume			689	709	1381	PM Pk Volume	822	1086	1907
Pk Hr Factor			0.866	0.933	0.962	Pk Hr Factor	0.938	0.946	0.959
7 - 9 Volume	0	0	1293	1313	2606	4 - 6 Volume	0	0	1573	1974	3547
7 - 9 Peak Hour			07:30	07:15	07:15	4 - 6 Peak Hour	16:45	17:00	17:00
7 - 9 Pk Volume	0	0	689	694	1381	4 - 6 Pk Volume	0	0	822	1086	1907
Pk Hr Factor	0.000	0.000	0.866	0.938	0.962	Pk Hr Factor	0.000	0.000	0.938	0.946	0.959

Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. Genesee Ave & Towne Centre Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_012

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,425	9,846	20,271

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			44		16		60		12:00			151		152		303	
00:15			34		18		52		12:15			162		171		333	
00:30			32		11		43		12:30			146		125		271	
00:45			33	143	4	49	37	192	12:45			193	652	147	595	340	1247
01:00			17		11		28		13:00			193		128		321	
01:15			12		8		20		13:15			175		140		315	
01:30			7		6		13		13:30			158		141		299	
01:45			10	46	11	36	21	82	13:45			147	673	134	543	281	1216
02:00			7		3		10		14:00			137		131		268	
02:15			4		7		11		14:15			167		152		319	
02:30			3		7		10		14:30			182		147		329	
02:45			2	16	5	22	7	38	14:45			132	618	209	639	341	1257
03:00			5		11		16		15:00			137		190		327	
03:15			6		5		11		15:15			156		192		348	
03:30			5		3		8		15:30			135		206		341	
03:45			3	19	3	22	6	41	15:45			168	596	175	763	343	1359
04:00			6		4		10		16:00			124		274		398	
04:15			10		8		18		16:15			146		220		366	
04:30			6		14		20		16:30			116		263		379	
04:45			13	35	24	50	37	85	16:45			150	536	289	1046	439	1582
05:00			16		17		33		17:00			135		313		448	
05:15			35		23		58		17:15			167		307		474	
05:30			32		43		75		17:30			151		295		446	
05:45			46	129	57	140	103	269	17:45			158	611	286	1201	444	1812
06:00			51		78		129		18:00			157		217		374	
06:15			74		76		150		18:15			124		182		306	
06:30			97		67		164		18:30			160		195		355	
06:45			116	338	61	282	177	620	18:45			191	632	161	755	352	1387
07:00			121		89		210		19:00			222		150		372	
07:15			159		105		264		19:15			193		142		335	
07:30			181		112		293		19:30			204		98		302	
07:45			231	692	84	390	315	1082	19:45			157	776	95	485	252	1261
08:00			218		103		321		20:00			143		101		244	
08:15			205		111		316		20:15			166		106		272	
08:30			185		110		295		20:30			127		87		214	
08:45			197	805	104	428	301	1233	20:45			113	549	81	375	194	924
09:00			188		100		288		21:00			126		87		213	
09:15			171		79		250		21:15			114		84		198	
09:30			162		84		246		21:30			133		90		223	
09:45			156	677	124	387	280	1064	21:45			98	471	56	317	154	788
10:00			94		92		186		22:00			82		56		138	
10:15			109		97		206		22:15			90		52		142	
10:30			106		110		216		22:30			57		45		102	
10:45			114	423	132	431	246	854	22:45			41	270	46	199	87	469
11:00			137		104		241		23:00			46		44		90	
11:15			152		140		292		23:15			52		38		90	
11:30			133		146		279		23:30			37		30		67	
11:45			124	546	168	558	292	1104	23:45			37	172	21	133	58	305
TOTALS				3869		2795		6664	TOTALS				6556		7051		13607
SPLIT %				58.1%		41.9%		32.9%	SPLIT %				48.2%		51.8%		67.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,425	9,846	20,271

AM Peak Hour			07:45	11:30	07:45	PM Peak Hour			18:45	16:45	17:00
AM Pk Volume			839	637	1247	PM Pk Volume			810	1204	1812
Pk Hr Factor			0.908	0.931	0.971	Pk Hr Factor			0.912	0.962	0.956
7 - 9 Volume	0	0	1497	818	2315	4 - 6 Volume	0	0	1147	2247	3394
7 - 9 Peak Hour			07:45	08:00	07:45	4 - 6 Peak Hour			17:00	16:45	17:00
7 - 9 Pk Volume	0	0	839	428	1247	4 - 6 Pk Volume	0	0	611	1204	1812
Pk Hr Factor	0.000	0.000	0.908	0.964	0.971	Pk Hr Factor	0.000	0.000	0.915	0.962	0.956

Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. Towne Centre Dr & Shoreline Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_013

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,926	6,463	13,389

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			37		11		48		12:00			98		113		211	
00:15			31		10		41		12:15			103		99		202	
00:30			22		5		27		12:30			104		85		189	
00:45			25	115	6	32	31	147	12:45			129	434	98	395	227	829
01:00			8		4		12		13:00			139		79		218	
01:15			9		8		17		13:15			122		81		203	
01:30			6		2		8		13:30			94		99		193	
01:45			7	30	10	24	17	54	13:45			119	474	75	334	194	808
02:00			4		2		6		14:00			101		72		173	
02:15			3		5		8		14:15			128		95		223	
02:30			2		4		6		14:30			127		103		230	
02:45			0	9	2	13	2	22	14:45			86	442	132	402	218	844
03:00			4		3		7		15:00			84		113		197	
03:15			5		2		7		15:15			106		125		231	
03:30			6		2		8		15:30			88		140		228	
03:45			4	19	5	12	9	31	15:45			102	380	127	505	229	885
04:00			7		4		11		16:00			66		166		232	
04:15			6		4		10		16:15			93		147		240	
04:30			3		9		12		16:30			69		162		231	
04:45			8	24	26	43	34	67	16:45			66	294	180	655	246	949
05:00			12		19		31		17:00			80		189		269	
05:15			27		19		46		17:15			90		234		324	
05:30			30		41		71		17:30			94		176		270	
05:45			27	96	53	132	80	228	17:45			98	362	186	785	284	1147
06:00			36		68		104		18:00			95		125		220	
06:15			47		65		112		18:15			78		119		197	
06:30			75		54		129		18:30			109		124		233	
06:45			69	227	45	232	114	459	18:45			130	412	108	476	238	888
07:00			78		65		143		19:00			150		99		249	
07:15			105		64		169		19:15			134		81		215	
07:30			118		61		179		19:30			131		64		195	
07:45			162	463	55	245	217	708	19:45			111	526	63	307	174	833
08:00			115		67		182		20:00			115		53		168	
08:15			130		59		189		20:15			118		75		193	
08:30			116		64		180		20:30			98		57		155	
08:45			120	481	69	259	189	740	20:45			80	411	54	239	134	650
09:00			117		47		164		21:00			98		54		152	
09:15			107		56		163		21:15			91		57		148	
09:30			107		52		159		21:30			95		54		149	
09:45			96	427	94	249	190	676	21:45			65	349	40	205	105	554
10:00			60		63		123		22:00			56		36		92	
10:15			75		74		149		22:15			62		41		103	
10:30			77		79		156		22:30			41		33		74	
10:45			87	299	98	314	185	613	22:45			20	179	29	139	49	318
11:00			102		69		171		23:00			33		34		67	
11:15			92		101		193		23:15			33		24		57	
11:30			87		103		190		23:30			27		15		42	
11:45			78	359	107	380	185	739	23:45			21	114	13	86	34	200
TOTALS				2549		1935		4484	TOTALS				4377		4528		8905
SPLIT %				56.8%		43.2%		33.5%	SPLIT %				49.2%		50.8%		66.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,926	6,463	13,389

AM Peak Hour			07:30	11:15	11:30	PM Peak Hour	18:45	17:00	17:00
AM Pk Volume			525	424	788	PM Pk Volume	545	785	1147
Pk Hr Factor			0.810	0.938	0.934	Pk Hr Factor	0.908	0.839	0.885
7 - 9 Volume	0	0	944	504	1448	4 - 6 Volume	0	0	656	1440	2096
7 - 9 Peak Hour			07:30	08:00	07:45	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	525	259	768	4 - 6 Pk Volume	0	0	362	785	1147
Pk Hr Factor	0.000	0.000	0.810	0.938	0.885	Pk Hr Factor	0.000	0.000	0.923	0.839	0.885

Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. Shoreline Dr & Judicial Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_014

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,928	7,420	15,348

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			35		10		45		12:00			114		122		236	
00:15			31		12		43		12:15			111		119		230	
00:30			22		7		29		12:30			128		95		223	
00:45			26	114	3	32	29	146	12:45			145	498	114	450	259	948
01:00			10		8		18		13:00			154		88		242	
01:15			9		8		17		13:15			134		103		237	
01:30			4		3		7		13:30			118		121		239	
01:45			8	31	10	29	18	60	13:45			140	546	95	407	235	953
02:00			6		2		8		14:00			110		92		202	
02:15			3		6		9		14:15			155		112		267	
02:30			2		4		6		14:30			122		120		242	
02:45			2	13	4	16	6	29	14:45			95	482	126	450	221	932
03:00			5		4		9		15:00			94		129		223	
03:15			5		3		8		15:15			126		128		254	
03:30			9		2		11		15:30			86		150		236	
03:45			6	25	6	15	12	40	15:45			87	393	146	553	233	946
04:00			8		6		14		16:00			76		177		253	
04:15			8		7		15		16:15			97		176		273	
04:30			8		13		21		16:30			90		189		279	
04:45			16	40	26	52	42	92	16:45			75	338	203	745	278	1083
05:00			19		20		39		17:00			77		230		307	
05:15			31		20		51		17:15			92		245		337	
05:30			36		38		74		17:30			92		223		315	
05:45			43	129	50	128	93	257	17:45			93	354	216	914	309	1268
06:00			40		72		112		18:00			102		160		262	
06:15			47		67		114		18:15			87		128		215	
06:30			98		59		157		18:30			110		154		264	
06:45			86	271	44	242	130	513	18:45			134	433	129	571	263	1004
07:00			103		64		167		19:00			198		124		322	
07:15			126		67		193		19:15			151		100		251	
07:30			184		59		243		19:30			133		80		213	
07:45			188	601	71	261	259	862	19:45			131	613	77	381	208	994
08:00			150		69		219		20:00			129		72		201	
08:15			167		56		223		20:15			122		78		200	
08:30			147		58		205		20:30			118		69		187	
08:45			151	615	85	268	236	883	20:45			80	449	72	291	152	740
09:00			152		68		220		21:00			91		66		157	
09:15			129		69		198		21:15			102		68		170	
09:30			133		69		202		21:30			95		58		153	
09:45			117	531	119	325	236	856	21:45			69	357	56	248	125	605
10:00			71		65		136		22:00			68		47		115	
10:15			80		89		169		22:15			61		48		109	
10:30			107		89		196		22:30			42		35		77	
10:45			102	360	115	358	217	718	22:45			27	198	32	162	59	360
11:00			128		84		212		23:00			32		38		70	
11:15			102		109		211		23:15			31		29		60	
11:30			104		111		215		23:30			26		21		47	
11:45			92	426	113	417	205	843	23:45			22	111	17	105	39	216
TOTALS				3156		2143		5299	TOTALS				4772		5277		10049
SPLIT %				59.6%		40.4%		34.5%	SPLIT %				47.5%		52.5%		65.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	7,928	7,420	15,348

AM Peak Hour			07:30	11:30	07:30	PM Peak Hour	18:45	17:00	17:00
AM Pk Volume			689	465	944	PM Pk Volume	616	914	1268
Pk Hr Factor			0.916	0.953	0.911	Pk Hr Factor	0.778	0.933	0.941
7 - 9 Volume	0	0	1216	529	1745	4 - 6 Volume	0	0	692	1659	2351
7 - 9 Peak Hour			07:30	08:00	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	689	268	944	4 - 6 Pk Volume	0	0	354	914	1268
Pk Hr Factor	0.000	0.000	0.916	0.788	0.911	Pk Hr Factor	0.000	0.000	0.952	0.933	0.941

Prepared by NDS/ATD

VOLUME

Nobel Dr Bet. Judicial Dr & I-805 Ramps

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_015

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,259	11,111	23,370

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			33		10		43		12:00			166		152		318	
00:15			37		18		55		12:15			174		162		336	
00:30			23		11		34		12:30			175		128		303	
00:45			29	122	6	45	35	167	12:45			178	693	167	609	345	1302
01:00			11		11		22		13:00			203		151		354	
01:15			11		10		21		13:15			171		147		318	
01:30			8		7		15		13:30			193		172		365	
01:45			8	38	12	40	20	78	13:45			188	755	127	597	315	1352
02:00			6		3		9		14:00			204		127		331	
02:15			9		8		17		14:15			245		131		376	
02:30			20		5		25		14:30			284		144		428	
02:45			8	43	4	20	12	63	14:45			160	893	162	564	322	1457
03:00			9		6		15		15:00			161		147		308	
03:15			6		5		11		15:15			194		138		332	
03:30			13		8		21		15:30			176		147		323	
03:45			9	37	12	31	21	68	15:45			166	697	168	600	334	1297
04:00			11		13		24		16:00			196		172		368	
04:15			10		14		24		16:15			242		190		432	
04:30			15		27		42		16:30			207		193		400	
04:45			25	61	50	104	75	165	16:45			200	845	216	771	416	1616
05:00			21		52		73		17:00			235		230		465	
05:15			38		82		120		17:15			243		252		495	
05:30			49		123		172		17:30			239		213		452	
05:45			56	164	187	444	243	608	17:45			227	944	257	952	484	1896
06:00			60		182		242		18:00			264		182		446	
06:15			72		166		238		18:15			237		151		388	
06:30			168		155		323		18:30			203		170		373	
06:45			110	410	171	674	281	1084	18:45			208	912	154	657	362	1569
07:00			120		180		300		19:00			307		144		451	
07:15			158		183		341		19:15			217		125		342	
07:30			224		164		388		19:30			190		106		296	
07:45			198	700	198	725	396	1425	19:45			169	883	125	500	294	1383
08:00			207		217		424		20:00			177		99		276	
08:15			209		186		395		20:15			157		111		268	
08:30			184		184		368		20:30			148		91		239	
08:45			179	779	214	801	393	1580	20:45			121	603	101	402	222	1005
09:00			163		171		334		21:00			96		102		198	
09:15			162		155		317		21:15			142		100		242	
09:30			170		162		332		21:30			109		96		205	
09:45			136	631	180	668	316	1299	21:45			83	430	128	426	211	856
10:00			105		136		241		22:00			82		75		157	
10:15			119		127		246		22:15			88		71		159	
10:30			144		139		283		22:30			108		55		163	
10:45			130	498	140	542	270	1040	22:45			66	344	53	254	119	598
11:00			168		105		273		23:00			44		46		90	
11:15			145		144		289		23:15			49		33		82	
11:30			157		144		301		23:30			33		36		69	
11:45			152	622	149	542	301	1164	23:45			29	155	28	143	57	298
TOTALS				4105		4636		8741	TOTALS				8154		6475		14629
SPLIT %				47.0%		53.0%		37.4%	SPLIT %				55.7%		44.3%		62.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,259	11,111	23,370

AM Peak Hour			07:30	08:00	07:30	PM Peak Hour	17:15	17:00	17:00
AM Pk Volume			838	801	1603	PM Pk Volume	973	952	1896
Pk Hr Factor			0.935	0.923	0.945	Pk Hr Factor	0.921	0.926	0.958
7 - 9 Volume	0	0	1479	1526	3005	4 - 6 Volume	0	0	1789	1723	3512
7 - 9 Peak Hour			07:30	08:00	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	838	801	1603	4 - 6 Pk Volume	0	0	944	952	1896
Pk Hr Factor	0.000	0.000	0.935	0.923	0.945	Pk Hr Factor	0.000	0.000	0.971	0.926	0.958

Prepared by NDS/ATD

VOLUME

Lebon Dr Bet. La Jolla Village Dr & Nobel Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_016

DAILY TOTALS	NB	SB	EB	WB	Total
	7,745	6,788	0	0	14,533

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	13		23				36		12:00	90		86				176	
00:15	9		23				32		12:15	128		102				230	
00:30	10		16				26		12:30	118		94				212	
00:45	8	40	9	71			17	111	12:45	139	475	107	389			246	864
01:00	7		8				15		13:00	103		85				188	
01:15	3		12				15		13:15	114		96				210	
01:30	7		4				11		13:30	105		85				190	
01:45	6	23	3	27			9	50	13:45	138	460	104	370			242	830
02:00	1		6				7		14:00	107		88				195	
02:15	2		0				2		14:15	101		88				189	
02:30	2		3				5		14:30	129		86				215	
02:45	3	8	2	11			5	19	14:45	102	439	73	335			175	774
03:00	2		5				7		15:00	102		71				173	
03:15	2		3				5		15:15	107		71				178	
03:30	2		2				4		15:30	86		112				198	
03:45	5	11	5	15			10	26	15:45	93	388	91	345			184	733
04:00	6		5				11		16:00	98		95				193	
04:15	9		3				12		16:15	114		105				219	
04:30	14		6				20		16:30	149		106				255	
04:45	7	36	10	24			17	60	16:45	159	520	172	478			331	998
05:00	5		27				32		17:00	149		157				306	
05:15	10		9				19		17:15	130		175				305	
05:30	25		14				39		17:30	173		188				361	
05:45	35	75	13	63			48	138	17:45	150	602	169	689			319	1291
06:00	33		18				51		18:00	137		171				308	
06:15	44		31				75		18:15	155		144				299	
06:30	76		29				105		18:30	130		206				336	
06:45	92	245	46	124			138	369	18:45	127	549	129	650			256	1199
07:00	93		53				146		19:00	103		124				227	
07:15	128		69				197		19:15	80		110				190	
07:30	194		67				261		19:30	80		108				188	
07:45	197	612	93	282			290	894	19:45	78	341	113	455			191	796
08:00	160		103				263		20:00	73		105				178	
08:15	169		99				268		20:15	65		89				154	
08:30	203		101				304		20:30	65		91				156	
08:45	171	703	87	390			258	1093	20:45	75	278	75	360			150	638
09:00	179		95				274		21:00	76		90				166	
09:15	148		112				260		21:15	57		101				158	
09:30	145		94				239		21:30	63		74				137	
09:45	138	610	94	395			232	1005	21:45	52	248	76	341			128	589
10:00	112		89				201		22:00	39		42				81	
10:15	98		60				158		22:15	29		48				77	
10:30	108		81				189		22:30	34		57				91	
10:45	131	449	80	310			211	759	22:45	28	130	45	192			73	322
11:00	92		86				178		23:00	32		40				72	
11:15	106		82				188		23:15	21		30				51	
11:30	98		68				166		23:30	18		34				52	
11:45	121	417	110	346			231	763	23:45	15	86	22	126			37	212
TOTALS		3229		2058				5287	TOTALS		4516		4730				9246
SPLIT %		61.1%		38.9%				36.4%	SPLIT %		48.8%		51.2%				63.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,745	6,788	0	0	14,533

AM Peak Hour	07:45	07:45						07:45	PM Peak Hour	17:30	17:15						16:45
AM Pk Volume	729	396						1125	PM Pk Volume	615	703						1303
Pk Hr Factor	0.898	0.961						0.925	Pk Hr Factor	0.889	0.935						0.902
7 - 9 Volume	1315	672	0	0				1987	4 - 6 Volume	1122	1167	0	0				2289
7 - 9 Peak Hour	07:45	07:45						07:45	4 - 6 Peak Hour	16:45	16:45						16:45
7 - 9 Pk Volume	729	396	0	0				1125	4 - 6 Pk Volume	611	692	0	0				1303
Pk Hr Factor	0.898	0.961	0.000	0.000				0.925	Pk Hr Factor	0.883	0.920	0.000	0.000				0.902

Prepared by NDS/ATD

VOLUME

Regents Rd Bet. Executive Dr & La Jolla Village Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_017

DAILY TOTALS	NB	SB	EB	WB	Total
	7,053	11,044	0	0	18,097

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	10		22				32		12:00	98		188				286	
00:15	9		11				20		12:15	104		170				274	
00:30	8		15				23		12:30	108		177				285	
00:45	9	36	6	54			15	90	12:45	109	419	165	700			274	1119
01:00	7		9				16		13:00	90		162				252	
01:15	5		8				13		13:15	97		136				233	
01:30	5		24				29		13:30	83		152				235	
01:45	10	27	5	46			15	73	13:45	92	362	151	601			243	963
02:00	4		9				13		14:00	91		175				266	
02:15	5		5				10		14:15	99		182				281	
02:30	3		6				9		14:30	87		235				322	
02:45	2	14	3	23			5	37	14:45	104	381	252	844			356	1225
03:00	2		1				3		15:00	87		307				394	
03:15	6		4				10		15:15	85		282				367	
03:30	1		1				2		15:30	73		413				486	
03:45	3	12	1	7			4	19	15:45	83	328	330	1332			413	1660
04:00	3		3				6		16:00	56		390				446	
04:15	11		2				13		16:15	75		320				395	
04:30	16		9				25		16:30	71		320				391	
04:45	20	50	8	22			28	72	16:45	74	276	350	1380			424	1656
05:00	18		10				28		17:00	72		327				399	
05:15	50		19				69		17:15	82		313				395	
05:30	56		11				67		17:30	95		319				414	
05:45	73	197	26	66			99	263	17:45	77	326	244	1203			321	1529
06:00	95		27				122		18:00	65		253				318	
06:15	124		40				164		18:15	85		213				298	
06:30	132		31				163		18:30	94		180				274	
06:45	173	524	57	155			230	679	18:45	59	303	150	796			209	1099
07:00	135		61				196		19:00	72		117				189	
07:15	186		86				272		19:15	62		90				152	
07:30	242		131				373		19:30	68		113				181	
07:45	234	797	133	411			367	1208	19:45	63	265	116	436			179	701
08:00	169		119				288		20:00	56		92				148	
08:15	170		91				261		20:15	54		54				108	
08:30	211		119				330		20:30	64		55				119	
08:45	202	752	138	467			340	1219	20:45	59	233	63	264			122	497
09:00	174		141				315		21:00	53		73				126	
09:15	160		107				267		21:15	50		62				112	
09:30	136		153				289		21:30	47		54				101	
09:45	112	582	127	528			239	1110	21:45	51	201	45	234			96	435
10:00	101		124				225		22:00	38		35				73	
10:15	105		123				228		22:15	37		50				87	
10:30	89		127				216		22:30	31		49				80	
10:45	102	397	123	497			225	894	22:45	23	129	23	157			46	286
11:00	80		145				225		23:00	21		28				49	
11:15	89		169				258		23:15	28		21				49	
11:30	84		161				245		23:30	31		45				76	
11:45	98	351	225	700			323	1051	23:45	11	91	27	121			38	212
TOTALS		3739		2976				6715	TOTALS		3314		8068				11382
SPLIT %		55.7%		44.3%				37.1%	SPLIT %		29.1%		70.9%				62.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,053	11,044	0	0	18,097

AM Peak Hour	07:15	11:45				07:15	PM Peak Hour	12:00	15:30				15:30
AM Pk Volume	831	760				1300	PM Pk Volume	419	1453				1740
Pk Hr Factor	0.858	0.844				0.871	Pk Hr Factor	0.961	0.880				0.895
7 - 9 Volume	1549	878	0	0		2427	4 - 6 Volume	602	2583	0	0		3185
7 - 9 Peak Hour	07:15	07:30				07:15	4 - 6 Peak Hour	17:00	16:00				16:00
7 - 9 Pk Volume	831	474	0	0		1300	4 - 6 Pk Volume	326	1380	0	0		1656
Pk Hr Factor	0.858	0.891	0.000	0.000		0.871	Pk Hr Factor	0.858	0.885	0.000	0.000		0.928

Prepared by NDS/ATD

VOLUME

Regents Rd Bet. La Jolla Village Dr & Nobel Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_018

DAILY TOTALS	NB	SB	EB	WB	Total
	7,465	7,709	0	0	15,174

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	17		21				38		12:00	104		113				217	
00:15	13		23				36		12:15	109		91				200	
00:30	20		11				31		12:30	89		120				209	
00:45	12	62	16	71			28	133	12:45	100	402	97	421			197	823
01:00	11		8				19		13:00	93		93				186	
01:15	5		8				13		13:15	89		106				195	
01:30	4		9				13		13:30	107		96				203	
01:45	7	27	7	32			14	59	13:45	107	396	92	387			199	783
02:00	3		5				8		14:00	107		110				217	
02:15	3		5				8		14:15	111		92				203	
02:30	0		3				3		14:30	89		121				210	
02:45	5	11	2	15			7	26	14:45	109	416	101	424			210	840
03:00	2		4				6		15:00	79		140				219	
03:15	2		5				7		15:15	88		169				257	
03:30	2		0				2		15:30	78		196				274	
03:45	4	10	1	10			5	20	15:45	85	330	213	718			298	1048
04:00	4		0				4		16:00	84		219				303	
04:15	4		3				7		16:15	84		201				285	
04:30	3		5				8		16:30	106		241				347	
04:45	15	26	3	11			18	37	16:45	97	371	237	898			334	1269
05:00	9		4				13		17:00	85		222				307	
05:15	15		3				18		17:15	80		260				340	
05:30	29		6				35		17:30	108		254				362	
05:45	40	93	12	25			52	118	17:45	111	384	236	972			347	1356
06:00	36		15				51		18:00	112		186				298	
06:15	74		14				88		18:15	120		193				313	
06:30	92		13				105		18:30	101		172				273	
06:45	96	298	36	78			132	376	18:45	83	416	165	716			248	1132
07:00	106		31				137		19:00	91		112				203	
07:15	165		86				251		19:15	108		111				219	
07:30	251		73				324		19:30	101		106				207	
07:45	265	787	60	250			325	1037	19:45	85	385	99	428			184	813
08:00	204		57				261		20:00	92		100				192	
08:15	219		55				274		20:15	74		98				172	
08:30	226		72				298		20:30	63		84				147	
08:45	193	842	65	249			258	1091	20:45	71	300	89	371			160	671
09:00	185		59				244		21:00	67		108				175	
09:15	190		58				248		21:15	67		85				152	
09:30	151		87				238		21:30	83		69				152	
09:45	127	653	74	278			201	931	21:45	51	268	47	309			98	577
10:00	115		87				202		22:00	46		52				98	
10:15	103		60				163		22:15	45		56				101	
10:30	102		88				190		22:30	38		55				93	
10:45	94	414	77	312			171	726	22:45	27	156	46	209			73	365
11:00	67		89				156		23:00	37		47				84	
11:15	86		78				164		23:15	28		31				59	
11:30	72		90				162		23:30	17		46				63	
11:45	91	316	115	372			206	688	23:45	20	102	29	153			49	255
TOTALS		3539		1703				5242	TOTALS		3926		6006				9932
SPLIT %		67.5%		32.5%				34.5%	SPLIT %		39.5%		60.5%				65.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,465	7,709	0	0	15,174

AM Peak Hour	07:30	11:45				07:30	PM Peak Hour	17:30	16:45				17:00
AM Pk Volume	939	439				1184	PM Pk Volume	451	973				1356
Pk Hr Factor	0.886	0.915				0.911	Pk Hr Factor	0.940	0.936				0.936
7 - 9 Volume	1629	499	0	0		2128	4 - 6 Volume	755	1870	0	0		2625
7 - 9 Peak Hour	07:30	07:15				07:30	4 - 6 Peak Hour	17:00	16:45				17:00
7 - 9 Pk Volume	939	276	0	0		1184	4 - 6 Pk Volume	384	973	0	0		1356
Pk Hr Factor	0.886	0.802	0.000	0.000		0.911	Pk Hr Factor	0.865	0.936	0.000	0.000		0.936

Prepared by NDS/ATD

VOLUME

Regents Rd S/O Nobel Dr

Day: Tuesday
Date: 10/2/2018

City: San Diego
Project #: CA18_4345_019

DAILY TOTALS	NB	SB	EB	WB	Total
	7,465	7,709	0	0	15,174

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	17		21				38		12:00	104		113				217	
00:15	13		23				36		12:15	109		91				200	
00:30	20		11				31		12:30	89		120				209	
00:45	12	62	16	71			28	133	12:45	100	402	97	421			197	823
01:00	11		8				19		13:00	93		93				186	
01:15	5		8				13		13:15	89		106				195	
01:30	4		9				13		13:30	107		96				203	
01:45	7	27	7	32			14	59	13:45	107	396	92	387			199	783
02:00	3		5				8		14:00	107		110				217	
02:15	3		5				8		14:15	111		92				203	
02:30	0		3				3		14:30	89		121				210	
02:45	5	11	2	15			7	26	14:45	109	416	101	424			210	840
03:00	2		4				6		15:00	79		140				219	
03:15	2		5				7		15:15	88		169				257	
03:30	2		0				2		15:30	78		196				274	
03:45	4	10	1	10			5	20	15:45	85	330	213	718			298	1048
04:00	4		0				4		16:00	84		219				303	
04:15	4		3				7		16:15	84		201				285	
04:30	3		5				8		16:30	106		241				347	
04:45	15	26	3	11			18	37	16:45	97	371	237	898			334	1269
05:00	9		4				13		17:00	85		222				307	
05:15	15		3				18		17:15	80		260				340	
05:30	29		6				35		17:30	108		254				362	
05:45	40	93	12	25			52	118	17:45	111	384	236	972			347	1356
06:00	36		15				51		18:00	112		186				298	
06:15	74		14				88		18:15	120		193				313	
06:30	92		13				105		18:30	101		172				273	
06:45	96	298	36	78			132	376	18:45	83	416	165	716			248	1132
07:00	106		31				137		19:00	91		112				203	
07:15	165		86				251		19:15	108		111				219	
07:30	251		73				324		19:30	101		106				207	
07:45	265	787	60	250			325	1037	19:45	85	385	99	428			184	813
08:00	204		57				261		20:00	92		100				192	
08:15	219		55				274		20:15	74		98				172	
08:30	226		72				298		20:30	63		84				147	
08:45	193	842	65	249			258	1091	20:45	71	300	89	371			160	671
09:00	185		59				244		21:00	67		108				175	
09:15	190		58				248		21:15	67		85				152	
09:30	151		87				238		21:30	83		69				152	
09:45	127	653	74	278			201	931	21:45	51	268	47	309			98	577
10:00	115		87				202		22:00	46		52				98	
10:15	103		60				163		22:15	45		56				101	
10:30	102		88				190		22:30	38		55				93	
10:45	94	414	77	312			171	726	22:45	27	156	46	209			73	365
11:00	67		89				156		23:00	37		47				84	
11:15	86		78				164		23:15	28		31				59	
11:30	72		90				162		23:30	17		46				63	
11:45	91	316	115	372			206	688	23:45	20	102	29	153			49	255
TOTALS		3539		1703				**5242**	**TOTALS**		3926		6006				**9932**
SPLIT %		67.5%		32.5%				**34.5%**	**SPLIT %**		39.5%		60.5%				**65.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	7,465	7,709	0	0	15,174

AM Peak Hour	07:30	11:45						**07:30**	**PM Peak Hour**	17:30	16:45						**17:00**
AM Pk Volume	939	439						**1184**	**PM Pk Volume**	451	973						**1356**
Pk Hr Factor	0.886	0.915						**0.911**	**Pk Hr Factor**	0.940	0.936						**0.936**
7 - 9 Volume	1629	499	0	0				**2128**	**4 - 6 Volume**	755	1870	0	0				**2625**
7 - 9 Peak Hour	07:30	07:15						**07:30**	**4 - 6 Peak Hour**	17:00	16:45						**17:00**
7 - 9 Pk Volume	939	276	0	0				**1184**	**4 - 6 Pk Volume**	384	973	0	0				**1356**
Pk Hr Factor	0.886	0.802	0.000	0.000				**0.911**	**Pk Hr Factor**	0.865	0.936	0.000	0.000				**0.936**

LINSCOTT LAW & GREENSPAN engineers

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: p) Genesee Avenue, Between Executive Drive and Executive Square

Orientation: *North-South*

Date of Count: *Thursday, May 07, 2015*

Analysts: *DASH*

Weather: *Sunny*

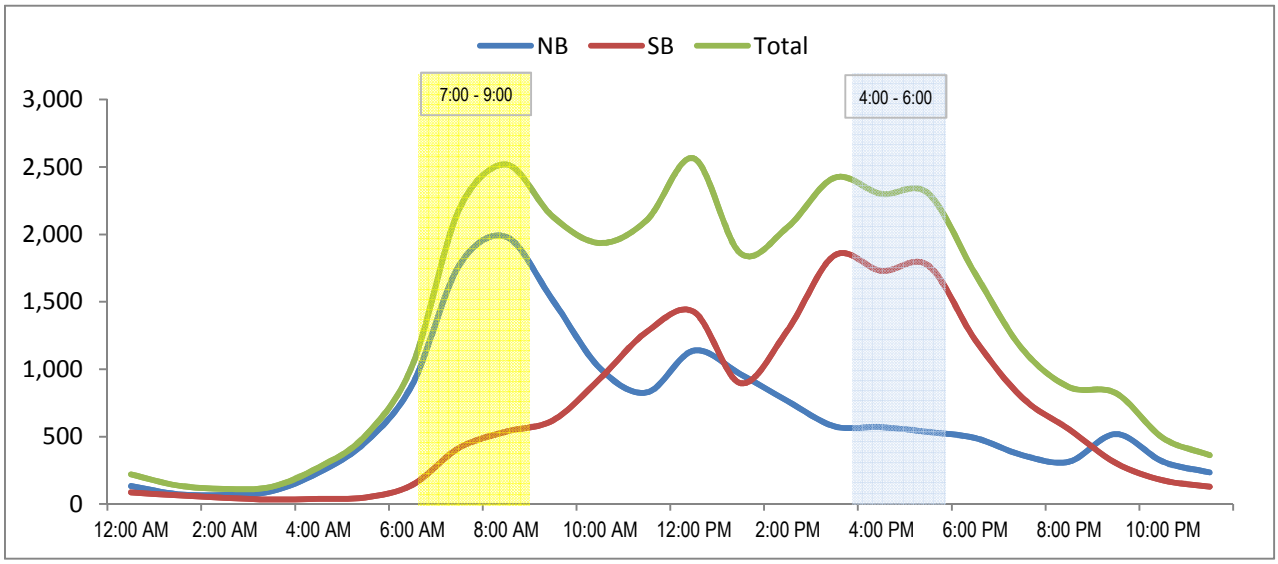
AVC Proj. No: *15-0349*

24 Hour Segment Volume			*32,187*

Time	Hourly Volume		
	NB	SB	Total
12:00 AM - 1:00 AM	133	87	220
1:00 AM - 2:00 AM	73	64	137
2:00 AM - 3:00 AM	66	46	112
3:00 AM - 4:00 AM	95	33	128
4:00 AM - 5:00 AM	233	39	272
5:00 AM - 6:00 AM	458	49	507
6:00 AM - 7:00 AM	887	142	1,029
7:00 AM - 8:00 AM	1,771	417	2,188
8:00 AM - 9:00 AM	1,982	537	2,519
9:00 AM - 10:00 AM	1,509	621	2,130
10:00 AM - 11:00 AM	1,007	929	1,936
11:00 AM - 12:00 PM	828	1,278	2106
Total	**9,042**	**4,242**	**13,284**

Time	Hourly Volume		
	NB	SB	Total
12:00 PM - 1:00 PM	1,138	1,426	2,564
1:00 PM - 2:00 PM	962	896	1,858
2:00 PM - 3:00 PM	764	1,289	2,053
3:00 PM - 4:00 PM	576	1,844	2,420
4:00 PM - 5:00 PM	571	1,729	2,300
5:00 PM - 6:00 PM	534	1,769	2,303
6:00 PM - 7:00 PM	490	1,218	1,708
7:00 PM - 8:00 PM	363	790	1,153
8:00 PM - 9:00 PM	314	554	868
9:00 PM - 10:00 PM	519	304	823
10:00 PM - 11:00 PM	315	176	491
11:00 PM - 12:00 AM	234	128	362
Total	**6,780**	**12,123**	**18,903**

24-Hour	*NB*	*Volume*	*15,822*	*24-Hour*	*SB*	*Volume*	*16,365*



LINSCOTT LAW & GREENSPAN engineers

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: q) Genesee Avenue, Between La Jolla Village Drive and Esplanade Court/Bus Access Road

Orientation: *North-South*

Date of Count: *Thursday, May 07, 2015*

Analysts: *DASH*

Weather: *Sunny*

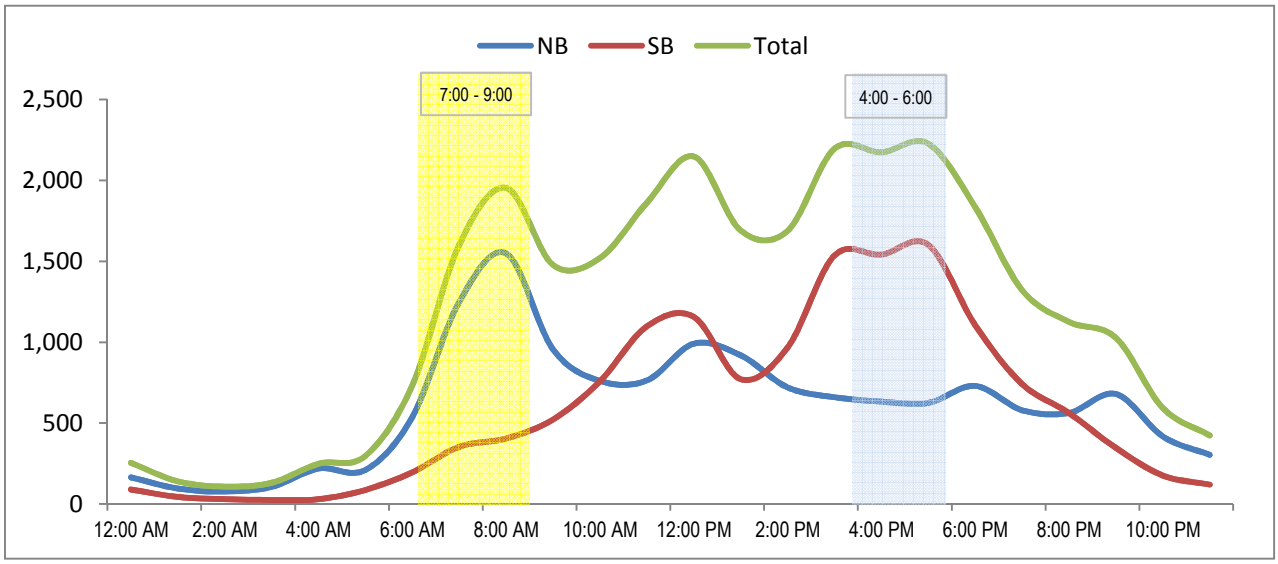
AVC Proj. No: *15-0349*

24 Hour Segment Volume			*28,785*

Time	Hourly Volume		
	NB	SB	Total
12:00 AM - 1:00 AM	165	90	255
1:00 AM - 2:00 AM	96	44	140
2:00 AM - 3:00 AM	77	31	108
3:00 AM - 4:00 AM	106	25	131
4:00 AM - 5:00 AM	219	30	249
5:00 AM - 6:00 AM	211	87	298
6:00 AM - 7:00 AM	538	196	734
7:00 AM - 8:00 AM	1,249	354	1,603
8:00 AM - 9:00 AM	1,549	405	1,954
9:00 AM - 10:00 AM	956	522	1,478
10:00 AM - 11:00 AM	761	759	1,520
11:00 AM - 12:00 PM	764	1,098	1862
Total	**6,691**	**3,641**	**10,332**

Time	Hourly Volume		
	NB	SB	Total
12:00 PM - 1:00 PM	991	1,157	2,148
1:00 PM - 2:00 PM	919	772	1,691
2:00 PM - 3:00 PM	721	967	1,688
3:00 PM - 4:00 PM	660	1,536	2,196
4:00 PM - 5:00 PM	633	1,541	2,174
5:00 PM - 6:00 PM	625	1,602	2,227
6:00 PM - 7:00 PM	730	1,106	1,836
7:00 PM - 8:00 PM	580	742	1,322
8:00 PM - 9:00 PM	563	563	1,126
9:00 PM - 10:00 PM	680	347	1,027
10:00 PM - 11:00 PM	418	176	594
11:00 PM - 12:00 AM	304	120	424
Total	**7,824**	**10,629**	**18,453**

24-Hour	*NB*	*Volume*	*14,515*	*24-Hour*	*SB*	*Volume*	*14,270*



LINSCOTT LAW & GREENSPAN engineers

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: r) Genesee Avenue, Between Esplanade Court/Bus Access Road and Nobel Drive

Orientation: *North-South*

Date of Count: *Wednesday, May 06, 2015*

Analysts: *DASH*

Weather: *Sunny*

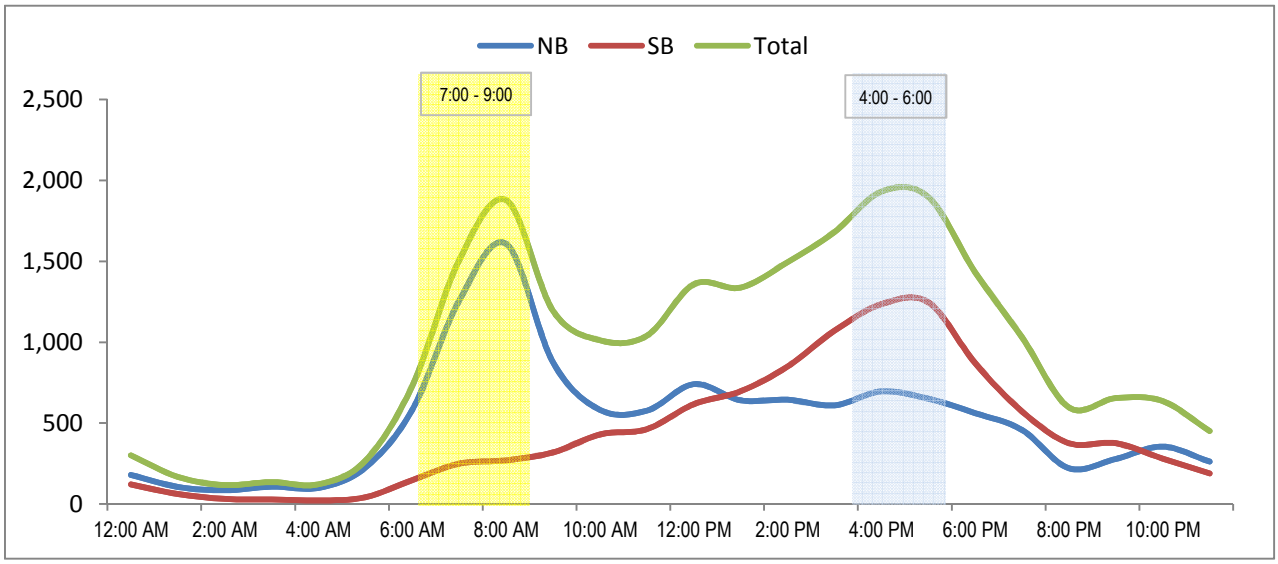
AVC Proj. No: *15-0349*

24 Hour Segment Volume			*22,978*

Time	Hourly Volume		
	NB	SB	Total
12:00 AM - 1:00 AM	180	121	301
1:00 AM - 2:00 AM	106	62	168
2:00 AM - 3:00 AM	85	32	117
3:00 AM - 4:00 AM	108	28	136
4:00 AM - 5:00 AM	100	22	122
5:00 AM - 6:00 AM	226	42	268
6:00 AM - 7:00 AM	583	148	731
7:00 AM - 8:00 AM	1,258	250	1,508
8:00 AM - 9:00 AM	1,608	270	1,878
9:00 AM - 10:00 AM	875	319	1,194
10:00 AM - 11:00 AM	582	430	1,012
11:00 AM - 12:00 PM	577	463	1040
Total	**6,288**	**2,187**	**8,475**

Time	Hourly Volume		
	NB	SB	Total
12:00 PM - 1:00 PM	741	617	1,358
1:00 PM - 2:00 PM	641	697	1,338
2:00 PM - 3:00 PM	645	850	1,495
3:00 PM - 4:00 PM	610	1,071	1,681
4:00 PM - 5:00 PM	696	1,235	1,931
5:00 PM - 6:00 PM	651	1,247	1,898
6:00 PM - 7:00 PM	562	871	1,433
7:00 PM - 8:00 PM	458	572	1,030
8:00 PM - 9:00 PM	221	376	597
9:00 PM - 10:00 PM	279	376	655
10:00 PM - 11:00 PM	355	281	636
11:00 PM - 12:00 AM	262	189	451
Total	**6,121**	**8,382**	**14,503**

24-Hour	*NB*	*Volume*	*12,409*	*24-Hour*	*SB*	*Volume*	*10,569*



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 8. Genesee Avenue North of Centurion Square

Orientation: *North-South*

Date of Count: *Tuesday, May 12, 2015*

Analysts: *DASH*

Weather: *Sunny*

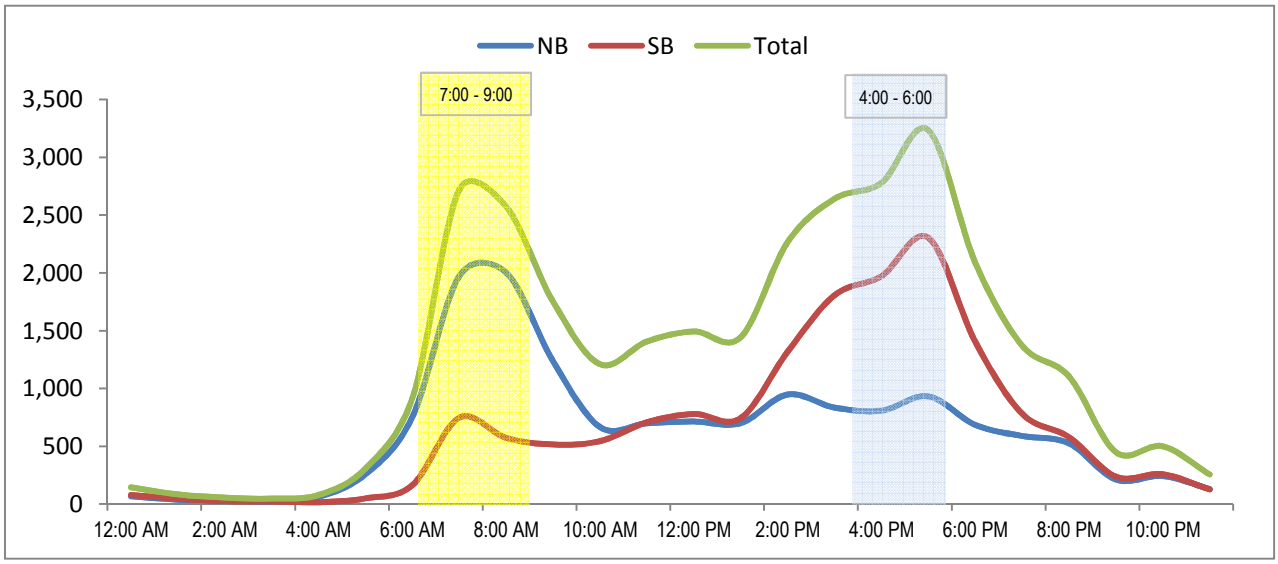
AVC Proj. No: *15-0345*

24 Hour Segment Volume			*30,922*

Time	Hourly Volume		
	NB	SB	Total
12:00 AM - 1:00 AM	67	78	145
1:00 AM - 2:00 AM	38	45	83
2:00 AM - 3:00 AM	31	25	56
3:00 AM - 4:00 AM	25	22	47
4:00 AM - 5:00 AM	63	15	78
5:00 AM - 6:00 AM	258	49	307
6:00 AM - 7:00 AM	753	163	916
7:00 AM - 8:00 AM	1,972	747	2,719
8:00 AM - 9:00 AM	2,002	572	2,574
9:00 AM - 10:00 AM	1,237	515	1,752
10:00 AM - 11:00 AM	666	544	1,210
11:00 AM - 12:00 PM	699	707	1406
Total	**7,811**	**3,482**	**11,293**

Time	Hourly Volume		
	NB	SB	Total
12:00 PM - 1:00 PM	714	779	1,493
1:00 PM - 2:00 PM	700	743	1,443
2:00 PM - 3:00 PM	948	1,317	2,265
3:00 PM - 4:00 PM	835	1,806	2,641
4:00 PM - 5:00 PM	808	1,971	2,779
5:00 PM - 6:00 PM	932	2,304	3,236
6:00 PM - 7:00 PM	685	1,406	2,091
7:00 PM - 8:00 PM	589	783	1,372
8:00 PM - 9:00 PM	525	579	1,104
9:00 PM - 10:00 PM	212	237	449
10:00 PM - 11:00 PM	242	258	500
11:00 PM - 12:00 AM	130	126	256
Total	**7,320**	**12,309**	**19,629**

24-Hour	*NB*	*Volume*	*15,131*	*24-Hour*	*SB*	*Volume*	*15,791*



LINSCOTT LAW & GREENSPAN engineers

24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

AVC

Location: i. Genesee Avenue btw Centurion Square to Governor Drive

Orientation: *North-South*

Date of Count: *Tuesday, November 28, 2017*

Analysts: *DASH*

Weather: *Sunny*

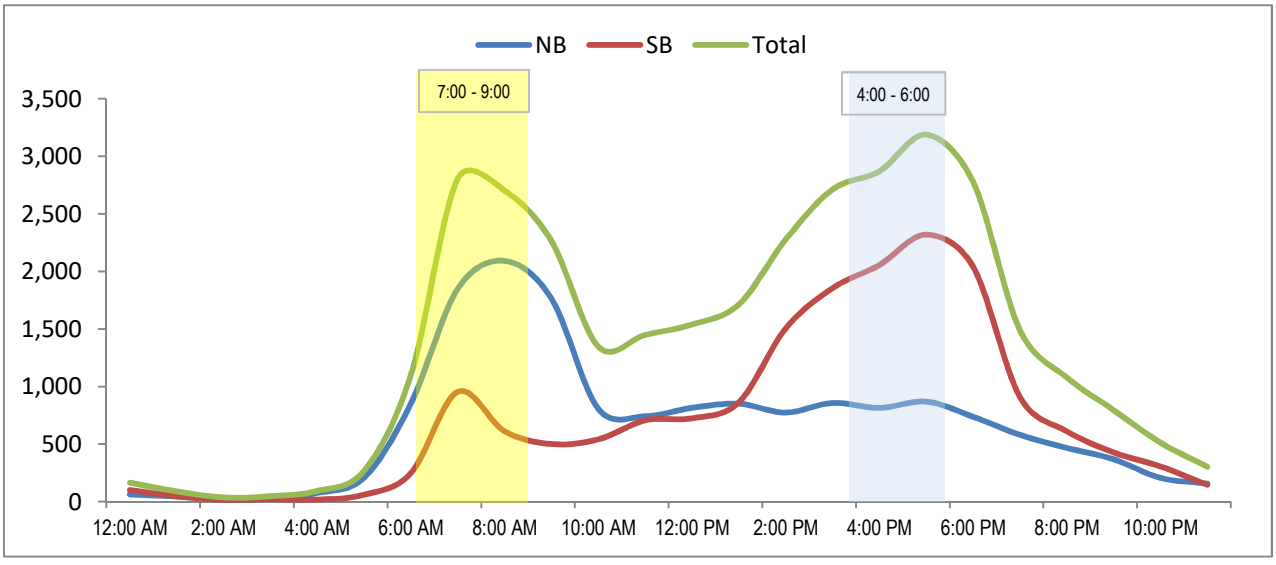
AVC Proj. No: *17-0784*

24 Hour Segment Volume			33,617

Time	Hourly Volume		
	NB	SB	Total
12:00 AM - 1:00 AM	63	101	164
1:00 AM - 2:00 AM	44	46	90
2:00 AM - 3:00 AM	20	16	36
3:00 AM - 4:00 AM	26	21	47
4:00 AM - 5:00 AM	75	18	93
5:00 AM - 6:00 AM	209	60	269
6:00 AM - 7:00 AM	853	248	1,101
7:00 AM - 8:00 AM	1,851	954	2,805
8:00 AM - 9:00 AM	2,091	611	2,702
9:00 AM - 10:00 AM	1,763	500	2,263
10:00 AM - 11:00 AM	806	541	1,347
11:00 AM - 12:00 PM	742	706	1448
Total	**8,543**	**3,822**	**12,365**

Time	Hourly Volume		
	NB	SB	Total
12:00 PM - 1:00 PM	815	724	1,539
1:00 PM - 2:00 PM	850	863	1,713
2:00 PM - 3:00 PM	774	1,504	2,278
3:00 PM - 4:00 PM	857	1,855	2,712
4:00 PM - 5:00 PM	814	2,056	2,870
5:00 PM - 6:00 PM	869	2,319	3,188
6:00 PM - 7:00 PM	737	2,040	2,777
7:00 PM - 8:00 PM	580	908	1,488
8:00 PM - 9:00 PM	467	611	1,078
9:00 PM - 10:00 PM	368	427	795
10:00 PM - 11:00 PM	206	306	512
11:00 PM - 12:00 AM	157	145	302
Total	**7,494**	**13,758**	**21,252**

24-Hour NB Volume	16,037	24-Hour SB Volume	17,580



24 Hour Segment Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136

Location: 2. Genesee Avenu North of SR-52 WB Ramps

Orientation: *North-South*

Date of Count: *Tuesday, May 12, 2015*

Analysts: *DASH*

Weather: *Sunny*

AVC Proj. No: *15-0345*

24 Hour Segment Volume			*30,325*

Time	Hourly Volume		
	NB	SB	Total
12:00 AM - 1:00 AM	76	72	148
1:00 AM - 2:00 AM	36	38	74
2:00 AM - 3:00 AM	35	22	57
3:00 AM - 4:00 AM	25	13	38
4:00 AM - 5:00 AM	59	23	82
5:00 AM - 6:00 AM	242	76	318
6:00 AM - 7:00 AM	876	261	1,137
7:00 AM - 8:00 AM	1,643	898	2,541
8:00 AM - 9:00 AM	1,778	776	2,554
9:00 AM - 10:00 AM	1,013	582	1,595
10:00 AM - 11:00 AM	580	614	1,194
11:00 AM - 12:00 PM	676	722	1398
Total	**7,039**	**4,097**	**11,136**

Time	Hourly Volume		
	NB	SB	Total
12:00 PM - 1:00 PM	714	758	1,472
1:00 PM - 2:00 PM	733	746	1,479
2:00 PM - 3:00 PM	1,012	1,309	2,321
3:00 PM - 4:00 PM	1,026	1,611	2,637
4:00 PM - 5:00 PM	803	1,683	2,486
5:00 PM - 6:00 PM	950	1,828	2,778
6:00 PM - 7:00 PM	672	1,454	2,126
7:00 PM - 8:00 PM	664	727	1,391
8:00 PM - 9:00 PM	638	490	1,128
9:00 PM - 10:00 PM	375	298	673
10:00 PM - 11:00 PM	269	196	465
11:00 PM - 12:00 AM	127	106	233
Total	**7,983**	**11,206**	**19,189**

24-Hour	*NB*	*Volume*	*15,022*	*24-Hour*	*SB*	*Volume*	*15,303*

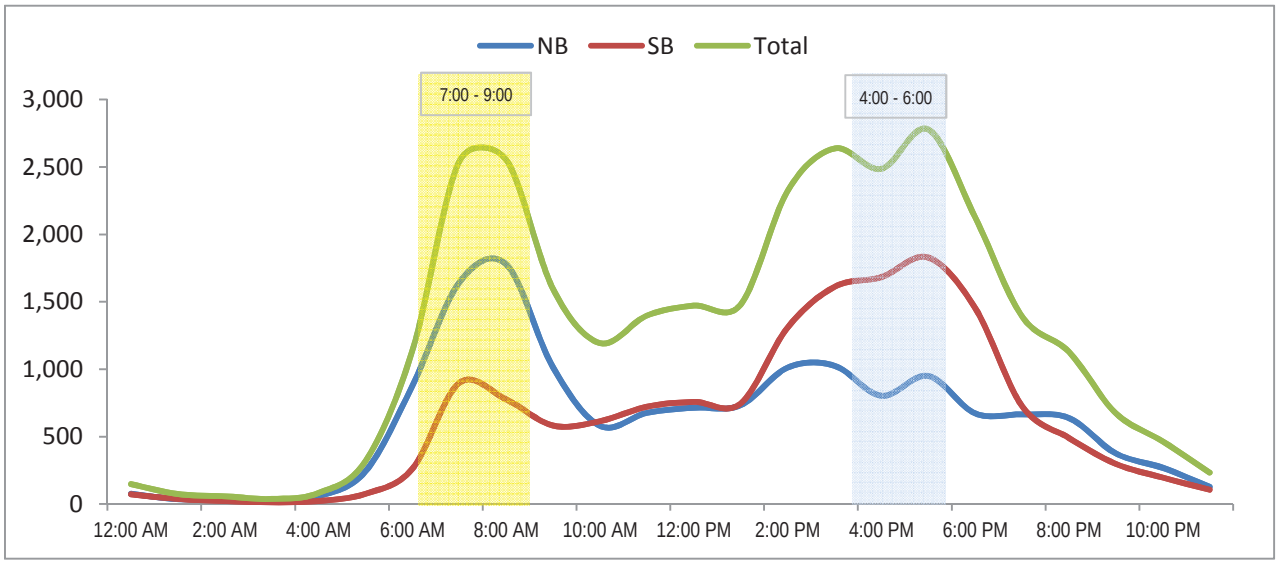


Table A
Corridor Traffic Volume Comparison
La Jolla Village Drive and Genesee Avenue

Corridor	INTERSECTION	DIRECTION	Year 2015						Year 2018						Difference						Total Difference	
			Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm	AM	PM
Genesee Avenue	1. Eastgate Mall / Genesee Avenue	Sb	66	42	363	909	250	443	114	20	317	616	268	410	48	-22	-46	-293	18	-33		
		Wb	471	246	211	233	86	164	524	394	223	179	74	99	53	148			-12	-65		
		Nb	249	114	1171	521	201	95	110	80	608	322	85	27	-139	-34	-563	-199	-116	-68		
		Eb	40	41	178	163	41	28	5	13	155	180	39	27	-35	-28			-2	-1	-794	-595
La Jolla Village Drive	2. I-5 SB Off Ramp / La Jolla Village Drive	Sb	1219	651	0	0	512	643	1092	702	0	0	352	342	-127	51			-160	-301		
		Wb	366	1052	1352	1271	0	0	0	0	1560	1391	0	0	-366	-1052	208	120	0	0		
		Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
		Eb	221	820	1516	2095	0	0	252	526	1567	2041	0	0	31	-294	51	-54	0	0	-363	-1,530
La Jolla Village Drive	3. I-5 NB Off Ramp / La Jolla Village Drive	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
		Wb	433	504	1267	2034	0	0	438	415	861	1767	0	0	5	-89	-406	-267	0	0		
		Nb	583	298	0	0	451	289	631	247	0	0	507	278	48	-51			56	-11		
		Eb	782	1248	1246	1490	0	0	560	1045	748	1518	0	0	-222	-203	-498	28	0	0	-1,017	-593
La Jolla Village Drive	4. La Jolla Village Drive / Lebon Drive	Sb	14	6	3	1	4	8	11	10	2	2	7	7	-3	4			3	-1		
		Wb	3	4	1205	2062	120	276	0	6	1289	1919	121	283	-3	2	84	-143	1	7		
		Nb	178	124	2	7	471	463	179	155	2	10	589	428	1	31			118	-35		
		Eb	150	270	1596	1809	13	13	321	575	1654	1425	17	37	171	305	58	-384	4	24	434	-190
La Jolla Village Drive	5. La Jolla Village Drive / Regents Road	Sb	234	792	132	751	97	175	328	645	136	896	111	183	94	-147			14	8		
		Wb	77	77	666	1487	65	341	102	44	652	1274	87	219	25	-33	-14	-213	22	-122		
		Nb	139	74	370	214	243	244	115	62	574	173	352	207	-24	-12			109	-37		
		Eb	64	108	1197	1426	766	363	69	147	1057	976	645	277	5	39	-140	-450	-121	-86	-30	-1,053
La Jolla Village Drive	6. La Jolla Village Drive / Costa Verde Boulevard	Sb	35	196	0	0	0	0	28	185	0	0	0	0	-7	-11			0	0		
		Wb	124	52	1172	1751	0	0	315	108	787	1541	0	0	191	56	-385	-210	0	0		
		Nb	134	68	0	0	0	0	94	95	0	0	0	0	-40	27			0	0		
		Eb	49	162	1525	1404	0	0	76	210	1272	1213	0	0	27	48	-253	-191	0	0	-467	-281
La Jolla Village Drive & Genesee Avenue	7. La Jolla Village Drive / Genesee Avenue	Sb	77	338	189	944	243	490	42	78	134	595	129	256	-35	-260	-55	-349	-114	-234		
		Wb	402	145	1425	1261	105	360	153	160	739	1083	119	360	-249	15	-686	-178	14	0	-1,468	-1,075
		Nb	111	158	1108	258	175	228	132	142	683	135	267	151	21	-16	-425	-123	92	-77		
		Eb	63	243	1374	982	392	131	105	241	916	698	297	92	42	-2	-458	-284	-95	-39	-804	-1,085
La Jolla Village Drive	8. La Jolla Village Drive / Executive Way	Sb	32	220	16	76	43	318	36	222	18	57	84	469	4	2			41	151		
		Wb	411	87	2071	1507	70	251	434	76	870	1272	105	322	23	-11	-1201	-235	35	71		
		Nb	57	236	23	23	20	156	71	215	25	17	32	141	14	-21			12	-15		
		Eb	36	194	1668	1551	99	63	73	308	893	853	142	60	37	114	-775	-698	43	-3	-1,767	-645
La Jolla Village Drive	9. La Jolla Village Drive / Towne Centre Drive	Sb	38	67	32	341	159	755	36	103	37	133	287	136	-2	36			128	-619		
		Wb	1099	261	2413	1509	193	295	1369	222	1269	734	263	115	270	-39	-1144	-775	70	-180		
		Nb	215	412	188	138	104	160	214	105	321	601	172	245	-1	-307			68	85		
		Eb	98	73	1355	1967	257	78	81	89	552	1101	288	341	-17	16	-803	-866	31	263	-1,400	-2,386
La Jolla Village Drive	10. I-805 SB Ramps / La Jolla Village Drive	Sb	1714	465	0	0	687	210	1566	742	0	0	703	229	-148	277			16	19		
		Wb	472	847	1991	1705	0	0	436	771	1741	1161	0	0	-36	-76	-250	-544	0	0		
		Nb	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
		Eb	388	1051	1341	2004	0	0	413	935	949	1718	0	0	25	-116	-392	-286	0	0	-785	-726
La Jolla Village Drive	11. I-805 NB Ramps / Miramar Road	Sb	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
		Wb	439	762	1571	2061	0	0	508	816	1209	1470	0	0	69	54	-362	-591	0	0		
		Nb	400	217	0	0	942	491	299	103	0	0	1000	428	-101	-114			58	-63		
		Eb	800	1205	1286	1009	0	0	576	1024	894	860	0	0	-224	-181	-392	-149	0	0	-952	-1,044
Genesee Avenue	14. Genesee Avenue / Esplanade Court	Sb	82	285	266	1044	90	299	39	66	8	29	95	92	-43	-219	-258	-1015	5	-207		
		Wb	82	168	14	58	51	249	64	183	240	775	58	232	-18	15			7	-17		
		Nb	136	211	1431	345	41	95	28	163	8	25	57	179	-108	-48	-1423	-320	16	84		
		Eb	38	85	8	45	100	122	80	143	931	273	47	80	42	58			-53	-42	-1,833	-1,711
Genesee Avenue	16. Genesee Avenue / Costa Verde Shopping Center	Sb	48	70	309	1205	0	0	49	61	305	1039	0	0	1	-9	-4	-166	0	0		
		Wb	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
		Nb	0	0	1522	478	0	0	0	0	1136	523	0	0	0	0	-386	45	0	0		
		Eb	57	90	0	0	0	0	37	76	0	0	0	0	-20	-14			0	0	-409	-144
Genesee Avenue	23. Nobel Drive / Genesee Avenue	Sb	55	101	173	1086	46	120	94	175	184	873	57	118	39	74	11	-213	11	-2		
		Wb	38	76	266	608	93	363	60	100	318	740	102	434	22	24			9	71		
		Nb	184	96	1412	411	223	230	313	158	966	282	381	232	129	62	-446	-129	158	2		
		Eb	141	185	437	405	128	177	155	300	537	458	118	129	14	115			-10	-48	-63	-44

Summary		
Corridor	Total Difference	
	Volume	%
La Jolla Village Drive	-16,684	-17%
Genesee Avenue	-7,482	-29%

General Notes:

1. Eastbound and westbound thru volumes were excluded in Genesee Avenue comparion. Likewise, northbound and southbound thru volumes were excluded in La Jolla Village Drive comparison.

APPENDIX B

INTERSECTION METHODOLOGY AND ANALYSIS SHEETS

SIGNALIZED INTERSECTIONS

For signalized intersections, level of service criteria are stated in terms of the average control delay per vehicle for a 15-minute analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. **Table 1** summarizes the delay thresholds for signalized intersections.

Level of service A describes operations with very low delay, (i.e. less than 10.0 seconds per vehicle). This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level of service B describes operations with delay in the range 10.1 seconds and 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

TABLE 1

LEVEL OF SERVICE THRESHOLDS FOR SIGNALIZED INTERSECTIONS

AVERAGE CONTROL DELAY PER VEHICLE (SECONDS/VEHICLE)			LEVEL OF SERVICE
0.0	≤	10.0	A
10.1	to	20.0	B
21.1	to	35.0	C
35.1	to	55.0	D
55.1	to	80.0	E
	≥	80.0	F

Level of service C describes operations with delay in the range 20.1 seconds and 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level of service D describes operations with delay in the range 35.1 seconds and 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or higher v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are more frequent.

Level of service E describes operations with delay in the range of 55.1 seconds to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level of service F describes operations with delay in excess of over 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, level of service is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. **Table 2** depicts the criteria, which are based on the average control delay for any particular minor movement.

TABLE 2

LEVEL OF SERVICE THRESHOLDS FOR UNSIGNALIZED INTERSECTIONS

AVERAGE CONTROL DELAY PER VEHICLE (SECONDS/VEHICLE)	LEVEL OF SERVICE	EXPECTED DELAY TO MINOR STREET TRAFFIC
0.0 ≤ 10.0	A	Little or no delay
10.1 to 15.0	B	Short traffic delays
15.1 to 25.0	C	Average traffic delays
25.1 to 35.0	D	Long traffic delays
35.1 to 50.0	E	Very long traffic delays
≥ 50.0	F	Severe congestion

Level of Service F exists when there are insufficient gaps of suitable size to allow a side street demand to safely cross through a major street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches. The method, however, is based on a constant critical gap size; that is, the critical gap remains constant no matter how long the side-street motorist waits. LOS F may also appear in the form of side-street vehicles selecting smaller-than-usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior, which are more difficult to observe in the field than queuing.

APPENDIX C

CITY OF SAN DIEGO ROADWAY CLASSIFICATION AND ADOPTED UNIVERSITY CIRCULATION ELEMENT

ROADWAY SEGMENT CAPACITY LEVEL OF SERVICE ANALYSIS

In order to determine the operations along the study area roadway segments, capacity thresholds and associated LOS have been developed by the City of San Diego and is used as a reference. **Table 3-9** presents this information. The segment traffic volumes under LOS E as shown in this table are considered to be the capacity of the roadway. It should be noted that the values listed in the table are planning-level estimates only. The actual operations of a roadway segment would be affected by the type and frequency of traffic control, terrain, lane width, percent of heavy vehicles, and other factors.

Table 3-9 City of San Diego Roadway Segment Capacity and LOS Summary

Road Class	Lanes	Cross Section[1]	A	B	C	D	E
Freeway	8		60,000	84,000	120,000	140,000	150,000
Freeway	6		45,000	63,000	90,000	110,000	120,000
Freeway	4		30,000	42,000	60,000	70,000	80,000
Expressway	6	102/122	30,000	42,000	60,0000	70,000	80,000
Prime Arterial*	8		35,000	50,000	70,000	75,000	80,000
Prime Arterial	6	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial*	7		22,500	31,500	45,000	50,000	55,000
Major Arterial	6	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial*	5		17,500	24,500	35,000	40,000	45,000
Major Arterial	4	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4	72/92	10,000	14,000	20,000	25,000	30,000
Collector (continuous left-turn lane)*	3		7,500	10,500	15,000	18,750	22,500
Collector(No center lane) (continuous left-turn lane)	4 2	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (No fronting property)	2	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2	50/70	2,500	3,500	5,00	6,500	8,000
Collector (multifamily)	2	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2	36/56	---	---	2,200	---	---

Notes:

The volumes and the average daily level of service listed above are only intended as a general planning guideline.

Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

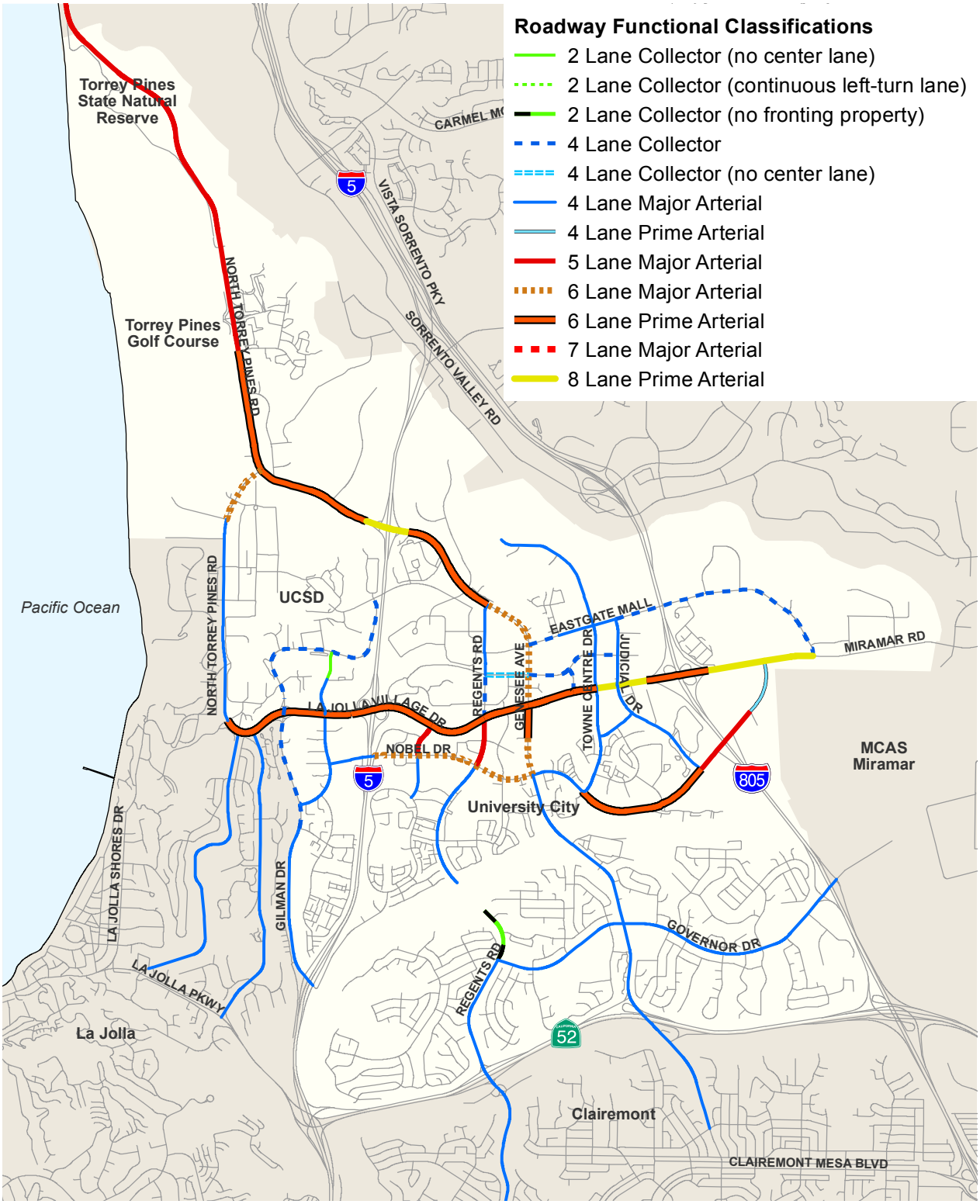
[1]Cross Section: Curb to Curb width (feet)/Right-of-way width (feet)

Sources:

City of San Diego Traffic Impact Study Manual, Table 2, Page 8, July 1998.

*City of San Diego Planning Department Mobility Staff Input

FIGURE D-2



Recommended Roadway Classification: Alternative D

APPENDIX D

EXISTING INTERSECTION ANALYSIS CALCULATION SHEETS

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

Ex AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	155	5	74	223	524	85	608	110	268	317	114
Future Volume (veh/h)	39	155	5	74	223	524	85	608	110	268	317	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		0.78	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	194	6	92	279	655	106	760	138	335	396	142
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	752	596	115	806	633	130	634	115	291	772	270
Arrive On Green	0.04	0.40	0.40	0.06	0.43	0.43	0.07	0.22	0.22	0.16	0.31	0.31
Sat Flow, veh/h	1781	1870	1482	1781	1870	1469	1781	2862	519	1781	2473	866
Grp Volume(v), veh/h	49	194	6	92	279	655	106	472	426	335	282	256
Grp Sat Flow(s),veh/h/ln	1781	1870	1482	1781	1870	1469	1781	1777	1604	1781	1777	1562
Q Serve(g_s), s	3.6	9.1	0.3	6.7	13.2	56.9	7.7	29.2	29.2	21.6	17.1	17.8
Cycle Q Clear(g_c), s	3.6	9.1	0.3	6.7	13.2	56.9	7.7	29.2	29.2	21.6	17.1	17.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.55
Lane Grp Cap(c), veh/h	63	752	596	115	806	633	130	393	355	291	555	488
V/C Ratio(X)	0.78	0.26	0.01	0.80	0.35	1.03	0.82	1.20	1.20	1.15	0.51	0.53
Avail Cap(c_a), veh/h	103	752	596	413	806	633	278	393	355	291	555	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.1	26.3	23.7	60.9	25.1	37.5	60.3	51.4	51.4	55.2	37.1	37.4
Incr Delay (d2), s/veh	7.4	0.1	0.0	4.8	0.1	44.9	0.4	92.0	92.7	99.3	3.3	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.1	0.1	3.2	5.9	27.9	3.5	23.0	20.9	17.7	8.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	26.4	23.7	65.7	25.2	82.5	60.8	143.4	144.1	154.5	40.4	41.4
LnGrp LOS	E	C	C	E	C	F	E	F	F	F	D	D
Approach Vol, veh/h		249			1026			1004			873	
Approach Delay, s/veh		35.0			65.4			135.0			84.5	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	34.9	12.9	58.2	14.0	46.9	9.1	62.0
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	21.6	26.3	30.6	* 34	20.6	27.3	7.6	56.9
Max Q Clear Time (g_c+I1), s	23.6	31.2	8.7	11.1	9.7	19.8	5.6	58.9
Green Ext Time (p_c), s	0.0	0.0	0.1	0.7	0.1	2.8	0.0	0.0

Intersection Summary				
HCM 6th Ctrl Delay	90.5			
HCM 6th LOS	F			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

Ex AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1516	221	0	1352	366	0	0	0	512	0	1219
Future Volume (vph)	0	1516	221	0	1352	366	0	0	0	512	0	1219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.99
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1529				3433		2765
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1529				3433		2765
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1630	238	0	1454	394	0	0	0	551	0	1311
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	1630	238	0	1454	394	0	0	0	551	0	1299
Confl. Peds. (#/hr)	22		10	10		22	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free				Prot		custom
Protected Phases		2			6					4		5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		87.7	120.0		43.4	120.0				22.0		62.1
Effective Green, g (s)		87.7	120.0		43.4	120.0				22.0		62.1
Actuated g/C Ratio		0.73	1.00		0.36	1.00				0.18		0.52
Clearance Time (s)		5.7			5.7					4.6		4.2
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		4683	1538		1839	1529				629		1430
v/s Ratio Prot		0.25			c0.29					0.16		c0.30
v/s Ratio Perm			0.15			0.26						0.17
v/c Ratio		0.35	0.15		0.79	0.26				0.88		0.91
Uniform Delay, d1		5.8	0.0		34.2	0.0				47.7		26.4
Progression Factor		1.00	1.00		0.76	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.2		3.1	0.4				12.6		8.5
Delay (s)		6.0	0.2		29.1	0.4				60.3		34.8
Level of Service		A	A		C	A				E		C
Approach Delay (s)		5.3			23.0			0.0			42.4	
Approach LOS		A			C			A			D	

Intersection Summary						
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service		C		
HCM 2000 Volume to Capacity ratio	0.86					
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		14.5		
Intersection Capacity Utilization	78.1%	ICU Level of Service		D		
Analysis Period (min)	15					

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1246	782	0	1267	433	451	0	583	0	0	0
Future Volume (vph)	0	1246	782	0	1267	433	451	0	583	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.97			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2713			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2713			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1384	869	0	1408	481	501	0	648	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	92	0	0	0
Lane Group Flow (vph)	0	1384	869	0	1408	481	501	0	556	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		80.3	120.0		91.3	120.0	18.4		25.2			
Effective Green, g (s)		80.3	120.0		91.3	120.0	18.4		25.2			
Actuated g/C Ratio		0.67	1.00		0.76	1.00	0.15		0.21			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3402	1538		3868	1538	526		569			
v/s Ratio Prot		0.27			0.28		0.15		c0.06			
v/s Ratio Perm			c0.56			0.31			0.15			
v/c Ratio		0.41	0.57		0.36	0.31	0.95		0.98			
Uniform Delay, d1		9.0	0.0		4.7	0.0	50.4		47.1			
Progression Factor		1.40	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.3	1.4		0.3	0.5	27.4		31.6			
Delay (s)		12.9	1.4		5.0	0.5	77.7		78.8			
Level of Service		B	A		A	A	E		E			
Approach Delay (s)		8.5			3.9			78.3			0.0	
Approach LOS		A			A			E			A	

Intersection Summary				
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	54.7%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1596	150	120	1212	3	474	2	178	4	3	14
Future Volume (veh/h)	13	1596	150	120	1212	3	474	2	178	4	3	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.79
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1814	170	136	1377	3	539	0	203	5	3	16
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	2910	1223	185	3212	7	774	0	661	20	12	22
Arrive On Green	0.01	0.57	0.57	0.04	0.41	0.41	0.22	0.00	0.22	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1541	3456	5260	11	3563	0	3041	1134	680	1245
Grp Volume(v), veh/h	15	1814	170	136	891	489	539	0	203	8	0	16
Grp Sat Flow(s),veh/h/ln	1781	1702	1541	1728	1702	1868	1781	0	1520	1814	0	1245
Q Serve(g_s), s	1.2	33.2	3.7	5.5	26.3	26.3	19.5	0.0	7.8	0.6	0.0	1.8
Cycle Q Clear(g_c), s	1.2	33.2	3.7	5.5	26.3	26.3	19.5	0.0	7.8	0.6	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.62		1.00
Lane Grp Cap(c), veh/h	22	2910	1223	185	2079	1140	774	0	661	31	0	22
V/C Ratio(X)	0.67	0.62	0.14	0.74	0.43	0.43	0.70	0.00	0.31	0.25	0.00	0.74
Avail Cap(c_a), veh/h	71	2910	1223	262	2079	1140	944	0	806	53	0	36
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	0.65	0.65	0.65	0.92	0.00	0.92	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.8	20.1	3.6	66.5	23.9	23.9	50.5	0.0	46.0	67.9	0.0	68.5
Incr Delay (d2), s/veh	9.4	0.8	0.2	2.0	0.4	0.8	4.7	0.0	1.1	1.6	0.0	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	13.2	2.7	2.5	11.5	12.7	9.3	0.0	3.1	0.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.3	20.9	3.8	68.5	24.3	24.6	55.3	0.0	47.1	69.5	0.0	85.3
LnGrp LOS	E	C	A	E	C	C	E	A	D	E	A	F
Approach Vol, veh/h		1999			1516			742			24	
Approach Delay, s/veh		19.9			28.4			53.0			80.0	
Approach LOS		B			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	85.5		7.3	6.2	91.2		35.3				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	10.6	* 69		4.1	5.6	73.3		37.1				
Max Q Clear Time (g_c+I1), s	7.5	35.2		3.8	3.2	28.3		21.5				
Green Ext Time (p_c), s	0.1	30.8		0.0	0.0	28.9		7.4				

Intersection Summary		
HCM 6th Ctrl Delay	29.0	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

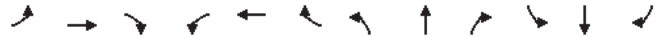
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	766	1520	64	65	666	77	243	370	176	123	132	234
Future Volume (veh/h)	766	1520	64	65	666	77	243	370	176	123	132	234
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.89	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	901	1788	75	76	784	91	286	435	207	145	155	275
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	854	2191	92	119	1033	119	286	1058	421	159	1081	431
Arrive On Green	0.08	0.14	0.14	0.01	0.07	0.07	0.08	0.30	0.30	0.09	0.30	0.30
Sat Flow, veh/h	3456	5019	210	3456	4619	532	3456	3554	1414	1781	3554	1417
Grp Volume(v), veh/h	901	1212	651	76	576	299	286	435	207	145	155	275
Grp Sat Flow(s),veh/h/ln	1728	1702	1825	1728	1702	1747	1728	1777	1414	1781	1777	1417
Q Serve(g_s), s	34.6	48.3	48.4	3.1	23.2	23.5	11.6	13.7	16.9	11.3	4.4	23.5
Cycle Q Clear(g_c), s	34.6	48.3	48.4	3.1	23.2	23.5	11.6	13.7	16.9	11.3	4.4	23.5
Prop In Lane	1.00		0.12	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	854	1486	797	119	761	391	286	1058	421	159	1081	431
V/C Ratio(X)	1.05	0.82	0.82	0.64	0.76	0.77	1.00	0.41	0.49	0.91	0.14	0.64
Avail Cap(c_a), veh/h	854	1486	797	131	761	391	286	1058	421	159	1091	435
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.3	54.5	54.5	68.3	61.1	61.2	64.2	39.3	40.4	63.2	35.4	42.0
Incr Delay (d2), s/veh	42.1	3.7	6.8	6.0	6.9	13.3	49.8	0.3	1.0	45.6	0.1	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.2	23.0	25.4	1.5	11.4	12.5	7.1	6.1	6.0	7.1	2.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.4	58.2	61.3	74.3	68.0	74.6	114.0	39.6	41.4	108.8	35.5	45.5
LnGrp LOS	F	E	E	E	E	E	F	D	D	F	D	D
Approach Vol, veh/h		2764			951			928			575	
Approach Delay, s/veh		74.6			70.6			63.0			58.8	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	66.5	16.0	48.3	39.0	36.7	16.9	47.4
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	5.3	* 61	11.6	* 43	34.6	31.3	12.5	41.7
Max Q Clear Time (g_c+I1), s	15.1	50.4	13.6	25.5	36.6	25.5	13.3	18.9
Green Ext Time (p_c), s	0.0	10.0	0.0	2.6	0.0	4.3	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	70.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1758	61	0	1172	124	0	0	155	0	0	35
Future Volume (Veh/h)	0	1758	61	0	1172	124	0	0	155	0	0	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	2118	73	0	1412	149	0	0	187	0	0	42
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.71			0.72			0.85	0.85	0.72	0.85	0.85	0.71
vC, conflicting volume	1571			2201			2687	3736	762	2400	3698	565
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	362			1297			121	1355	0	0	1311	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	76	100	100	94
cM capacity (veh/h)	837			377			656	124	765	637	132	755

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	847	847	497	565	565	431	187	42
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	73	0	0	149	187	42
cSH	1700	1700	1700	1700	1700	1700	765	755
Volume to Capacity	0.50	0.50	0.29	0.33	0.33	0.25	0.24	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	24	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	11.2	10.0
Lane LOS							B	B
Approach Delay (s)	0.0			0.0			11.2	10.0
Approach LOS							B	B

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	53.4%	ICU Level of Service		A
Analysis Period (min)	15			

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

Ex AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	392	1443	78	129	1425	402	202	1278	133	256	233	77
Future Volume (veh/h)	392	1443	78	129	1425	402	202	1278	133	256	233	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	461	1698	92	152	1676	473	238	1504	156	301	274	91
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	2071	626	201	1689	654	287	1074	465	163	1104	478
Arrive On Green	0.27	0.81	0.81	0.02	0.11	0.11	0.11	0.40	0.40	0.09	0.31	0.31
Sat Flow, veh/h	3456	5106	1545	3456	5106	1540	3456	3554	1539	1781	3554	1540
Grp Volume(v), veh/h	461	1698	92	152	1676	473	238	1504	156	301	274	91
Grp Sat Flow(s),veh/h/ln	1728	1702	1545	1728	1702	1540	1728	1777	1539	1781	1777	1540
Q Serve(g_s), s	18.6	26.3	1.8	6.1	45.9	36.8	9.4	42.3	9.8	12.8	8.1	6.1
Cycle Q Clear(g_c), s	18.6	26.3	1.8	6.1	45.9	36.8	9.4	42.3	9.8	12.8	8.1	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	2071	626	201	1689	654	287	1074	465	163	1104	478
V/C Ratio(X)	1.00	0.82	0.15	0.76	0.99	0.72	0.83	1.40	0.34	1.85	0.25	0.19
Avail Cap(c_a), veh/h	459	2071	626	217	1689	654	380	1074	465	163	1104	478
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.49	0.49	0.49	0.93	0.93	0.93
Uniform Delay (d), s/veh	51.4	10.3	8.0	67.7	62.2	45.3	61.3	41.9	32.2	63.6	36.0	35.4
Incr Delay (d2), s/veh	43.0	3.8	0.5	1.1	5.1	0.6	4.4	183.2	0.2	402.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	4.8	0.7	2.8	21.9	15.4	4.2	44.7	3.6	24.0	3.6	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.4	14.1	8.5	68.8	67.3	45.9	65.8	225.0	32.4	466.5	36.2	35.6
LnGrp LOS	F	B	A	E	E	D	E	F	C	F	D	D
Approach Vol, veh/h		2251			2301			1898			666	
Approach Delay, s/veh		30.3			63.0			189.2			230.6	
Approach LOS		C			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	62.3	16.0	49.2	23.0	51.8	17.2	48.0
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	8.8	* 56	15.4	* 40	18.6	46.3	12.8	42.3
Max Q Clear Time (g_c+I1), s	8.1	28.3	11.4	10.1	20.6	47.9	14.8	44.3
Green Ext Time (p_c), s	0.0	25.0	0.2	3.2	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	102.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

Ex AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1696	36	71	2094	416	20	23	58	44	16	32
Future Volume (veh/h)	100	1696	36	71	2094	416	20	23	58	44	16	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.93	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	1972	42	83	2435	484	23	27	67	36	40	37
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	3635	1107	125	2993	554	148	156	245	52	55	38
Arrive On Green	0.02	0.23	0.23	0.07	1.00	1.00	0.08	0.08	0.08	0.03	0.03	0.03
Sat Flow, veh/h	1781	5106	1555	3456	4313	799	1781	1870	2940	1781	1880	1300
Grp Volume(v), veh/h	116	1972	42	83	1884	1035	23	27	67	36	40	37
Grp Sat Flow(s),veh/h/ln	1781	1702	1555	1728	1702	1708	1781	1870	1470	1781	1870	1310
Q Serve(g_s), s	7.6	47.4	2.9	3.3	0.0	0.0	1.7	1.9	3.0	2.8	2.9	4.0
Cycle Q Clear(g_c), s	7.6	47.4	2.9	3.3	0.0	0.0	1.7	1.9	3.0	2.8	2.9	4.0
Prop In Lane	1.00		1.00	1.00		0.47	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	97	3635	1107	125	2362	1185	148	156	245	52	55	38
V/C Ratio(X)	1.20	0.54	0.04	0.66	0.80	0.87	0.16	0.17	0.27	0.69	0.73	0.97
Avail Cap(c_a), veh/h	97	3635	1107	146	2362	1185	522	548	861	52	55	38
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.24	0.24	0.24	0.16	0.16	0.16	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.7	33.6	16.5	64.1	0.0	0.0	59.6	59.7	60.2	67.3	67.4	67.9
Incr Delay (d2), s/veh	111.5	0.1	0.0	0.9	0.5	1.6	0.2	0.2	0.2	50.5	54.6	136.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	21.8	1.0	1.4	0.2	0.5	0.8	0.9	1.1	2.0	2.2	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	180.2	33.7	16.6	65.0	0.5	1.6	59.8	59.9	60.4	117.9	122.0	204.2
LnGrp LOS	F	C	B	E	A	A	E	E	E	F	F	F
Approach Vol, veh/h		2130			3002			117			113	
Approach Delay, s/veh		41.3			2.7			60.2			147.8	
Approach LOS		D			A			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	105.0		9.0	12.0	102.5		16.5
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9
Max Green Setting (Gmax), s	5.3	69.5		4.1	7.6	67.8		41.0
Max Q Clear Time (g_c+I1), s	5.3	49.4		6.0	9.6	2.0		5.0
Green Ext Time (p_c), s	0.0	19.0		0.0	0.0	64.7		0.3

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

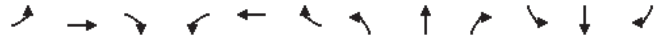
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	269	1427	102	195	2439	1111	104	188	217	160	32	38
Future Volume (veh/h)	269	1427	102	195	2439	1111	104	188	217	160	32	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	299	1586	113	217	2710	1234	116	209	241	178	36	42
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	2907	882	267	2969	1563	143	604	669	138	599	256
Arrive On Green	0.14	1.00	1.00	0.08	0.58	0.58	0.04	0.17	0.17	0.04	0.17	0.17
Sat Flow, veh/h	3456	5106	1550	3456	5106	2688	3456	3554	2673	3456	3554	1518
Grp Volume(v), veh/h	299	1586	113	217	2710	1234	116	209	241	178	36	42
Grp Sat Flow(s),veh/h/ln	1728	1702	1550	1728	1702	1344	1728	1777	1336	1728	1777	1518
Q Serve(g_s), s	9.6	0.0	0.0	8.7	66.3	49.7	4.7	7.3	10.4	5.6	1.2	3.3
Cycle Q Clear(g_c), s	9.6	0.0	0.0	8.7	66.3	49.7	4.7	7.3	10.4	5.6	1.2	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	2907	882	267	2969	1563	143	604	669	138	599	256
V/C Ratio(X)	1.26	0.55	0.13	0.81	0.91	0.79	0.81	0.35	0.36	1.29	0.06	0.16
Avail Cap(c_a), veh/h	237	2907	882	358	2969	1563	143	939	922	138	926	396
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.09	0.09	0.09	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	0.0	0.0	63.6	26.1	22.7	66.6	51.2	43.6	67.2	48.9	49.8
Incr Delay (d2), s/veh	141.3	0.6	0.2	0.7	0.6	0.4	22.6	0.7	0.6	173.1	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.2	0.1	3.8	25.9	15.3	2.5	3.3	3.6	5.8	0.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	201.7	0.6	0.2	64.3	26.7	23.1	89.2	51.9	44.2	240.3	49.0	50.3
LnGrp LOS	F	A	A	E	C	C	F	D	D	F	D	D
Approach Vol, veh/h		1998			4161			566			256	
Approach Delay, s/veh		30.7			27.6			56.3			182.2	
Approach LOS		C			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	85.2	10.2	28.9	14.0	86.9	10.0	29.1
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	10.8	63.1	5.8	36.5	9.6	* 69	5.6	* 37
Max Q Clear Time (g_c+I1), s	11.6	2.0	6.7	5.3	11.6	68.3	7.6	12.4
Green Ext Time (p_c), s	0.1	35.1	0.0	0.6	0.0	0.4	0.0	4.9

Intersection Summary		
HCM 6th Ctrl Delay	36.5	
HCM 6th LOS	D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1403	401	0	2031	482	0	0	0	694	0	1714
Future Volume (vph)	0	1403	401	0	2031	482	0	0	0	694	0	1714
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1549				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1549				3433		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1559	446	0	2257	536	0	0	0	771	0	1904
RTOR Reduction (vph)	0	0	0	0	0	104	0	0	0	0	0	23
Lane Group Flow (vph)	0	1559	446	0	2257	432	0	0	0	771	0	1881
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov					Prot		custom
Protected Phases		2			6	4					4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		65.2	120.0		55.1	96.8					41.7		52.7
Effective Green, g (s)		65.2	120.0		55.1	96.8					41.7		52.7
Actuated g/C Ratio		0.54	1.00		0.46	0.81					0.35		0.44
Clearance Time (s)		7.5			7.5	5.6					5.6		
Vehicle Extension (s)		2.0			2.0	2.0					2.0		
Lane Grp Cap (vph)		2762	2707		2334	1249					1192		1223
v/s Ratio Prot		0.31			c0.44	0.12					0.22		c0.68
v/s Ratio Perm			0.16			0.16						
v/c Ratio		0.56	0.16		0.97	0.35					0.65		1.54
Uniform Delay, d1		18.0	0.0		31.6	3.1					33.0		33.6
Progression Factor		1.00	1.00		0.66	2.09					1.00		1.00
Incremental Delay, d2		0.8	0.1		10.5	0.0					0.9		246.2
Delay (s)		18.9	0.1		31.3	6.6					33.9		279.9
Level of Service		B	A		C	A					C		F
Approach Delay (s)		14.7			26.6			0.0			209.0	
Approach LOS		B			C			A			F	

Intersection Summary				
HCM 2000 Control Delay	88.7	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.31			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	111.2%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: I-805 NB Ramps & Miramar Road

Ex AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1293	804	0	1571	439	942	0	400	0	0	0
Future Volume (vph)	0	1293	804	0	1571	439	942	0	400	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1557		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1557		6408	1538	3433		2787			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1453	903	0	1765	493	1058	0	449	0	0	0
RTOR Reduction (vph)	0	0	174	0	0	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	1453	729	0	1765	493	1058	0	425	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		52.9	96.9		62.9	120.0	44.0		54.9			
Effective Green, g (s)		52.9	96.9		62.9	120.0	44.0		49.3			
Actuated g/C Ratio		0.44	0.81		0.52	1.00	0.37		0.41			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		2241	1257		3358	1538	1258		1144			
v/s Ratio Prot		c0.29	0.21		c0.28		c0.31		0.15			
v/s Ratio Perm			0.26			0.32						
v/c Ratio		0.65	0.58		0.53	0.32	0.84		0.37			
Uniform Delay, d1		26.3	4.2		18.8	0.0	34.8		24.6			
Progression Factor		0.80	18.91		1.00	1.00	1.00		1.00			
Incremental Delay, d2		1.2	0.4		0.6	0.6	5.0		0.1			
Delay (s)		22.1	79.4		19.3	0.6	39.8		24.7			
Level of Service		C	E		B	A	D		C			
Approach Delay (s)		44.1			15.2			35.3			0.0	
Approach LOS		D			B			D			A	

Intersection Summary				
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	62.8%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
12: Costa Verde Blvd & Costa Verde Shopping Center Entrance (North)

Ex AM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	5	112	11	20	74
Future Volume (Veh/h)	8	5	112	11	20	74
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	5	122	12	22	80
Pedestrians	28		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	293	105			162	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	293	105			162	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			98	
cM capacity (veh/h)	641	900			1381	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	9	5	81	53	102
Volume Left	9	0	0	0	22
Volume Right	0	5	0	12	0
cSH	641	900	1700	1700	1381
Volume to Capacity	0.01	0.01	0.05	0.03	0.02
Queue Length 95th (ft)	1	0	0	0	1
Control Delay (s)	10.7	9.0	0.0	0.0	1.7
Lane LOS	B	A			A
Approach Delay (s)	10.1		0.0		1.7
Approach LOS	B				

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	30.7%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
13: Costa Verde Blvd & Costa Verde Shopping Center Entrance (South)

Ex AM
10/03/2019

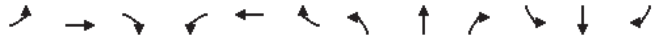
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	42	47	94	63	36	56
Future Volume (Veh/h)	42	47	94	63	36	56
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	48	54	108	72	41	64
Pedestrians	10		12			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	280	110			190	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	280	110			190	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	94			97	
cM capacity (veh/h)	654	907			1370	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	102	72	108	62	43
Volume Left	48	0	0	41	0
Volume Right	54	0	72	0	0
cSH	767	1700	1700	1370	1700
Volume to Capacity	0.13	0.04	0.06	0.03	0.03
Queue Length 95th (ft)	11	0	0	2	0
Control Delay (s)	10.4	0.0	0.0	5.2	0.0
Lane LOS	B			A	
Approach Delay (s)	10.4	0.0		3.1	
Approach LOS	B				

Intersection Summary				
Average Delay		3.6		
Intersection Capacity Utilization		28.6%	ICU Level of Service	A
Analysis Period (min)		15		

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

Ex AM
10/03/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	8	38	51	14	82	41	1431	136	90	268	82
Future Volume (veh/h)	100	8	38	51	14	82	41	1431	136	90	268	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.76	1.00		0.85	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	9	42	56	0	100	45	1573	149	99	295	90
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	11	53	571	0	433	58	1978	185	71	1637	488
Arrive On Green	0.05	0.05	0.05	0.16	0.00	0.16	0.04	0.80	0.80	0.08	1.00	1.00
Sat Flow, veh/h	3456	226	1054	3563	0	2702	1781	3272	306	1781	2674	797
Grp Volume(v), veh/h	110	0	51	56	0	100	45	846	876	99	194	191
Grp Sat Flow(s),veh/h/ln	1728	0	1280	1781	0	1351	1781	1777	1801	1781	1777	1694
Q Serve(g_s), s	4.4	0.0	5.5	1.9	0.0	4.5	3.5	35.5	37.8	5.6	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	5.5	1.9	0.0	4.5	3.5	35.5	37.8	5.6	0.0	0.0
Prop In Lane	1.00		0.82	1.00		1.00	1.00		0.17	1.00		0.47
Lane Grp Cap(c), veh/h	175	0	65	571	0	433	58	1074	1089	71	1088	1037
V/C Ratio(X)	0.63	0.00	0.79	0.10	0.00	0.23	0.78	0.79	0.80	1.39	0.18	0.18
Avail Cap(c_a), veh/h	175	0	65	967	0	734	116	1074	1089	71	1088	1037
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	65.2	0.0	65.7	50.1	0.0	51.2	66.5	8.9	9.1	64.4	0.0	0.0
Incr Delay (d2), s/veh	5.3	0.0	42.7	0.0	0.0	0.1	8.0	5.8	6.3	237.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	2.6	0.8	0.0	1.6	1.7	10.4	11.3	7.1	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.4	0.0	108.4	50.2	0.0	51.3	74.5	14.7	15.5	301.6	0.3	0.4
LnGrp LOS	E	A	F	D	A	D	E	B	B	F	A	A
Approach Vol, veh/h		161			156			1767			484	
Approach Delay, s/veh		82.5			50.9			16.6			62.0	
Approach LOS		F			D			B			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	90.7		12.0	9.0	91.7		27.3				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	5.6	69.1		7.1	9.1	* 66		38.0				
Max Q Clear Time (g_c+I1), s	7.6	39.8		7.5	5.5	2.0		6.5				
Green Ext Time (p_c), s	0.0	20.3		0.0	0.0	4.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		31.4	
HCM 6th LOS		C	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	57	0	1608	309	48
Future Volume (Veh/h)	0	57	0	1608	309	48
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	60	0	1693	325	51
Pedestrians	14			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.63					
vC, conflicting volume	1221	158	390			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	193	158	390			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	100			
cM capacity (veh/h)	483	842	1151			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	60	846	846	130	130	116
Volume Left	0	0	0	0	0	0
Volume Right	60	0	0	0	0	51
cSH	842	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.50	0.50	0.08	0.08	0.07
Queue Length 95th (ft)	6	0	0	0	0	0
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.6	0.0		0.0		
Approach LOS	A					

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		57.3%	ICU Level of Service	B
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	315	113	223	782	0	0
Future Volume (veh/h)	315	113	223	782	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	332	119	235	823		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2367	831	307	3756		
Arrive On Green	0.93	0.93	0.18	1.00		
Sat Flow, veh/h	2650	897	3456	3647		
Grp Volume(v), veh/h	229	222	235	823		
Grp Sat Flow(s),veh/h/ln	1777	1677	1728	1777		
Q Serve(g_s), s	1.1	1.1	6.5	0.0		
Cycle Q Clear(g_c), s	1.1	1.1	6.5	0.0		
Prop In Lane		0.54	1.00			
Lane Grp Cap(c), veh/h	1646	1553	307	3756		
V/C Ratio(X)	0.14	0.14	0.76	0.22		
Avail Cap(c_a), veh/h	1646	1553	1410	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.96	0.96		
Uniform Delay (d), s/veh	0.3	0.3	40.1	0.0		
Incr Delay (d2), s/veh	0.2	0.2	1.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.1	0.1	2.6	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.5	0.5	41.6	0.1		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	451			1058		
Approach Delay, s/veh	0.5			9.3		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	13.1	97.4				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 41	50.5				* 96
Max Q Clear Time (g_c+I1), s	8.5	3.1				2.0
Green Ext Time (p_c), s	0.4	8.2				4.4

Intersection Summary			
HCM 6th Ctrl Delay		6.7	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	322	0	0	549	44	289	219	375	0	0	62
Future Volume (vph)	0	322	0	0	549	44	289	219	375	0	0	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			0.98		1.00	1.00	0.95			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			0.99		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (prot)		3539			6214		1681	1756	1501			1611
Flt Permitted		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (perm)		3539			6214		1681	1756	1501			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	358	0	0	610	49	321	243	417	0	0	69
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	250	0	0	66
Lane Group Flow (vph)	0	358	0	0	652	0	276	288	167	0	0	3
Confl. Peds. (#/hr)	72		27	27		72	38		30	30		38
Confl. Bikes (#/hr)			10			66			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		67.1			58.6		23.9	23.9	23.9			4.0
Effective Green, g (s)		67.1			58.6		23.9	23.9	23.9			4.0
Actuated g/C Ratio		0.67			0.59		0.24	0.24	0.24			0.04
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2374			3641		401	419	358			64
v/s Ratio Prot		c0.10			c0.10		c0.16	0.16				0.00
v/s Ratio Perm									0.11			
v/c Ratio		0.15			0.18		0.69	0.69	0.47			0.04
Uniform Delay, d1		6.0			9.6		34.7	34.6	32.6			46.2
Progression Factor		1.00			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.1			0.1		3.9	3.7	0.4			0.1
Delay (s)		6.2			9.7		38.6	38.4	33.0			46.3
Level of Service		A			A		D	D	C			D
Approach Delay (s)		6.2			9.7			36.1			46.3	
Approach LOS		A			A			D			D	

Intersection Summary				
HCM 2000 Control Delay	22.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.32			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	52.3%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	499	61	55	499	224	155	436	145	74	95	50
Future Volume (veh/h)	55	499	61	55	499	224	155	436	145	74	95	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.75	1.00		0.76	1.00		0.82	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	561	69	62	561	252	174	490	163	83	107	56
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	1621	191	80	1285	456	236	1160	426	298	1224	505
Arrive On Green	0.03	0.36	0.36	0.04	0.38	0.38	0.07	0.33	0.33	0.09	0.34	0.34
Sat Flow, veh/h	3456	4449	525	1781	3404	1209	3456	3554	1306	3456	3554	1321
Grp Volume(v), veh/h	62	424	206	62	561	252	174	490	163	83	107	56
Grp Sat Flow(s),veh/h/ln	1728	1702	1570	1781	1702	1209	1728	1777	1306	1728	1777	1321
Q Serve(g_s), s	1.9	9.6	10.2	3.7	13.0	17.4	5.2	11.4	10.2	2.4	2.2	2.9
Cycle Q Clear(g_c), s	1.9	9.6	10.2	3.7	13.0	17.4	5.2	11.4	10.2	2.4	2.2	2.9
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	1240	572	80	1285	456	236	1160	426	298	1224	505
V/C Ratio(X)	0.57	0.34	0.36	0.78	0.44	0.55	0.74	0.42	0.38	0.28	0.09	0.11
Avail Cap(c_a), veh/h	137	1240	572	111	1285	456	280	1160	426	326	1224	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.6	24.5	24.7	50.1	24.6	25.9	48.5	27.9	27.5	45.4	23.5	21.6
Incr Delay (d2), s/veh	1.7	0.8	1.8	12.7	1.0	4.6	6.2	1.1	2.6	0.2	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.0	4.0	1.9	5.4	5.5	2.4	5.0	3.5	1.0	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	25.2	26.4	62.8	25.6	30.5	54.6	29.0	30.1	45.5	23.6	22.0
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	C	C
Approach Vol, veh/h		692			875			827			246	
Approach Delay, s/veh		28.0			29.7			34.6			30.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	43.8	11.6	41.4	7.8	45.2	13.5	39.5
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.6	35.9	8.6	36.0	4.2	38.3	10.0	34.6
Max Q Clear Time (g_c+I1), s	15.7	12.2	7.2	4.9	3.9	19.4	4.4	13.4
Green Ext Time (p_c), s	0.0	6.9	0.0	2.0	0.0	8.5	0.0	9.5

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
19: Regents Road & Nobel Drive

Ex AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	443	41	96	451	167	82	295	190	95	133	66
Future Volume (veh/h)	142	443	41	96	451	167	82	295	190	95	133	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85	1.00		0.85	1.00		0.69	1.00		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	482	45	104	490	182	89	321	207	103	145	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1746	159	160	1264	477	113	1156	371	94	1169	377
Arrive On Green	0.02	0.12	0.12	0.09	0.71	0.71	0.06	0.34	0.34	0.05	0.33	0.33
Sat Flow, veh/h	3456	4684	426	3456	3554	1341	1781	3404	1092	1781	3554	1147
Grp Volume(v), veh/h	154	347	180	104	490	182	89	321	207	103	145	72
Grp Sat Flow(s),veh/h/ln	1728	1702	1706	1728	1777	1341	1781	1702	1092	1781	1777	1147
Q Serve(g_s), s	4.7	9.8	10.2	3.1	5.8	5.7	5.2	7.3	16.4	5.6	3.0	4.8
Cycle Q Clear(g_c), s	4.7	9.8	10.2	3.1	5.8	5.7	5.2	7.3	16.4	5.6	3.0	4.8
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	1269	636	160	1264	477	113	1156	371	94	1169	377
V/C Ratio(X)	0.70	0.27	0.28	0.65	0.39	0.38	0.79	0.28	0.56	1.09	0.12	0.19
Avail Cap(c_a), veh/h	346	1269	636	319	1264	477	212	1198	384	94	1169	377
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.90	0.90	0.90	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	50.9	33.5	33.6	47.3	10.7	10.7	48.9	25.5	28.5	50.2	24.9	25.5
Incr Delay (d2), s/veh	1.5	0.5	1.1	1.5	0.8	2.1	4.5	0.4	4.2	118.7	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.5	4.8	1.3	2.0	1.7	2.5	3.0	4.7	5.6	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	34.0	34.7	48.8	11.5	12.8	53.4	25.9	32.7	168.9	25.1	26.4
LnGrp LOS	D	C	C	D	B	B	D	C	C	F	C	C
Approach Vol, veh/h		681			776			617			320	
Approach Delay, s/veh		38.3			16.8			32.2			71.7	
Approach LOS		D			B			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	41.5	9.3	45.2	11.1	40.4	11.1	43.4
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	5.6	* 37	9.8	33.6	12.6	30.0	10.6	* 33
Max Q Clear Time (g_c+I1), s	7.3	18.4	5.1	12.2	7.2	6.8	6.7	7.8
Green Ext Time (p_c), s	0.0	7.1	0.1	5.2	0.0	2.9	0.1	10.1

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
20: Cargill Drive/Costa Verde Blvd & Nobel Drive

Ex AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	570	49	36	592	69	81	109	61	98	31	81
Future Volume (veh/h)	127	570	49	36	592	69	81	109	61	98	31	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	626	54	40	651	76	89	120	67	108	34	89
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	2122	181	51	1902	219	77	298	166	134	133	349
Arrive On Green	0.12	0.89	0.89	0.03	0.41	0.41	0.04	0.27	0.27	0.08	0.30	0.30
Sat Flow, veh/h	1781	4762	406	1781	4616	532	1781	1093	610	1781	438	1147
Grp Volume(v), veh/h	140	445	235	40	478	249	89	0	187	108	0	123
Grp Sat Flow(s),veh/h/ln	1781	1702	1764	1781	1702	1744	1781	0	1704	1781	0	1586
Q Serve(g_s), s	6.6	2.0	2.1	2.4	10.2	10.4	4.6	0.0	9.5	6.3	0.0	6.2
Cycle Q Clear(g_c), s	6.6	2.0	2.1	2.4	10.2	10.4	4.6	0.0	9.5	6.3	0.0	6.2
Prop In Lane	1.00		0.23	1.00		0.31	1.00		0.36	1.00		0.72
Lane Grp Cap(c), veh/h	111	1517	786	51	1402	718	77	0	464	134	0	482
V/C Ratio(X)	1.26	0.29	0.30	0.79	0.34	0.35	1.15	0.00	0.40	0.81	0.00	0.26
Avail Cap(c_a), veh/h	111	1517	786	101	1402	718	77	0	604	134	0	613
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	3.3	3.3	51.2	21.3	21.4	50.7	0.0	31.5	48.2	0.0	27.8
Incr Delay (d2), s/veh	169.2	0.5	0.9	9.6	0.7	1.3	149.0	0.0	0.2	27.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.7	0.8	1.2	4.1	4.5	5.2	0.0	3.9	3.8	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	215.6	3.8	4.2	60.7	22.0	22.7	199.7	0.0	31.7	75.3	0.0	27.9
LnGrp LOS	F	A	A	E	C	C	F	A	C	E	A	C
Approach Vol, veh/h		820			767			276			231	
Approach Delay, s/veh		40.1			24.2			85.9			50.1	
Approach LOS		D			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	52.4	9.0	37.1	11.0	48.9	12.4	33.7
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	6.6	35.5	4.6	41.0	6.6	34.9	8.0	37.6
Max Q Clear Time (g_c+I1), s	4.4	4.1	6.6	8.2	8.6	12.4	8.3	11.5
Green Ext Time (p_c), s	0.0	8.2	0.0	0.5	0.0	7.7	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

HCM Unsignalized Intersection Capacity Analysis
21: Nobel Drive & Costa Verde Shopping Ctr

Ex AM
10/03/2019

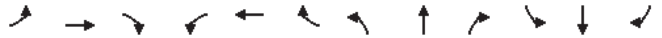
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	700	664	99	0	31
Future Volume (Veh/h)	0	700	664	99	0	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	787	746	111	0	35
Pedestrians		10	10		27	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.95				0.97	0.95
vC, conflicting volume	884				1101	341
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	687				660	115
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	96
cM capacity (veh/h)	837				374	842

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	262	262	262	298	298	260	35
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	111	35
cSH	1700	1700	1700	1700	1700	1700	842
Volume to Capacity	0.15	0.15	0.15	0.18	0.18	0.15	0.04
Queue Length 95th (ft)	0	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.5
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.5
Approach LOS							A

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		28.2%	ICU Level of Service A
Analysis Period (min)		15	

HCM 6th Signalized Intersection Summary
22: Genesee Avenue & Nobel Drive

Ex AM
10/03/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	437	141	93	316	39	265	1439	184	59	223	84
Future Volume (veh/h)	130	437	141	93	316	39	265	1439	184	59	223	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	470	152	100	340	42	285	1547	198	63	240	90
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	741	313	146	698	293	336	2043	892	59	1815	792
Arrive On Green	0.05	0.21	0.21	0.04	0.20	0.20	0.10	0.58	0.58	0.07	1.00	1.00
Sat Flow, veh/h	3456	3554	1499	3456	3554	1491	3456	3554	1552	1781	3554	1550
Grp Volume(v), veh/h	140	470	152	100	340	42	285	1547	198	63	240	90
Grp Sat Flow(s),veh/h/ln	1728	1777	1499	1728	1777	1491	1728	1777	1552	1781	1777	1550
Q Serve(g_s), s	5.6	16.9	12.5	4.0	11.9	3.3	11.4	45.9	8.7	4.6	0.0	0.0
Cycle Q Clear(g_c), s	5.6	16.9	12.5	4.0	11.9	3.3	11.4	45.9	8.7	4.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	741	313	146	698	293	336	2043	892	59	1815	792
V/C Ratio(X)	0.75	0.63	0.49	0.69	0.49	0.14	0.85	0.76	0.22	1.08	0.13	0.11
Avail Cap(c_a), veh/h	212	899	379	207	888	373	449	2043	892	59	1815	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.3	50.5	48.8	66.1	50.0	46.5	62.2	22.4	14.5	65.4	0.0	0.0
Incr Delay (d2), s/veh	9.8	1.4	1.7	2.1	0.5	0.2	8.7	2.7	0.6	140.4	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.7	4.9	1.8	5.4	1.2	5.4	19.4	3.2	4.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.1	52.0	50.5	68.3	50.5	46.7	70.9	25.1	15.1	205.8	0.2	0.3
LnGrp LOS	E	D	D	E	D	D	E	C	B	F	A	A
Approach Vol, veh/h		762			482			2030			393	
Approach Delay, s/veh		55.9			53.9			30.5			33.2	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	86.4	10.3	34.3	18.0	77.4	12.0	32.6
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	4.6	* 72	8.4	* 35	18.2	58.4	8.6	35.0
Max Q Clear Time (g_c+I1), s	6.6	47.9	6.0	18.9	13.4	2.0	7.6	13.9
Green Ext Time (p_c), s	0.0	18.8	0.0	4.6	0.3	3.0	0.0	2.4

Intersection Summary		
HCM 6th Ctrl Delay		39.1
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	419	509	11	16	220	66	21	192	88	19	49	200
Future Volume (veh/h)	419	509	11	16	220	66	21	192	88	19	49	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	432	525	11	16	227	68	22	198	91	20	51	206
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	542	1263	26	27	1092	633	39	355	168	350	368	300
Arrive On Green	0.16	0.36	0.36	0.02	0.21	0.21	0.16	0.16	0.16	0.20	0.20	0.20
Sat Flow, veh/h	3456	3554	74	1781	5106	1502	243	2204	1039	1781	1870	1525
Grp Volume(v), veh/h	432	262	274	16	227	68	169	0	142	20	51	206
Grp Sat Flow(s),veh/h/ln	1728	1777	1851	1781	1702	1502	1858	0	1627	1781	1870	1525
Q Serve(g_s), s	9.0	8.3	8.3	0.7	2.7	2.1	6.2	0.0	6.0	0.7	1.7	9.3
Cycle Q Clear(g_c), s	9.0	8.3	8.3	0.7	2.7	2.1	6.2	0.0	6.0	0.7	1.7	9.3
Prop In Lane	1.00		0.04	1.00		1.00	0.13		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	542	631	658	27	1092	633	300	0	262	350	368	300
V/C Ratio(X)	0.80	0.42	0.42	0.59	0.21	0.11	0.56	0.00	0.54	0.06	0.14	0.69
Avail Cap(c_a), veh/h	1032	1190	1240	96	2163	948	875	0	766	745	782	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	18.1	18.1	36.4	24.1	13.5	28.8	0.0	28.7	24.3	24.7	27.7
Incr Delay (d2), s/veh	1.0	0.9	0.9	7.5	0.1	0.1	0.6	0.0	0.7	0.1	0.2	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.4	3.5	0.3	1.1	1.0	2.7	0.0	2.3	0.3	0.7	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	19.0	19.0	43.9	24.2	13.6	29.4	0.0	29.3	24.4	24.9	31.7
LnGrp LOS	C	B	B	D	C	B	C	A	C	C	C	C
Approach Vol, veh/h		968			311			311			277	
Approach Delay, s/veh		24.5			22.9			29.4			29.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	32.4		19.5	16.1	21.9		16.9				
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9				
Max Green Setting (Gmax), s	4.6	* 50		31.1	22.2	31.5		35.0				
Max Q Clear Time (g_c+I1), s	12.3	10.3		11.3	11.0	4.7		8.2				
Green Ext Time (p_c), s	0.0	7.1		1.5	0.7	2.0		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

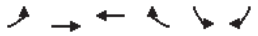
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	575	7	6	254	55	28	5	56	131	2	29
Future Volume (veh/h)	17	575	7	6	254	55	28	5	56	131	2	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.92	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	625	8	7	276	60	30	5	61	143	0	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	1634	21	13	1280	264	37	6	75	490	0	409
Arrive On Green	0.02	0.31	0.31	0.01	0.30	0.30	0.08	0.08	0.08	0.14	0.00	0.14
Sat Flow, veh/h	1781	5191	66	1781	4209	869	487	81	991	3563	0	2975
Grp Volume(v), veh/h	18	409	224	7	220	116	96	0	0	143	0	32
Grp Sat Flow(s),veh/h/ln	1781	1702	1853	1781	1702	1674	1559	0	0	1781	0	1488
Q Serve(g_s), s	0.4	4.1	4.1	0.2	2.1	2.2	2.6	0.0	0.0	1.6	0.0	0.4
Cycle Q Clear(g_c), s	0.4	4.1	4.1	0.2	2.1	2.2	2.6	0.0	0.0	1.6	0.0	0.4
Prop In Lane	1.00		0.04	1.00		0.52	0.31		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	32	1071	583	13	1036	509	118	0	0	490	0	409
V/C Ratio(X)	0.56	0.38	0.38	0.53	0.21	0.23	0.82	0.00	0.00	0.29	0.00	0.08
Avail Cap(c_a), veh/h	272	2535	1380	190	2370	1165	400	0	0	2645	0	2209
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	11.5	11.5	21.4	11.2	11.2	19.7	0.0	0.0	16.8	0.0	16.3
Incr Delay (d2), s/veh	5.6	0.4	0.7	11.5	0.2	0.4	5.1	0.0	0.0	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	1.5	0.1	0.7	0.7	1.0	0.0	0.0	0.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	11.9	12.3	32.9	11.4	11.6	24.8	0.0	0.0	17.0	0.0	16.3
LnGrp LOS	C	B	B	C	B	B	C	A	A	B	A	B
Approach Vol, veh/h		651			343			96			175	
Approach Delay, s/veh		12.5			11.9			24.8			16.9	
Approach LOS		B			B			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	19.5		10.8	5.2	19.1		8.2				
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9				
Max Green Setting (Gmax), s	4.6	* 32		32.1	6.6	30.1		11.1				
Max Q Clear Time (g_c+I1), s	2.2	6.1		3.6	2.4	4.2		4.6				
Green Ext Time (p_c), s	0.0	7.2		0.5	0.0	3.4		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	174	626	275	1078	268	44
Future Volume (veh/h)	174	626	275	1078	268	44
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	659	289	1135	282	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	164	3896	2281	1027	416	191
Arrive On Green	0.05	0.76	0.67	0.67	0.12	0.12
Sat Flow, veh/h	3456	5274	3572	1533	3456	1585
Grp Volume(v), veh/h	183	659	289	1135	282	46
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1533	1728	1585
Q Serve(g_s), s	4.6	3.4	3.0	65.0	7.6	2.5
Cycle Q Clear(g_c), s	4.6	3.4	3.0	65.0	7.6	2.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	164	3896	2281	1027	416	191
V/C Ratio(X)	1.12	0.17	0.13	1.10	0.68	0.24
Avail Cap(c_a), veh/h	164	3896	2281	1027	1236	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	3.1	5.8	16.0	40.8	38.6
Incr Delay (d2), s/veh	105.0	0.1	0.1	61.3	3.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.9	1.0	36.2	3.4	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	151.2	3.2	5.8	77.3	44.0	39.7
LnGrp LOS	F	A	A	F	D	D
Approach Vol, veh/h		842	1424		328	
Approach Delay, s/veh		35.3	62.8		43.4	
Approach LOS		D	E		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		80.0		17.0	9.0	71.0
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		74.0		34.7	4.6	65.0
Max Q Clear Time (g_c+I1), s		5.4		9.6	6.6	67.0
Green Ext Time (p_c), s		12.4		2.1	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			51.4			
HCM 6th LOS			D			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	349	547	174	1445	0	0
Future Volume (veh/h)	349	547	174	1445	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	367	576	183	1521		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6511	4985	245	9957		
Arrive On Green	1.00	1.00	0.14	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	367	576	183	1521		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	5.1	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	5.1	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6511	4985	245	9957		
V/C Ratio(X)	0.06	0.12	0.75	0.15		
Avail Cap(c_a), veh/h	6511	4985	287	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.97	0.97	0.80	0.80		
Uniform Delay (d), s/veh	0.0	0.0	42.1	0.0		
Incr Delay (d2), s/veh	0.0	0.0	5.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.2	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	47.6	0.0		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	943			1704		
Approach Delay, s/veh	0.0			5.1		
Approach LOS	A			A		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	11.8	193.2				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	8.3	80.0				* 96
Max Q Clear Time (g_c+I1), s	7.1	2.0				2.0
Green Ext Time (p_c), s	0.0	3.3				10.8
Intersection Summary						
HCM 6th Ctrl Delay			3.3			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	347	0	0	663	873	733
Future Volume (vph)	347	0	0	663	873	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2683
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2683
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	358	0	0	684	900	756
RTOR Reduction (vph)	0	0	0	0	0	238
Lane Group Flow (vph)	358	0	0	684	900	518
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	46.4			56.5	30.4	35.8
Effective Green, g (s)	46.4			56.5	30.4	35.8
Actuated g/C Ratio	0.46			0.56	0.30	0.36
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1642			3620	1043	960
v/s Ratio Prot	c0.10			0.11	c0.26	c0.03
v/s Ratio Perm						0.16
v/c Ratio	0.22			0.19	0.86	0.54
Uniform Delay, d1	16.0			10.6	32.8	25.5
Progression Factor	1.01			1.00	1.00	1.00
Incremental Delay, d2	0.3			0.1	7.3	0.3
Delay (s)	16.4			10.7	40.1	25.9
Level of Service	B			B	D	C
Approach Delay (s)	16.4			10.7	33.6	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	28	173	55	24	22	149	1702	121	8	521	41
Future Volume (veh/h)	24	28	173	55	24	22	149	1702	121	8	521	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	128	121	59	26	24	160	1830	130	9	560	44
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	269	262	108	47	33	182	2385	167	15	2053	161
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.20	1.00	1.00	0.01	0.62	0.62
Sat Flow, veh/h	192	1559	1519	399	273	190	1781	3358	235	1781	3329	261
Grp Volume(v), veh/h	154	0	121	109	0	0	160	955	1005	9	298	306
Grp Sat Flow(s),veh/h/ln	1751	0	1519	861	0	0	1781	1777	1816	1781	1777	1813
Q Serve(g_s), s	0.0	0.0	10.0	8.9	0.0	0.0	12.2	0.0	0.0	0.7	10.8	10.9
Cycle Q Clear(g_c), s	10.7	0.0	10.0	19.6	0.0	0.0	12.2	0.0	0.0	0.7	10.8	10.9
Prop In Lane	0.17		1.00	0.54		0.22	1.00		0.13	1.00		0.14
Lane Grp Cap(c), veh/h	332	0	262	188	0	0	182	1262	1290	15	1096	1118
V/C Ratio(X)	0.46	0.00	0.46	0.58	0.00	0.00	0.88	0.76	0.78	0.60	0.27	0.27
Avail Cap(c_a), veh/h	414	0	333	250	0	0	282	1262	1290	53	1096	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.42	0.42	0.42	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	0.0	52.1	58.4	0.0	0.0	54.9	0.0	0.0	69.2	12.4	12.4
Incr Delay (d2), s/veh	0.4	0.0	0.5	1.0	0.0	0.0	5.6	1.8	2.0	13.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	3.9	3.8	0.0	0.0	5.1	0.6	0.7	0.4	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	0.0	52.5	59.4	0.0	0.0	60.5	1.8	2.0	82.5	13.0	13.0
LnGrp LOS	D	A	D	E	A	A	E	A	A	F	B	B
Approach Vol, veh/h		275			109			2120			613	
Approach Delay, s/veh		52.6			59.4			6.4			14.0	
Approach LOS		D			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	92.2		29.1	5.6	105.3		29.1				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	22.3	71.9		30.7	4.2	* 90		30.7				
Max Q Clear Time (g_c+I1), s	14.2	12.9		21.6	2.7	2.0		12.7				
Green Ext Time (p_c), s	0.1	5.0		0.2	0.0	54.4		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	13.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	455	306	142	247	236	249	71	1349	223	181	499	256
Future Volume (veh/h)	455	306	142	247	236	249	71	1349	223	181	499	256
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	517	348	161	281	268	283	81	1533	253	206	567	291
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1143	462	138	1143	496	71	1408	619	138	1408	623
Arrive On Green	0.04	0.32	0.32	0.04	0.32	0.32	0.04	0.40	0.40	0.04	0.40	0.40
Sat Flow, veh/h	3456	3554	1435	3456	3554	1541	1781	3554	1561	3456	3554	1573
Grp Volume(v), veh/h	517	348	161	281	268	283	81	1533	253	206	567	291
Grp Sat Flow(s),veh/h/ln	1728	1777	1435	1728	1777	1541	1781	1777	1561	1728	1777	1573
Q Serve(g_s), s	4.0	7.4	8.6	4.0	5.5	15.3	4.0	39.6	11.7	4.0	11.5	13.7
Cycle Q Clear(g_c), s	4.0	7.4	8.6	4.0	5.5	15.3	4.0	39.6	11.7	4.0	11.5	13.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1143	462	138	1143	496	71	1408	619	138	1408	623
V/C Ratio(X)	3.74	0.30	0.35	2.03	0.23	0.57	1.14	1.09	0.41	1.49	0.40	0.47
Avail Cap(c_a), veh/h	138	1411	570	138	1386	601	71	1408	619	138	1408	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	25.5	25.9	48.0	24.9	28.2	48.0	30.2	21.8	48.0	21.7	22.4
Incr Delay (d2), s/veh	125	0.6	0.3	1.0	489.1	0.2	2.0	148.6	52.0	2.0	254.9	0.9	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.7	3.1	3.0	11.1	2.3	5.8	4.7	25.6	4.5	6.6	4.6	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1298.6	25.8	26.9	537.1	25.1	30.2	196.6	82.1	23.8	302.9	22.5	24.9
LnGrp LOS	F	C	C	F	C	C	F	F	C	F	C	C
Approach Vol, veh/h		1026			832			1867			1064	
Approach Delay, s/veh		667.3			199.8			79.2			77.5	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	45.3	8.4	37.9	8.4	45.3	8.4	37.9
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7
Max Green Setting (Gmax), s	4.0	32.8	4.0	* 40	4.0	* 33	4.0	39.0
Max Q Clear Time (g_c+I1), s	10.0	41.6	6.0	10.6	6.0	15.7	6.0	17.3
Green Ext Time (p_c), s	0.0	0.0	0.0	6.0	0.0	8.1	0.0	5.1

Intersection Summary	
HCM 6th Ctrl Delay	225.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	131	0	0	852	420	942	0	0	887	113
Future Vol, veh/h	0	0	131	0	0	852	420	942	0	0	887	113
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	142	0	0	926	457	1024	0	0	964	123

Major/Minor	Minor2					Major1			Major2			
Conflicting Flow All	-	-	482			964	0	-	-	-	0	
Stage 1	-	-	-			-	-	-	-	-	-	
Stage 2	-	-	-			-	-	-	-	-	-	
Critical Hdwy	-	-	6.94			4.14	-	-	-	-	-	
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-	
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-	
Pot Cap-1 Maneuver	0	0	530			710	-	0	0	-	-	
Stage 1	0	0	-			-	-	0	0	-	-	
Stage 2	0	0	-			-	-	0	0	-	-	
Platoon blocked, %							-			-	-	
Mov Cap-1 Maneuver	-	0	530			710	-	-	-	-	-	
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-	
Stage 1	-	0	-			-	-	-	-	-	-	
Stage 2	-	0	-			-	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	14.3	5.8	0
HCM LOS	B		

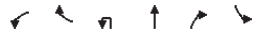
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	710	-	530	-	-
HCM Lane V/C Ratio	0.643	-	0.269	-	-
HCM Control Delay (s)	18.7	-	14.3	-	-
HCM Lane LOS	C	-	B	-	-
HCM 95th %tile Q(veh)	4.7	-	1.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	132	170	1192	721	432	586
Future Volume (veh/h)	132	170	1192	721	432	586
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	143	185	1296	0	470	637
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	257	229	1503		386	2481
Arrive On Green	0.14	0.14	0.42	0.00	0.22	0.70
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	143	185	1296	0	470	637
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.0	9.0	26.5	0.0	17.3	5.3
Cycle Q Clear(g_c), s	6.0	9.0	26.5	0.0	17.3	5.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	257	229	1503		386	2481
V/C Ratio(X)	0.56	0.81	0.86		1.22	0.26
Avail Cap(c_a), veh/h	713	635	1503		386	2481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	33.1	21.0	0.0	31.3	4.4
Incr Delay (d2), s/veh	0.7	2.6	6.8	0.0	119.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.5	10.8	0.0	19.6	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.5	35.7	27.7	0.0	151.3	4.7
LnGrp LOS	C	D	C		F	A
Approach Vol, veh/h	328		1296	A		1107
Approach Delay, s/veh	34.3		27.7			66.9
Approach LOS	C		C			E
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	41.3		16.6		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		* 56
Max Q Clear Time (g_c+I1), s	19.3	28.5		11.0		7.3
Green Ext Time (p_c), s	0.0	2.6		0.5		2.7

Intersection Summary	
HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	300	212	0	1760	278	169	580
Future Volume (veh/h)	300	212	0	1760	278	169	580
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	326	230		1913	302	184	630
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	360	320		2218	981	231	2549
Arrive On Green	0.20	0.20		0.62	0.62	0.07	0.72
Sat Flow, veh/h	1781	1585		3647	1572	3456	3647
Grp Volume(v), veh/h	326	230		1913	302	184	630
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1572	1728	1777
Q Serve(g_s), s	25.0	19.0		61.4	12.5	7.3	8.5
Cycle Q Clear(g_c), s	25.0	19.0		61.4	12.5	7.3	8.5
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	360	320		2218	981	231	2549
V/C Ratio(X)	0.91	0.72		0.86	0.31	0.80	0.25
Avail Cap(c_a), veh/h	397	353		2218	981	249	2549
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	52.2		21.4	12.2	64.4	6.8
Incr Delay (d2), s/veh	23.6	7.2		4.7	0.8	13.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.6	16.7		24.4	4.3	3.6	2.9
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	78.2	59.4		26.2	13.1	78.1	7.0
LnGrp LOS	E	E		C	B	E	A
Approach Vol, veh/h	556			2215			814
Approach Delay, s/veh	70.4			24.4			23.1
Approach LOS	E			C			C
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	13.8	93.1		33.2		106.8	
Change Period (Y+Rc), s	4.4	5.7		4.9		6.4	
Max Green Setting (Gmax), s	10.1	83.7		31.2		89.1	
Max Q Clear Time (g_c+I1), s	19.3	63.4		27.0		10.5	
Green Ext Time (p_c), s	0.0	16.1		1.2		2.6	

Intersection Summary	
HCM 6th Ctrl Delay	31.2
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

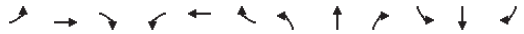
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	99	34	39	56	70	60	1333	335	71	400	38
Future Volume (veh/h)	34	99	34	39	56	70	60	1333	335	71	400	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	106	37	42	60	75	65	1433	360	76	430	41
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	342	112	82	230	191	106	1817	441	188	2185	207
Arrive On Green	0.03	0.13	0.13	0.02	0.13	0.13	0.03	0.64	0.64	0.05	0.67	0.67
Sat Flow, veh/h	1781	2581	848	3456	1777	1473	3456	2822	685	3456	3273	311
Grp Volume(v), veh/h	37	71	72	42	60	75	65	884	909	76	232	239
Grp Sat Flow(s),veh/h/ln	1781	1777	1652	1728	1777	1473	1728	1777	1731	1728	1777	1807
Q Serve(g_s), s	2.7	4.8	5.2	1.6	4.0	6.2	2.5	46.5	52.0	2.8	6.6	6.7
Cycle Q Clear(g_c), s	2.7	4.8	5.2	1.6	4.0	6.2	2.5	46.5	52.0	2.8	6.6	6.7
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.40	1.00		0.17
Lane Grp Cap(c), veh/h	47	235	219	82	230	191	106	1144	1114	188	1186	1206
V/C Ratio(X)	0.78	0.30	0.33	0.51	0.26	0.39	0.61	0.77	0.82	0.40	0.20	0.20
Avail Cap(c_a), veh/h	103	530	493	139	499	414	162	1144	1114	188	1186	1206
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	51.7	51.9	63.7	51.7	52.7	63.2	16.7	17.6	60.3	8.4	8.4
Incr Delay (d2), s/veh	9.9	0.3	0.3	1.8	0.2	0.5	2.1	5.1	6.6	6.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.2	2.2	0.7	1.8	2.3	1.1	18.3	20.3	1.4	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.7	52.0	52.3	65.5	52.0	53.2	65.3	21.8	24.3	66.6	8.8	8.8
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	A	A
Approach Vol, veh/h		180			177			1858			547	
Approach Delay, s/veh		56.6			55.7			24.5			16.8	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	90.5	7.5	22.4	8.5	93.6	7.9	22.0
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	7.2	60.9	5.3	39.4	6.2	* 62	7.6	37.1
Max Q Clear Time (g_c+I1), s	4.8	54.0	3.6	7.2	4.5	8.7	4.7	8.2
Green Ext Time (p_c), s	0.0	5.9	0.0	0.5	0.0	3.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	861	16	8	532	29	37	0	21	47	0	29
Future Volume (veh/h)	63	861	16	8	532	29	37	0	21	47	0	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	936	17	9	578	0	40	0	23	51	0	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1813	33	17	1646	0	235	13	53	354	0	167
Arrive On Green	0.05	0.51	0.51	0.01	0.46	0.00	0.11	0.00	0.11	0.11	0.00	0.11
Sat Flow, veh/h	1781	3571	65	1781	3647	0	758	119	504	1388	0	1585
Grp Volume(v), veh/h	68	466	487	9	578	0	63	0	0	51	0	32
Grp Sat Flow(s),veh/h/ln	1781	1777	1859	1781	1777	0	1382	0	0	1388	0	1585
Q Serve(g_s), s	1.4	6.6	6.6	0.2	4.0	0.0	1.0	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	1.4	6.6	6.6	0.2	4.0	0.0	1.7	0.0	0.0	1.0	0.0	0.7
Prop In Lane	1.00		0.03	1.00		0.00	0.63		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	96	902	944	17	1646	0	301	0	0	354	0	167
V/C Ratio(X)	0.71	0.52	0.52	0.53	0.35	0.00	0.21	0.00	0.00	0.14	0.00	0.19
Avail Cap(c_a), veh/h	780	3047	3188	357	5260	0	1412	0	0	1420	0	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.6	6.2	6.2	18.7	6.5	0.0	15.9	0.0	0.0	15.6	0.0	15.5
Incr Delay (d2), s/veh	3.5	0.6	0.6	9.2	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	1.7	0.1	1.0	0.0	0.4	0.0	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	6.8	6.8	27.9	6.7	0.0	16.1	0.0	0.0	15.7	0.0	15.7
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	B
Approach Vol, veh/h		1021			587			63			83	
Approach Delay, s/veh		7.8			7.1			16.1			15.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	4.8	24.2	8.9	6.4	22.6	8.9
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	7.6	65.0	33.1	16.6	* 56	33.1
Max Q Clear Time (g_c+I1), s	3.4	8.6	3.0	3.4	6.0	3.7
Green Ext Time (p_c), s	0.0	10.6	0.2	0.1	7.6	0.2

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	180	13	99	179	394	27	322	80	410	616	20
Future Volume (veh/h)	27	180	13	99	179	394	27	322	80	410	616	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.92	1.00		0.87	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	194	14	106	192	424	29	346	86	441	662	22
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	481	374	130	579	450	37	878	213	359	1753	58
Arrive On Green	0.02	0.26	0.26	0.07	0.31	0.31	0.02	0.32	0.32	0.20	0.50	0.50
Sat Flow, veh/h	1781	1870	1456	1781	1870	1454	1781	2747	666	1781	3500	116
Grp Volume(v), veh/h	29	194	14	106	192	424	29	221	211	441	336	348
Grp Sat Flow(s),veh/h/ln	1781	1870	1456	1781	1870	1454	1781	1777	1635	1781	1777	1839
Q Serve(g_s), s	2.1	11.3	1.0	7.7	10.4	37.5	2.1	12.7	13.3	26.6	15.4	15.4
Cycle Q Clear(g_c), s	2.1	11.3	1.0	7.7	10.4	37.5	2.1	12.7	13.3	26.6	15.4	15.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.41	1.00		0.06
Lane Grp Cap(c), veh/h	37	481	374	130	579	450	37	568	523	359	890	921
V/C Ratio(X)	0.79	0.40	0.04	0.82	0.33	0.94	0.79	0.39	0.40	1.23	0.38	0.38
Avail Cap(c_a), veh/h	89	483	376	305	707	550	211	568	523	359	890	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	40.6	36.8	60.3	35.1	44.4	64.4	34.9	35.1	52.7	20.3	20.3
Incr Delay (d2), s/veh	13.2	0.2	0.0	4.6	0.1	20.9	12.0	1.8	2.1	125.0	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.3	0.3	3.7	4.8	16.0	1.1	5.8	5.7	24.3	6.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.6	40.8	36.8	64.9	35.2	65.3	76.4	36.7	37.2	177.7	21.5	21.5
LnGrp LOS	E	D	D	E	D	E	E	D	D	F	C	C
Approach Vol, veh/h		237			722			461			1125	
Approach Delay, s/veh		45.1			57.3			39.4			82.7	
Approach LOS		D			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	47.9	14.0	39.0	7.1	71.8	7.1	46.0
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	26.6	29.3	22.6	* 34	15.6	40.3	6.6	49.9
Max Q Clear Time (g_c+I1), s	28.6	15.3	9.7	13.3	4.1	17.4	4.1	39.5
Green Ext Time (p_c), s	0.0	3.2	0.1	0.7	0.0	6.7	0.0	1.3

Intersection Summary			
HCM 6th Ctrl Delay	64.2		
HCM 6th LOS	E		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2095	820	0	1271	1052	0	0	0	643	0	651
Future Volume (vph)	0	2095	820	0	1271	1052	0	0	0	643	0	651
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1533				3433		2734
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1533				3433		2734
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2138	837	0	1297	1073	0	0	0	656	0	664
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	2138	837	0	1297	1073	0	0	0	656	0	656
Confl. Peds. (#/hr)	16		10	10		16	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free				Prot		custom
Protected Phases		2			6					4		5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		47.3	138.0		37.4	138.0				80.4		86.1
Effective Green, g (s)		47.3	138.0		37.4	138.0				80.4		86.1
Actuated g/C Ratio		0.34	1.00		0.27	1.00				0.58		0.62
Clearance Time (s)		5.7			5.7					4.6		4.2
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2196	1538		1378	1533				2000		1705
v/s Ratio Prot		c0.33			0.26					0.19		0.02
v/s Ratio Perm			0.54			c0.70						0.22
v/c Ratio		0.97	0.54		0.94	0.70				0.33		0.38
Uniform Delay, d1		44.7	0.0		49.2	0.0				14.9		12.8
Progression Factor		1.00	1.00		1.11	1.00				1.00		1.00
Incremental Delay, d2		13.9	1.4		8.0	1.4				0.4		0.1
Delay (s)		58.7	1.4		62.7	1.4				15.3		12.9
Level of Service		E	A		E	A				B		B
Approach Delay (s)		42.5			34.9			0.0			14.1	
Approach LOS		D			C			A			B	

Intersection Summary					
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.85				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	57.3%	ICU Level of Service		B	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: I-5 NB Off Ramp & La Jolla Village Drive

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1490	1248	0	2034	504	289	0	298	0	0	0
Future Volume (vph)	0	1490	1248	0	2034	504	289	0	298	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.98			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2737			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2737			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1536	1287	0	2097	520	298	0	307	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	9	0	0	0
Lane Group Flow (vph)	0	1536	1287	0	2097	520	298	0	298	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		44.3	138.0		60.3	138.0	67.4		79.2			
Effective Green, g (s)		44.3	138.0		60.3	138.0	67.4		79.2			
Actuated g/C Ratio		0.32	1.00		0.44	1.00	0.49		0.57			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		1632	1538		2221	1538	1676		1570			
v/s Ratio Prot		0.30			c0.41		0.09		0.02			
v/s Ratio Perm			c0.84			0.34			0.09			
v/c Ratio		0.94	0.84		0.94	0.34	0.18		0.19			
Uniform Delay, d1		45.6	0.0		37.2	0.0	19.8		14.1			
Progression Factor		0.58	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		7.6	3.2		9.8	0.6	0.2		0.3			
Delay (s)		33.8	3.2		47.1	0.6	20.0		14.3			
Level of Service		C	A		D	A	C		B			
Approach Delay (s)		19.9			37.8			17.1			0.0	
Approach LOS		B			D			B			A	

Intersection Summary				
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	56.1%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
4: Lebon Drive & La Jolla Village Drive

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1825	270	276	2068	4	464	7	125	8	1	6
Future Volume (veh/h)	13	1825	270	276	2068	4	464	7	125	8	1	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1921	284	291	2177	4	488	0	137	8	1	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	2773	1175	347	3324	6	754	0	641	20	2	15
Arrive On Green	0.01	0.54	0.54	0.03	0.21	0.21	0.21	0.00	0.21	0.01	0.01	0.01
Sat Flow, veh/h	1781	5106	1547	3456	5263	10	3563	0	3030	1592	199	1194
Grp Volume(v), veh/h	14	1921	284	291	1408	773	488	0	137	9	0	6
Grp Sat Flow(s),veh/h/ln	1781	1702	1547	1728	1702	1868	1781	0	1515	1791	0	1194
Q Serve(g_s), s	1.2	41.3	8.3	12.6	56.9	56.9	18.8	0.0	5.6	0.7	0.0	0.7
Cycle Q Clear(g_c), s	1.2	41.3	8.3	12.6	56.9	56.9	18.8	0.0	5.6	0.7	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	21	2773	1175	347	2150	1180	754	0	641	22	0	15
V/C Ratio(X)	0.67	0.69	0.24	0.84	0.65	0.66	0.65	0.00	0.21	0.41	0.00	0.41
Avail Cap(c_a), veh/h	447	2773	1175	728	2150	1180	1451	0	1234	49	0	33
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.47	0.09	0.09	0.09	0.88	0.00	0.88	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.8	25.1	5.5	71.3	44.4	44.4	54.0	0.0	48.8	73.5	0.0	73.5
Incr Delay (d2), s/veh	6.2	0.7	0.2	0.2	0.1	0.3	3.8	0.0	0.7	4.4	0.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	16.8	5.7	5.9	26.2	28.8	8.9	0.0	2.2	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.0	25.8	5.8	71.5	44.5	44.6	57.8	0.0	49.5	77.9	0.0	80.0
LnGrp LOS	F	C	A	E	D	D	E	A	D	E	A	F
Approach Vol, veh/h		2219			2472			625			15	
Approach Delay, s/veh		23.6			47.7			56.0			78.7	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	87.2		6.8	6.2	100.4		36.6				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	31.6	* 34		4.1	37.6	27.3		61.1				
Max Q Clear Time (g_c+I1), s	14.6	43.3		2.7	3.2	58.9		20.8				
Green Ext Time (p_c), s	0.5	0.0		0.0	0.0	0.0		9.6				

Intersection Summary			
HCM 6th Ctrl Delay	38.7		
HCM 6th LOS	D		

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	1487	108	353	1538	79	244	214	76	178	751	792
Future Volume (veh/h)	363	1487	108	353	1538	79	244	214	76	178	751	792
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.91	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	378	1549	112	368	1602	82	254	223	79	185	782	825
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	2010	145	359	1955	100	221	1226	498	208	1414	581
Arrive On Green	0.12	0.41	0.41	0.03	0.13	0.13	0.02	0.11	0.11	0.12	0.40	0.40
Sat Flow, veh/h	3456	4847	350	3456	4964	254	3456	3554	1444	1781	3554	1460
Grp Volume(v), veh/h	378	1088	573	368	1098	586	254	223	79	185	782	825
Grp Sat Flow(s),veh/h/ln	1728	1702	1793	1728	1702	1814	1728	1777	1444	1781	1777	1460
Q Serve(g_s), s	16.1	41.2	41.3	15.6	47.1	47.2	9.6	8.5	7.4	15.4	25.5	59.7
Cycle Q Clear(g_c), s	16.1	41.2	41.3	15.6	47.1	47.2	9.6	8.5	7.4	15.4	25.5	59.7
Prop In Lane	1.00		0.20	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	432	1412	744	359	1340	714	221	1226	498	208	1414	581
V/C Ratio(X)	0.88	0.77	0.77	1.02	0.82	0.82	1.15	0.18	0.16	0.89	0.55	1.42
Avail Cap(c_a), veh/h	705	1412	744	359	1340	714	221	1226	498	340	1414	581
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.5	37.8	37.8	72.4	60.1	60.1	73.4	47.3	46.8	65.3	34.8	45.2
Incr Delay (d2), s/veh	2.3	2.3	4.3	53.7	5.7	10.2	104.3	0.1	0.2	9.4	0.6	199.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	17.6	19.0	10.0	22.8	25.2	7.7	4.0	2.8	7.5	11.2	53.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	40.1	42.1	126.2	65.8	70.3	177.7	47.4	47.0	74.7	35.4	244.1
LnGrp LOS	E	D	D	F	E	E	F	D	D	E	D	F
Approach Vol, veh/h		2039			2052			556			1792	
Approach Delay, s/veh		45.6			77.9			106.9			135.5	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	68.1	14.0	65.4	23.1	65.0	21.9	57.5
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	15.6	* 46	9.6	* 60	30.6	30.6	28.6	40.3
Max Q Clear Time (g_c+I1), s	17.6	43.3	11.6	61.7	18.1	49.2	17.4	10.5
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.6	0.0	0.2	2.2

Intersection Summary	
HCM 6th Ctrl Delay	86.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1544	197	0	1774	53	0	0	94	0	0	196
Future Volume (Veh/h)	0	1544	197	0	1774	53	0	0	94	0	0	196
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1678	214	0	1928	58	0	0	102	0	0	213
Pedestrians		10			10			10			18	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.79			0.71			0.81	0.81	0.71	0.81	0.81	0.79
vC, conflicting volume	2004			1902			2661	3799	686	2646	3877	700
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1341			817			483	1887	0	465	1983	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	86	100	100	75
cM capacity (veh/h)	397			564			273	55	752	323	48	837

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	671	671	550	771	771	444	102	213
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	214	0	0	58	102	213
cSH	1700	1700	1700	1700	1700	1700	752	837
Volume to Capacity	0.39	0.39	0.32	0.45	0.45	0.26	0.14	0.25
Queue Length 95th (ft)	0	0	0	0	0	0	12	25
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.5	10.8
Lane LOS							B	B
Approach Delay (s)	0.0			0.0			10.5	10.8
Approach LOS							B	B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	1183	299	368	1261	145	228	258	159	494	966	338
Future Volume (veh/h)	156	1183	299	368	1261	145	228	258	159	494	966	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	1259	318	391	1341	154	243	274	169	526	1028	360
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	1892	561	442	2235	1002	291	555	227	378	1009	427
Arrive On Green	0.12	0.74	0.74	0.09	0.29	0.29	0.03	0.05	0.05	0.21	0.28	0.28
Sat Flow, veh/h	3456	5106	1514	3456	5106	1522	3456	3554	1453	1781	3554	1503
Grp Volume(v), veh/h	166	1259	318	391	1341	154	243	274	169	526	1028	360
Grp Sat Flow(s),veh/h/ln	1728	1702	1514	1728	1702	1522	1728	1777	1453	1781	1777	1503
Q Serve(g_s), s	7.0	18.9	14.1	16.8	33.8	7.2	10.5	11.3	17.2	31.8	42.6	33.8
Cycle Q Clear(g_c), s	7.0	18.9	14.1	16.8	33.8	7.2	10.5	11.3	17.2	31.8	42.6	33.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	1892	561	442	2235	1002	291	555	227	378	1009	427
V/C Ratio(X)	0.79	0.67	0.57	0.88	0.60	0.15	0.83	0.49	0.74	1.39	1.02	0.84
Avail Cap(c_a), veh/h	290	1892	561	544	2235	1002	359	618	253	378	1009	427
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.51	0.51	0.51	0.90	0.90	0.90	0.93	0.93	0.93
Uniform Delay (d), s/veh	65.0	14.7	14.0	67.5	41.7	13.1	71.9	65.4	68.2	59.1	53.7	50.6
Incr Delay (d2), s/veh	6.5	1.9	4.1	6.8	0.6	0.2	10.0	0.7	9.7	191.3	32.1	13.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	4.8	4.0	8.1	15.1	2.6	5.3	5.5	7.4	34.4	23.5	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.5	16.5	18.2	74.3	42.3	13.3	81.9	66.1	77.9	250.4	85.8	64.4
LnGrp LOS	E	B	B	E	D	B	F	E	E	F	F	E
Approach Vol, veh/h		1743			1886			686			1914	
Approach Delay, s/veh		22.1			46.6			74.6			127.0	
Approach LOS		C			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.6	61.1	17.0	48.3	13.5	71.2	36.2	29.1
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	23.6	* 49	15.6	* 43	12.6	59.5	31.8	26.1
Max Q Clear Time (g_c+I1), s	18.8	20.9	12.5	44.6	9.0	35.8	33.8	19.2
Green Ext Time (p_c), s	0.4	22.7	0.1	0.0	0.1	19.2	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	67.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1576	194	252	1513	87	156	23	237	320	76	220
Future Volume (veh/h)	66	1576	194	252	1513	87	156	23	237	320	76	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.91	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	1899	234	304	1823	105	208	0	286	248	286	265
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	2011	608	267	2086	120	778	0	629	322	338	275
Arrive On Green	0.10	0.79	0.79	0.15	0.85	0.85	0.22	0.00	0.22	0.18	0.18	0.18
Sat Flow, veh/h	1781	5106	1545	3456	4931	283	3563	0	2882	1781	1870	1521
Grp Volume(v), veh/h	80	1899	234	304	1257	671	208	0	286	248	286	265
Grp Sat Flow(s),veh/h/ln	1781	1702	1545	1728	1702	1810	1781	0	1441	1781	1870	1521
Q Serve(g_s), s	6.7	46.3	6.9	11.6	32.6	33.0	7.3	0.0	12.9	19.9	22.2	25.9
Cycle Q Clear(g_c), s	6.7	46.3	6.9	11.6	32.6	33.0	7.3	0.0	12.9	19.9	22.2	25.9
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	2011	608	267	1440	766	778	0	629	322	338	275
V/C Ratio(X)	0.94	0.94	0.38	1.14	0.87	0.88	0.27	0.00	0.45	0.77	0.85	0.96
Avail Cap(c_a), veh/h	86	2011	608	267	1440	766	974	0	788	322	338	275
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.36	0.62	0.62	0.62	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	14.6	10.4	63.4	9.2	9.2	48.7	0.0	50.9	58.5	59.4	61.0
Incr Delay (d2), s/veh	40.5	4.6	0.7	86.6	4.9	8.9	0.1	0.0	0.2	15.1	21.3	45.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	8.5	2.1	7.9	4.9	6.1	3.3	0.0	4.7	10.3	12.5	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.1	19.2	11.1	150.0	14.1	18.1	48.7	0.0	51.1	73.6	80.7	106.5
LnGrp LOS	F	B	B	F	B	B	D	A	D	E	F	F
Approach Vol, veh/h		2213			2232			494			799	
Approach Delay, s/veh		21.6			33.8			50.1			87.1	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	64.4		32.0	11.6	68.8		37.6
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9
Max Green Setting (Gmax), s	11.6	50.8		27.1	7.2	55.2		41.0
Max Q Clear Time (g_c+I1), s	13.6	48.3		27.9	8.7	35.0		14.9
Green Ext Time (p_c), s	0.0	2.5		0.0	0.0	18.6		1.1

Intersection Summary	
HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

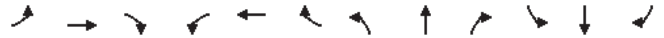
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1981	73	297	1611	262	170	138	412	755	341	71
Future Volume (veh/h)	79	1981	73	297	1611	262	170	138	412	755	341	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	2331	86	349	1895	308	200	162	485	888	401	84
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	2133	645	182	2242	1174	246	776	734	613	1153	500
Arrive On Green	0.07	0.84	0.84	0.05	0.44	0.44	0.07	0.22	0.22	0.18	0.32	0.32
Sat Flow, veh/h	3456	5106	1544	3456	5106	2673	3456	3554	2691	3456	3554	1541
Grp Volume(v), veh/h	93	2331	86	349	1895	308	200	162	485	888	401	84
Grp Sat Flow(s),veh/h/ln	1728	1702	1544	1728	1702	1337	1728	1777	1345	1728	1777	1541
Q Serve(g_s), s	4.0	62.7	1.5	7.9	49.7	11.0	8.6	5.6	24.0	26.6	12.9	5.8
Cycle Q Clear(g_c), s	4.0	62.7	1.5	7.9	49.7	11.0	8.6	5.6	24.0	26.6	12.9	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	2133	645	182	2242	1174	246	776	734	613	1153	500
V/C Ratio(X)	0.78	1.09	0.13	1.92	0.85	0.26	0.81	0.21	0.66	1.45	0.35	0.17
Avail Cap(c_a), veh/h	120	2133	645	182	2242	1174	334	877	811	613	1156	501
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.74	0.74	0.74	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	12.3	7.3	71.1	37.5	26.7	68.7	48.0	48.6	61.7	38.6	36.2
Incr Delay (d2), s/veh	11.3	45.6	0.2	427.7	3.1	0.4	6.7	0.3	2.5	211.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	13.9	0.6	14.3	21.2	3.6	4.0	2.5	8.4	29.7	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.5	57.9	7.5	498.7	40.6	27.1	75.4	48.3	51.1	272.8	38.9	36.5
LnGrp LOS	F	F	A	F	D	C	E	D	D	F	D	D
Approach Vol, veh/h		2510			2552			847			1373	
Approach Delay, s/veh		57.0			101.7			56.3			190.1	
Approach LOS		E			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	68.2	15.1	54.0	9.6	71.4	31.0	38.0
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	7.9	58.7	14.5	48.8	5.2	* 62	26.6	* 37
Max Q Clear Time (g_c+I1), s	13.9	64.7	10.6	14.9	6.0	51.7	28.6	26.0
Green Ext Time (p_c), s	0.0	0.0	0.1	5.6	0.0	9.7	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	97.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2065	1083	0	1705	847	0	0	0	210	0	465
Future Volume (vph)	0	2065	1083	0	1705	847	0	0	0	210	0	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1537				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1537				3433		2787
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	2374	1245	0	1960	974	0	0	0	241	0	534
RTOR Reduction (vph)	0	0	0	0	0	161	0	0	0	0	0	26
Lane Group Flow (vph)	0	2374	1245	0	1960	813	0	0	0	241	0	508
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov				Prot		custom
Protected Phases		2			6	4				4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		95.3	138.0		85.6	115.2				29.6		40.2
Effective Green, g (s)		95.3	138.0		85.6	115.2				29.6		40.2
Actuated g/C Ratio		0.69	1.00		0.62	0.83				0.21		0.29
Clearance Time (s)		7.5			7.5	5.6				5.6		
Vehicle Extension (s)		2.0			2.0	2.0				2.0		
Lane Grp Cap (vph)		3511	2707		3154	1283				736		811
v/s Ratio Prot		c0.47			0.39	0.14				0.07		c0.18
v/s Ratio Perm			0.46			0.39						
v/c Ratio		0.68	0.46		0.62	0.63				0.33		0.63
Uniform Delay, d1		12.4	0.0		16.2	4.0				45.8		42.4
Progression Factor		1.00	1.00		0.40	111.08				1.00		1.00
Incremental Delay, d2		1.1	0.6		0.7	0.6				0.1		1.1
Delay (s)		13.5	0.6		7.2	444.8				45.9		43.5
Level of Service		B	A		A	F				D		D
Approach Delay (s)		9.0			152.5			0.0			44.2	
Approach LOS		A			F			A			D	

Intersection Summary			
HCM 2000 Control Delay	70.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: I-805 NB Ramps & Miramar Road

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1037	1238	0	2061	762	491	0	217	0	0	0
Future Volume (vph)	0	1037	1238	0	2061	762	491	0	217	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1558		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1558		6408	1538	3433		2787			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	1178	1407	0	2342	866	558	0	247	0	0	0
RTOR Reduction (vph)	0	0	180	0	0	0	0	0	20	0	0	0
Lane Group Flow (vph)	0	1178	1227	0	2342	866	558	0	227	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		59.8	115.2		69.5	138.0	55.4		66.0			
Effective Green, g (s)		59.8	115.2		69.5	138.0	55.4		60.4			
Actuated g/C Ratio		0.43	0.83		0.50	1.00	0.40		0.44			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		2203	1300		3227	1538	1378		1219			
v/s Ratio Prot		0.23	c0.38		0.37		0.16		0.08			
v/s Ratio Perm			0.41			c0.56						
v/c Ratio		0.53	0.94		0.73	0.56	0.40		0.19			
Uniform Delay, d1		28.8	8.9		26.8	0.0	29.5		23.8			
Progression Factor		1.06	13.42		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.7	11.1		1.5	1.5	0.1		0.0			
Delay (s)		31.2	130.2		28.3	1.5	29.6		23.8			
Level of Service		C	F		C	A	C		C			
Approach Delay (s)		85.1			21.0			27.8			0.0	
Approach LOS		F			C			C			A	

Intersection Summary				
HCM 2000 Control Delay	47.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	82.4%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
12: Costa Verde Blvd & Costa Verde Shopping Center Entrance (North)

Ex PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	14	69	15	6	165
Future Volume (Veh/h)	18	14	69	15	6	165
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	21	16	81	18	7	194
Pedestrians	11		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	322	70			110	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	322	70			110	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	98			100	
cM capacity (veh/h)	631	961			1464	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	21	16	54	45	201
Volume Left	21	0	0	0	7
Volume Right	0	16	0	18	0
cSH	631	961	1700	1700	1464
Volume to Capacity	0.03	0.02	0.03	0.03	0.00
Queue Length 95th (ft)	3	1	0	0	0
Control Delay (s)	10.9	8.8	0.0	0.0	0.3
Lane LOS	B	A			A
Approach Delay (s)	10.0		0.0		0.3
Approach LOS	A				

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	26.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	178	70	131	149	76	173
Future Volume (Veh/h)	178	70	131	149	76	173
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	189	74	139	159	81	184
Pedestrians	16		10			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	498	175			314	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	498	175			314	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	59	91			93	
cM capacity (veh/h)	458	820			1226	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	263	93	205	142	123
Volume Left	189	0	0	81	0
Volume Right	74	0	159	0	0
cSH	523	1700	1700	1226	1700
Volume to Capacity	0.50	0.05	0.12	0.07	0.07
Queue Length 95th (ft)	70	0	0	5	0
Control Delay (s)	18.6	0.0	0.0	4.9	0.0
Lane LOS	C			A	
Approach Delay (s)	18.6	0.0		2.6	
Approach LOS	C				

Intersection Summary				
Average Delay		6.8		
Intersection Capacity Utilization		42.4%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	45	85	249	58	169	97	354	215	300	1047	286
Future Volume (veh/h)	122	45	85	249	58	169	97	354	215	300	1047	286
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.73	1.00		0.86	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	47	89	262	149	120	102	373	226	316	1102	301
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	49	93	821	431	316	123	805	478	257	1253	338
Arrive On Green	0.11	0.11	0.11	0.23	0.23	0.23	0.07	0.38	0.38	0.14	0.46	0.46
Sat Flow, veh/h	3456	459	869	3563	1870	1370	1781	2099	1246	1781	2735	738
Grp Volume(v), veh/h	128	0	136	262	149	120	102	315	284	316	711	692
Grp Sat Flow(s),veh/h/ln	1728	0	1328	1781	1870	1370	1781	1777	1569	1781	1777	1696
Q Serve(g_s), s	5.2	0.0	15.3	9.2	10.0	11.1	8.5	19.9	20.5	21.6	54.3	55.9
Cycle Q Clear(g_c), s	5.2	0.0	15.3	9.2	10.0	11.1	8.5	19.9	20.5	21.6	54.3	55.9
Prop In Lane	1.00		0.65	1.00		1.00	1.00		0.79	1.00		0.44
Lane Grp Cap(c), veh/h	371	0	143	821	431	316	123	681	602	257	814	777
V/C Ratio(X)	0.35	0.00	0.95	0.32	0.35	0.38	0.83	0.46	0.47	1.23	0.87	0.89
Avail Cap(c_a), veh/h	371	0	143	929	488	357	197	681	602	257	814	777
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.39	0.39	0.39
Uniform Delay (d), s/veh	62.1	0.0	66.6	47.9	48.2	48.7	68.9	34.6	34.8	64.2	36.7	37.2
Incr Delay (d2), s/veh	0.2	0.0	60.8	0.1	0.2	0.3	7.2	2.2	2.7	117.3	5.4	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	7.6	4.1	4.7	3.9	4.1	9.1	8.4	18.2	24.6	24.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.3	0.0	127.4	48.0	48.4	48.9	76.1	36.9	37.5	181.5	42.2	43.6
LnGrp LOS	E	A	F	D	D	D	E	D	D	F	D	D
Approach Vol, veh/h		264			531			701			1719	
Approach Delay, s/veh		95.8			48.3			42.8			68.4	
Approach LOS		F			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.0	63.5		21.0	14.8	74.7		39.5				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	21.6	53.0		16.1	16.6	* 58		39.1				
Max Q Clear Time (g_c+I1), s	23.6	22.5		17.3	10.5	57.9		13.1				
Green Ext Time (p_c), s	0.0	5.5		0.0	0.1	0.3		1.3				

Intersection Summary		
HCM 6th Ctrl Delay	61.7	
HCM 6th LOS	E	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	92	0	666	1307	74
Future Volume (Veh/h)	0	92	0	666	1307	74
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	95	0	687	1347	76
Pedestrians	33			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	3			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.93					
vC, conflicting volume	1772	530	1456			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1672	530	1456			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	80	100			
cM capacity (veh/h)	77	476	448			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	95	344	344	539	539	345
Volume Left	0	0	0	0	0	0
Volume Right	95	0	0	0	0	76
cSH	476	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.20	0.20	0.32	0.32	0.20
Queue Length 95th (ft)	18	0	0	0	0	0
Control Delay (s)	14.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	14.4	0.0		0.0		
Approach LOS	B					

Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization		42.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	680	318	641	1136	0	0
Future Volume (veh/h)	680	318	641	1136	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.90	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	731	342	689	1222		
Peak Hour Factor	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1799	840	758	3756		
Arrive On Green	0.80	0.80	0.44	1.00		
Sat Flow, veh/h	2354	1056	3456	3647		
Grp Volume(v), veh/h	574	499	689	1222		
Grp Sat Flow(s),veh/h/ln	1777	1540	1728	1777		
Q Serve(g_s), s	9.8	9.8	18.6	0.0		
Cycle Q Clear(g_c), s	9.8	9.8	18.6	0.0		
Prop In Lane		0.69	1.00			
Lane Grp Cap(c), veh/h	1414	1225	758	3756		
V/C Ratio(X)	0.41	0.41	0.91	0.33		
Avail Cap(c_a), veh/h	1414	1225	1306	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.88	0.88		
Uniform Delay (d), s/veh	3.1	3.1	27.1	0.0		
Incr Delay (d2), s/veh	0.9	1.0	2.6	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.7	2.4	5.9	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.0	4.1	29.7	0.2		
LnGrp LOS	A	A	C	A		
Approach Vol, veh/h	1073			1911		
Approach Delay, s/veh	4.0			10.8		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	26.1	84.4				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 38	53.5				* 96
Max Q Clear Time (g_c+I1), s	20.6	11.8				2.0
Green Ext Time (p_c), s	1.3	23.8				7.8

Intersection Summary		
HCM 6th Ctrl Delay	8.4	
HCM 6th LOS	A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	759	0	0	1012	9	281	33	291	0	0	295
Future Volume (vph)	0	759	0	0	1012	9	281	33	291	0	0	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.92			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.96	1.00			1.00
Satd. Flow (prot)		3539			6392		1681	1703	1454			1611
Flt Permitted		1.00			1.00		0.95	0.96	1.00			1.00
Satd. Flow (perm)		3539			6392		1681	1703	1454			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	843	0	0	1124	10	312	37	323	0	0	328
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	96	0	0	115
Lane Group Flow (vph)	0	843	0	0	1133	0	175	174	227	0	0	213
Confl. Peds. (#/hr)	35		85	85		35	51		57	57		51
Confl. Bikes (#/hr)			53			13			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		70.8			49.9		20.2	20.2	20.2			16.4
Effective Green, g (s)		70.8			49.9		20.2	20.2	20.2			16.4
Actuated g/C Ratio		0.71			0.50		0.20	0.20	0.20			0.16
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2505			3189		339	344	293			264
v/s Ratio Prot		0.24			c0.18		0.10	0.10				c0.13
v/s Ratio Perm									c0.16			
v/c Ratio		0.34			0.36		0.52	0.51	0.78			0.81
Uniform Delay, d1		5.6			15.3		35.5	35.5	37.8			40.3
Progression Factor		0.19			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.3			0.3		0.6	0.4	11.1			15.6
Delay (s)		1.4			15.6		36.1	35.9	48.8			55.9
Level of Service		A			B		D	D	D			E
Approach Delay (s)		1.4			15.6			42.2			55.9	
Approach LOS		A			B			D			E	

Intersection Summary				
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	69.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	747	165	138	983	125	160	243	105	168	330	75
Future Volume (veh/h)	120	747	165	138	983	125	160	243	105	168	330	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.84	1.00		0.86	1.00		0.86	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	803	177	148	1057	134	172	261	113	181	355	81
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1923	416	172	2343	296	219	835	321	230	847	407
Arrive On Green	0.05	0.48	0.48	0.06	0.35	0.35	0.06	0.23	0.23	0.02	0.08	0.08
Sat Flow, veh/h	3456	4039	875	1781	4491	568	3456	3554	1368	3456	3554	1370
Grp Volume(v), veh/h	129	675	305	148	800	391	172	261	113	181	355	81
Grp Sat Flow(s),veh/h/ln	1728	1702	1509	1781	1702	1655	1728	1777	1368	1728	1777	1370
Q Serve(g_s), s	5.5	19.4	19.9	12.3	27.2	27.4	7.4	9.1	10.3	7.8	14.3	7.8
Cycle Q Clear(g_c), s	5.5	19.4	19.9	12.3	27.2	27.4	7.4	9.1	10.3	7.8	14.3	7.8
Prop In Lane	1.00		0.58	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	1621	719	172	1776	863	219	835	321	230	847	407
V/C Ratio(X)	0.73	0.42	0.43	0.86	0.45	0.45	0.79	0.31	0.35	0.79	0.42	0.20
Avail Cap(c_a), veh/h	429	1621	719	304	1776	863	336	974	375	336	974	456
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	70.2	25.7	25.8	69.2	32.2	32.2	69.3	47.4	47.9	72.3	59.2	49.2
Incr Delay (d2), s/veh	2.2	0.8	1.8	4.1	0.7	1.4	3.0	1.0	3.0	3.6	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	8.1	7.6	6.0	12.1	12.0	3.4	4.2	3.8	3.7	7.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.4	26.5	27.6	73.2	32.9	33.6	72.2	48.4	50.8	75.9	60.0	49.8
LnGrp LOS	E	C	C	E	C	C	E	D	D	E	E	D
Approach Vol, veh/h		1109			1339			546			617	
Approach Delay, s/veh		32.1			37.6			56.4			63.3	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.9	76.6	13.9	40.6	12.0	83.4	14.4	40.1
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	25.6	49.8	14.6	41.1	18.6	56.8	14.6	41.1
Max Q Clear Time (g_c+I1), s	14.3	21.9	9.4	16.3	7.5	29.4	9.8	12.3
Green Ext Time (p_c), s	0.1	12.2	0.1	5.7	0.1	14.8	0.1	6.0

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	648	102	238	701	123	70	130	162	342	485	285
Future Volume (veh/h)	102	648	102	238	701	123	70	130	162	342	485	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.82	1.00		0.73	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	704	111	259	762	134	76	141	176	372	527	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1360	209	310	1282	470	95	817	279	393	1446	530
Arrive On Green	0.01	0.10	0.10	0.03	0.12	0.12	0.05	0.24	0.24	0.22	0.41	0.41
Sat Flow, veh/h	3456	4296	660	3456	3554	1301	1781	3404	1164	1781	3554	1302
Grp Volume(v), veh/h	111	554	261	259	762	134	76	141	176	372	527	310
Grp Sat Flow(s),veh/h/ln	1728	1702	1551	1728	1777	1301	1781	1702	1164	1781	1777	1302
Q Serve(g_s), s	4.8	23.1	23.9	11.2	30.5	14.1	6.3	4.9	20.3	30.9	15.5	27.8
Cycle Q Clear(g_c), s	4.8	23.1	23.9	11.2	30.5	14.1	6.3	4.9	20.3	30.9	15.5	27.8
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	1078	491	310	1282	470	95	817	279	393	1446	530
V/C Ratio(X)	0.71	0.51	0.53	0.84	0.59	0.29	0.80	0.17	0.63	0.95	0.36	0.59
Avail Cap(c_a), veh/h	290	1078	491	452	1282	470	162	817	279	423	1446	530
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.86	0.86	0.86	1.00	1.00	1.00	0.66	0.66	0.66
Uniform Delay (d), s/veh	72.9	56.2	56.6	71.7	55.7	48.4	70.2	45.2	51.0	57.6	31.0	34.6
Incr Delay (d2), s/veh	2.0	1.6	3.7	5.1	1.8	1.3	5.7	0.3	7.9	22.0	0.4	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	10.9	10.6	5.5	15.0	5.1	3.1	2.2	6.6	16.3	6.8	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.9	57.8	60.3	76.8	57.4	49.7	75.9	45.5	58.9	79.6	31.4	37.4
LnGrp LOS	E	E	E	E	E	D	E	D	E	E	C	D
Approach Vol, veh/h		926			1155			393			1209	
Approach Delay, s/veh		60.6			60.9			57.4			47.8	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	41.5	17.9	53.2	12.4	66.6	11.2	59.8
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	3.6	* 36	19.6	39.1	13.6	57.7	12.6	* 47
Max Q Clear Time (g_c+I1), s	2.9	22.3	13.2	25.9	8.3	29.8	6.8	32.5
Green Ext Time (p_c), s	0.2	3.5	0.3	6.4	0.0	13.5	0.1	9.2

Intersection Summary	
HCM 6th Ctrl Delay	56.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	662	222	116	940	114	61	55	45	109	116	142
Future Volume (veh/h)	202	662	222	116	940	114	61	55	45	109	116	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.94	1.00		0.91	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	215	704	236	123	1000	121	65	59	48	116	123	151
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	1781	582	144	1969	238	82	211	172	138	191	235
Arrive On Green	0.09	0.32	0.32	0.16	0.86	0.86	0.05	0.23	0.23	0.08	0.26	0.26
Sat Flow, veh/h	1781	3683	1205	1781	4578	552	1781	910	740	1781	726	891
Grp Volume(v), veh/h	215	649	291	123	743	378	65	0	107	116	0	274
Grp Sat Flow(s),veh/h/ln	1781	1702	1483	1781	1702	1726	1781	0	1651	1781	0	1617
Q Serve(g_s), s	17.9	22.2	22.9	10.1	8.1	8.2	5.4	0.0	8.0	9.6	0.0	22.5
Cycle Q Clear(g_c), s	17.9	22.2	22.9	10.1	8.1	8.2	5.4	0.0	8.0	9.6	0.0	22.5
Prop In Lane	1.00		0.81	1.00		0.32	1.00		0.45	1.00		0.55
Lane Grp Cap(c), veh/h	239	1646	717	144	1464	743	82	0	383	138	0	426
V/C Ratio(X)	0.90	0.39	0.41	0.86	0.51	0.51	0.79	0.00	0.28	0.84	0.00	0.64
Avail Cap(c_a), veh/h	340	1646	717	268	1464	743	126	0	408	245	0	508
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.3	33.7	33.9	62.0	6.5	6.5	70.8	0.0	47.3	68.3	0.0	49.0
Incr Delay (d2), s/veh	13.2	0.6	1.3	5.5	1.3	2.5	8.3	0.0	0.1	5.1	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	9.9	9.0	4.5	2.3	2.6	2.7	0.0	3.3	4.6	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.5	34.2	35.2	67.5	7.8	9.0	79.1	0.0	47.4	73.4	0.0	50.1
LnGrp LOS	F	C	D	E	A	A	E	A	D	E	A	D
Approach Vol, veh/h		1155			1244			172			390	
Approach Delay, s/veh		43.1			14.1			59.4			57.1	
Approach LOS		D			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	77.7	11.3	44.4	24.5	69.7	16.0	39.7
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	2.6	50.8	10.6	47.1	28.6	44.8	20.6	37.1
Max Q Clear Time (g_c+I1), s	2.1	24.9	7.4	24.5	19.9	10.2	11.6	10.0
Green Ext Time (p_c), s	0.1	11.3	0.0	1.2	0.2	15.5	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	896	1080	153	0	67
Future Volume (Veh/h)	0	896	1080	153	0	67
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	924	1113	158	0	69
Pedestrians		10	10		37	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.84				0.88	0.84
vC, conflicting volume	1308				1547	497
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	687				496	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	732				425	872

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	308	308	308	445	445	381	69
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	158	69
cSH	1700	1700	1700	1700	1700	1700	872
Volume to Capacity	0.18	0.18	0.18	0.26	0.26	0.22	0.08
Queue Length 95th (ft)	0	0	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.5
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.5
Approach LOS							A

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		38.8%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	405	185	363	721	76	273	412	96	128	1145	126
Future Volume (veh/h)	178	405	185	363	721	76	273	412	96	128	1145	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	182	413	189	370	736	78	279	420	98	131	1168	129
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	691	293	420	886	379	327	1710	743	126	1625	706
Arrive On Green	0.02	0.06	0.06	0.12	0.25	0.25	0.09	0.48	0.48	0.14	0.91	0.91
Sat Flow, veh/h	3456	3554	1506	3456	3554	1519	3456	3554	1544	1781	3554	1543
Grp Volume(v), veh/h	182	413	189	370	736	78	279	420	98	131	1168	129
Grp Sat Flow(s),veh/h/ln	1728	1777	1506	1728	1777	1519	1728	1777	1544	1781	1777	1543
Q Serve(g_s), s	7.9	17.0	18.4	15.8	29.4	6.1	11.9	10.4	5.3	10.6	12.3	1.3
Cycle Q Clear(g_c), s	7.9	17.0	18.4	15.8	29.4	6.1	11.9	10.4	5.3	10.6	12.3	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	691	293	420	886	379	327	1710	743	126	1625	706
V/C Ratio(X)	0.79	0.60	0.65	0.88	0.83	0.21	0.85	0.25	0.13	1.04	0.72	0.18
Avail Cap(c_a), veh/h	336	879	372	567	1111	475	452	1710	743	126	1625	706
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.3	64.5	65.1	64.8	53.3	44.5	66.9	22.9	21.5	64.4	4.0	3.5
Incr Delay (d2), s/veh	4.4	1.2	3.5	9.6	4.5	0.3	8.4	0.3	0.4	91.5	2.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	8.3	7.8	7.5	13.7	2.4	5.7	4.5	2.0	7.7	2.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.7	65.7	68.6	74.4	57.8	44.8	75.3	23.2	21.9	155.9	6.8	4.1
LnGrp LOS	E	E	E	E	E	D	E	C	C	F	A	A
Approach Vol, veh/h		784			1184			797			1428	
Approach Delay, s/veh		68.9			62.1			41.3			20.2	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	78.1	22.6	34.3	18.6	74.5	14.4	42.5
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	10.6	* 58	24.6	* 37	19.6	49.1	14.6	46.9
Max Q Clear Time (g_c+I1), s	12.6	12.4	17.8	20.4	13.9	14.3	9.9	31.4
Green Ext Time (p_c), s	0.0	5.7	0.5	4.4	0.3	16.4	0.1	5.0

Intersection Summary		
HCM 6th Ctrl Delay		45.2
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	354	330	18	90	658	46	10	28	26	45	205	517
Future Volume (veh/h)	354	330	18	90	658	46	10	28	26	45	205	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	365	340	19	93	678	47	10	29	27	46	211	533
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	427	1039	58	118	1266	945	40	114	99	645	678	559
Arrive On Green	0.12	0.31	0.31	0.07	0.25	0.25	0.08	0.08	0.08	0.36	0.36	0.36
Sat Flow, veh/h	3456	3404	189	1781	5106	1494	526	1510	1311	1781	1870	1544
Grp Volume(v), veh/h	365	176	183	93	678	47	35	0	31	46	211	533
Grp Sat Flow(s),veh/h/ln	1728	1777	1817	1781	1702	1494	1844	0	1503	1781	1870	1544
Q Serve(g_s), s	11.0	8.1	8.2	5.5	12.2	1.3	1.9	0.0	2.1	1.8	8.6	35.7
Cycle Q Clear(g_c), s	11.0	8.1	8.2	5.5	12.2	1.3	1.9	0.0	2.1	1.8	8.6	35.7
Prop In Lane	1.00		0.10	1.00		1.00	0.29		0.87	1.00		1.00
Lane Grp Cap(c), veh/h	427	542	555	118	1266	945	140	0	114	645	678	559
V/C Ratio(X)	0.85	0.33	0.33	0.79	0.54	0.05	0.25	0.00	0.27	0.07	0.31	0.95
Avail Cap(c_a), veh/h	475	542	555	329	1490	1011	608	0	495	657	690	570
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	28.5	28.5	48.8	34.6	8.3	46.2	0.0	46.3	22.2	24.3	33.0
Incr Delay (d2), s/veh	11.9	0.7	0.7	4.3	0.4	0.0	0.3	0.0	0.5	0.1	0.4	26.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	3.6	3.7	2.6	5.1	0.9	0.9	0.0	0.8	0.8	3.9	17.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.6	29.2	29.2	53.1	35.0	8.3	46.6	0.0	46.8	22.2	24.7	59.4
LnGrp LOS	E	C	C	D	D	A	D	A	D	C	C	E
Approach Vol, veh/h		724			818			66			790	
Approach Delay, s/veh		43.5			35.6			46.7			48.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	38.4		43.4	17.5	32.3		12.9
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	19.6	* 26		39.2	14.6	31.0		35.0
Max Q Clear Time (g_c+I1), s	7.5	10.2		37.7	13.0	14.2		4.1
Green Ext Time (p_c), s	0.1	3.2		0.8	0.1	4.9		0.2

Intersection Summary	
HCM 6th Ctrl Delay	42.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

Ex PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	323	26	55	730	172	10	3	16	61	7	32
Future Volume (veh/h)	46	323	26	55	730	172	10	3	16	61	7	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.93	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	330	27	56	745	176	10	3	16	67	0	33
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	2045	164	77	1762	410	15	4	23	342	0	285
Arrive On Green	0.04	0.43	0.43	0.04	0.43	0.43	0.03	0.03	0.03	0.10	0.00	0.10
Sat Flow, veh/h	1781	4793	384	1781	4084	951	552	166	883	3563	0	2966
Grp Volume(v), veh/h	47	232	125	56	619	302	29	0	0	67	0	33
Grp Sat Flow(s),veh/h/ln	1781	1702	1773	1781	1702	1630	1601	0	0	1781	0	1483
Q Serve(g_s), s	1.3	2.1	2.1	1.5	6.2	6.4	0.9	0.0	0.0	0.9	0.0	0.5
Cycle Q Clear(g_c), s	1.3	2.1	2.1	1.5	6.2	6.4	0.9	0.0	0.0	0.9	0.0	0.5
Prop In Lane	1.00		0.22	1.00		0.58	0.34		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	69	1452	756	77	1469	703	43	0	0	342	0	285
V/C Ratio(X)	0.69	0.16	0.16	0.72	0.42	0.43	0.68	0.00	0.00	0.20	0.00	0.12
Avail Cap(c_a), veh/h	274	2359	1229	419	2628	1259	165	0	0	2101	0	1749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	8.7	8.7	23.3	9.7	9.8	23.8	0.0	0.0	20.5	0.0	20.4
Incr Delay (d2), s/veh	4.4	0.1	0.2	4.7	0.3	0.7	6.9	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.6	0.7	0.7	1.9	2.0	0.4	0.0	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	8.8	8.9	28.0	10.1	10.5	30.7	0.0	0.0	20.8	0.0	20.5
LnGrp LOS	C	A	A	C	B	B	C	A	A	C	A	C
Approach Vol, veh/h		404			977			29			100	
Approach Delay, s/veh		11.1			11.2			30.7			20.7	
Approach LOS		B			B			C			C	

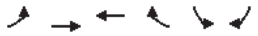
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.5	26.9		9.6	6.3	27.2		6.2
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	11.6	* 34		29.1	7.6	38.1		5.1
Max Q Clear Time (g_c+I1), s	3.5	4.1		2.9	3.3	8.4		2.9
Green Ext Time (p_c), s	0.0	4.0		0.3	0.0	11.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	336	740	272	703	233
Future Volume (veh/h)	81	336	740	272	703	233
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	339	747	275	710	235
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	160	2663	1496	543	1077	494
Arrive On Green	0.05	0.52	0.41	0.41	0.31	0.31
Sat Flow, veh/h	3456	5274	3814	1324	3456	1585
Grp Volume(v), veh/h	82	339	697	325	710	235
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1566	1728	1585
Q Serve(g_s), s	1.6	2.3	10.3	10.5	12.1	8.1
Cycle Q Clear(g_c), s	1.6	2.3	10.3	10.5	12.1	8.1
Prop In Lane	1.00			0.85	1.00	1.00
Lane Grp Cap(c), veh/h	160	2663	1397	642	1077	494
V/C Ratio(X)	0.51	0.13	0.50	0.51	0.66	0.48
Avail Cap(c_a), veh/h	285	3690	1958	900	2023	928
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	8.3	14.8	14.9	20.2	18.9
Incr Delay (d2), s/veh	0.9	0.1	0.7	1.6	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.8	3.7	3.7	4.7	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.5	8.4	15.5	16.5	21.4	20.0
LnGrp LOS	C	A	B	B	C	C
Approach Vol, veh/h		421	1022		945	
Approach Delay, s/veh		13.1	15.8		21.0	
Approach LOS		B	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		41.4		26.4	7.5	33.8
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		49.0		39.7	5.6	39.0
Max Q Clear Time (g_c+I1), s		4.3		14.1	3.6	12.5
Green Ext Time (p_c), s		5.4		7.1	0.0	14.9
Intersection Summary						
HCM 6th Ctrl Delay			17.4			
HCM 6th LOS			B			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	515	287	1086	0	0
Future Volume (veh/h)	524	515	287	1086	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	557	548	305	1155		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6374	4880	378	9957		
Arrive On Green	1.00	1.00	0.22	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	557	548	305	1155		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	8.4	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	8.4	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6374	4880	378	9957		
V/C Ratio(X)	0.09	0.11	0.81	0.12		
Avail Cap(c_a), veh/h	6374	4880	1151	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.88	0.88	0.88	0.88		
Uniform Delay (d), s/veh	0.0	0.0	38.1	0.0		
Incr Delay (d2), s/veh	0.0	0.0	1.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.2	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	39.5	0.0		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	1105			1460		
Approach Delay, s/veh	0.0			8.3		
Approach LOS	A			A		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	15.6	189.4				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	33	55.0				* 96
Max Q Clear Time (g_c+I1), s	10.4	2.0				2.0
Green Ext Time (p_c), s	0.6	4.3				7.0
Intersection Summary						
HCM 6th Ctrl Delay			4.7			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	509	0	0	681	587	607
Future Volume (vph)	509	0	0	681	587	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2675
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2675
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	559	0	0	748	645	667
RTOR Reduction (vph)	0	0	0	0	0	144
Lane Group Flow (vph)	559	0	0	748	645	523
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	53.3			63.5	23.4	28.9
Effective Green, g (s)	53.3			63.5	23.4	28.9
Actuated g/C Ratio	0.53			0.64	0.23	0.29
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1886			4069	803	773
v/s Ratio Prot	c0.16			0.12	c0.19	c0.04
v/s Ratio Perm						0.16
v/c Ratio	0.30			0.18	0.80	0.68
Uniform Delay, d1	13.0			7.5	36.1	31.4
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.4			0.1	5.5	1.9
Delay (s)	13.4			7.6	41.6	33.3
Level of Service	B			A	D	C
Approach Delay (s)	13.4			7.6	37.4	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	25	208	245	38	15	179	724	29	16	1851	49
Future Volume (veh/h)	21	25	208	245	38	15	179	724	29	16	1851	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	0.99		0.96	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	255	253	39	15	185	746	30	16	1908	51
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	374	592	240	30	12	162	2384	96	23	2147	57
Arrive On Green	0.00	0.00	0.20	0.20	0.20	0.20	0.18	1.00	1.00	0.01	0.61	0.61
Sat Flow, veh/h	0	1870	2960	980	151	58	1781	3477	140	1781	3532	94
Grp Volume(v), veh/h	0	0	255	307	0	0	185	381	395	16	954	1005
Grp Sat Flow(s),veh/h/ln	0	1870	1480	1190	0	0	1781	1777	1840	1781	1777	1849
Q Serve(g_s), s	0.0	0.0	11.3	30.0	0.0	0.0	13.6	0.0	0.0	1.3	68.2	70.0
Cycle Q Clear(g_c), s	0.0	0.0	11.3	30.0	0.0	0.0	13.6	0.0	0.0	1.3	68.2	70.0
Prop In Lane	0.00		1.00	0.82		0.05	1.00		0.08	1.00		0.05
Lane Grp Cap(c), veh/h	0	374	592	282	0	0	162	1218	1261	23	1080	1124
V/C Ratio(X)	0.00	0.00	0.43	1.09	0.00	0.00	1.15	0.31	0.31	0.69	0.88	0.89
Avail Cap(c_a), veh/h	0	374	592	282	0	0	162	1218	1261	68	1080	1124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	52.5	62.3	0.0	0.0	61.4	0.0	0.0	73.7	24.9	25.2
Incr Delay (d2), s/veh	0.0	0.0	0.2	79.7	0.0	0.0	113.5	0.6	0.6	12.9	10.5	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.3	17.2	0.0	0.0	10.5	0.2	0.2	0.7	29.5	31.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	52.7	142.0	0.0	0.0	174.9	0.6	0.6	86.6	35.4	36.2
LnGrp LOS	A	A	D	F	A	A	F	A	A	F	D	D
Approach Vol, veh/h		255			307			961			1975	
Approach Delay, s/veh		52.7			142.0			34.2			36.2	
Approach LOS		D			F			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	97.1		34.9	6.3	108.8		34.9				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	13.6	91.2		30.0	5.7	* 99		30.0				
Max Q Clear Time (g_c+I1), s	15.6	72.0		32.0	3.3	2.0		13.3				
Green Ext Time (p_c), s	0.0	15.6		0.0	0.0	8.9		0.6				

Intersection Summary	
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	279	118	314	334	114	189	511	250	402	1376	464
Future Volume (veh/h)	195	279	118	314	334	114	189	511	250	402	1376	464
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	297	126	334	355	121	201	544	266	428	1464	494
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	502	211	369	642	275	218	1403	621	843	1859	824
Arrive On Green	0.07	0.14	0.14	0.11	0.18	0.18	0.12	0.39	0.39	0.24	0.52	0.52
Sat Flow, veh/h	3456	3554	1496	3456	3554	1521	1781	3554	1573	3456	3554	1576
Grp Volume(v), veh/h	207	297	126	334	355	121	201	544	266	428	1464	494
Grp Sat Flow(s),veh/h/ln	1728	1777	1496	1728	1777	1521	1781	1777	1573	1728	1777	1576
Q Serve(g_s), s	11.3	14.9	12.0	18.2	17.3	8.5	21.2	20.8	23.4	20.3	63.5	41.4
Cycle Q Clear(g_c), s	11.3	14.9	12.0	18.2	17.3	8.5	21.2	20.8	23.4	20.3	63.5	41.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	502	211	369	642	275	218	1403	621	843	1859	824
V/C Ratio(X)	0.85	0.59	0.60	0.91	0.55	0.44	0.92	0.39	0.43	0.51	0.79	0.60
Avail Cap(c_a), veh/h	327	729	307	393	784	335	240	1403	621	843	1859	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	87.3	76.4	48.9	83.9	70.9	27.7	82.5	41.1	41.9	62.0	36.7	31.5
Incr Delay (d2), s/veh	11.5	2.4	5.6	22.3	1.5	2.2	34.4	0.8	2.2	0.2	3.5	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	7.0	4.9	9.3	8.1	3.4	11.8	9.3	9.7	8.9	27.8	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.7	78.8	54.6	106.2	72.3	29.9	116.8	41.9	44.0	62.2	40.2	34.7
LnGrp LOS	F	E	D	F	E	C	F	D	D	E	D	C
Approach Vol, veh/h		630			810			1011			2386	
Approach Delay, s/veh		80.5			79.9			57.4			43.0	
Approach LOS		F			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	80.7	26.0	31.9	27.7	104.5	17.8	40.0
Change Period (Y+Rc), s	5.1	* 5.7	5.7	* 5	4.4	5.1	4.4	5.7
Max Green Setting (Gmax), s	34.9	* 75	21.6	* 39	25.6	84.9	18.0	41.9
Max Q Clear Time (g_c+I1), s	22.3	25.4	20.2	16.9	23.2	65.5	13.3	19.3
Green Ext Time (p_c), s	0.7	9.6	0.1	4.4	0.1	17.1	0.2	4.9

Intersection Summary	
HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	422	0	0	351	331	455	0	0	1558	338
Future Vol, veh/h	0	0	422	0	0	351	331	455	0	0	1558	338
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	459	0	0	382	360	495	0	0	1693	367

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	-	-	847			1693	0	-	-	-	0
Stage 1	-	-	-			-	-	-	-	-	-
Stage 2	-	-	-			-	-	-	-	-	-
Critical Hdwy	-	-	6.94			4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 305			373	-	0	0	-	-
Stage 1	0	0	-			-	-	0	0	-	-
Stage 2	0	0	-			-	-	0	0	-	-
Platoon blocked, %							-			-	-
Mov Cap-1 Maneuver	-	0	~ 305			373	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-
Stage 1	-	0	-			-	-	-	-	-	-
Stage 2	-	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	274.6	30.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	373	-	305	-	-
HCM Lane V/C Ratio	0.965	-	1.504	-	-
HCM Control Delay (s)	71.9	-	274.6	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	10.8	-	25.9	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	225	561	300	760	1220
Future Volume (veh/h)	352	225	561	300	760	1220
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	245	610	0	826	1326
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	445	396	1212		384	2165
Arrive On Green	0.25	0.25	0.34	0.00	0.22	0.61
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	383	245	610	0	826	1326
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	18.4	12.3	12.2	0.0	19.3	20.8
Cycle Q Clear(g_c), s	18.4	12.3	12.2	0.0	19.3	20.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	445	396	1212		384	2165
V/C Ratio(X)	0.86	0.62	0.50		2.15	0.61
Avail Cap(c_a), veh/h	755	672	1212		384	2165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	29.8	23.4	0.0	35.1	10.9
Incr Delay (d2), s/veh	5.2	1.6	1.5	0.0	525.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	4.7	5.0	0.0	63.9	6.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.3	31.3	24.9	0.0	560.8	12.2
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	628		610	A		2152
Approach Delay, s/veh	35.0		24.9			222.8
Approach LOS	C		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.0	38.0		27.4		62.0
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 19	30.5		37.9		54.5
Max Q Clear Time (g_c+I1), s	21.3	14.2		20.4		22.8
Green Ext Time (p_c), s	0.0	3.4		2.0		11.2

Intersection Summary	
HCM 6th Ctrl Delay	152.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	85	22	0	901	46	41	2266
Future Volume (veh/h)	85	22	0	901	46	41	2266
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	89	23		939	48	43	2360
Peak Hour Factor	0.96	0.96		0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	112	100		2364	1047	547	3062
Arrive On Green	0.06	0.06		0.67	0.67	0.16	0.86
Sat Flow, veh/h	1781	1585		3647	1573	3456	3647
Grp Volume(v), veh/h	89	23		939	48	43	2360
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1573	1728	1777
Q Serve(g_s), s	7.4	2.1		18.0	1.6	1.6	41.0
Cycle Q Clear(g_c), s	7.4	2.1		18.0	1.6	1.6	41.0
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	112	100		2364	1047	547	3062
V/C Ratio(X)	0.79	0.23		0.40	0.05	0.08	0.77
Avail Cap(c_a), veh/h	356	317		2364	1047	547	3062
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.3	66.8		11.4	8.7	53.8	4.3
Incr Delay (d2), s/veh	4.7	0.4		0.5	0.1	0.3	1.9
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.9		6.8	0.5	0.7	8.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	74.1	67.3		11.9	8.7	54.1	6.2
LnGrp LOS	E	E		B	A	D	A
Approach Vol, veh/h	112			987			2403
Approach Delay, s/veh	72.7			11.8			7.1
Approach LOS	E			B			A
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		135.7		14.3	30.2	105.5	
Change Period (Y+Rc), s		6.4		4.9	6.4	* 5.7	
Max Green Setting (Gmax), s		100.3		30.0	5.2	* 1E2	
Max Q Clear Time (g_c+I1), s		43.0		9.4	3.6	20.0	
Green Ext Time (p_c), s		42.0		0.1	0.0	13.2	

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

Ex PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	72	64	126	153	67	27	352	65	96	1302	70
Future Volume (veh/h)	20	72	64	126	153	67	27	352	65	96	1302	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	77	68	134	163	60	29	374	69	102	1385	74
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	175	133	180	332	116	65	1919	350	290	2423	129
Arrive On Green	0.02	0.09	0.09	0.05	0.13	0.13	0.02	0.64	0.64	0.08	0.71	0.71
Sat Flow, veh/h	1781	1859	1416	3456	2540	890	3456	2990	546	3456	3426	183
Grp Volume(v), veh/h	21	73	72	134	112	111	29	221	222	102	716	743
Grp Sat Flow(s),veh/h/ln	1781	1777	1498	1728	1777	1654	1728	1777	1759	1728	1777	1832
Q Serve(g_s), s	1.8	5.8	6.9	5.7	8.7	9.4	1.2	7.6	7.8	4.2	29.7	29.9
Cycle Q Clear(g_c), s	1.8	5.8	6.9	5.7	8.7	9.4	1.2	7.6	7.8	4.2	29.7	29.9
Prop In Lane	1.00		0.95	1.00		0.54	1.00		0.31	1.00		0.10
Lane Grp Cap(c), veh/h	28	167	141	180	232	216	65	1140	1129	290	1256	1296
V/C Ratio(X)	0.76	0.44	0.51	0.74	0.48	0.52	0.45	0.19	0.20	0.35	0.57	0.57
Avail Cap(c_a), veh/h	139	428	361	359	474	441	129	1140	1129	290	1256	1296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.6	64.2	64.7	70.1	60.5	60.8	72.8	11.0	11.0	64.8	10.8	10.8
Incr Delay (d2), s/veh	14.4	0.7	1.1	2.3	0.6	0.7	1.8	0.4	0.4	3.3	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.7	2.7	2.6	4.0	4.0	0.6	3.0	3.0	2.0	11.0	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.0	64.9	65.7	72.4	61.1	61.5	74.6	11.4	11.4	68.2	12.7	12.7
LnGrp LOS	F	E	E	E	E	E	E	B	B	E	B	B
Approach Vol, veh/h		166			357			472			1561	
Approach Delay, s/veh		68.2			65.4			15.3			16.3	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	101.8	12.2	19.0	7.2	111.6	6.7	24.5
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	12.6	66.5	15.6	36.1	5.6	* 74	11.7	40.0
Max Q Clear Time (g_c+I1), s	10.2	9.8	7.7	8.9	3.2	31.9	3.8	11.4
Green Ext Time (p_c), s	0.1	3.3	0.1	0.5	0.0	18.2	0.0	0.9

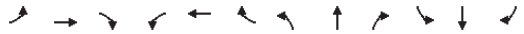
Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

Ex PM
10/10/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	492	29	21	1142	77	21	5	7	65	0	190
Future Volume (veh/h)	202	492	29	21	1142	77	21	5	7	65	0	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	220	535	32	23	1241	51	23	5	8	71	0	207
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	2337	140	33	1958	80	83	21	14	265	0	251
Arrive On Green	0.14	0.69	0.69	0.02	0.56	0.56	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1781	3407	203	1781	3479	143	169	133	86	1401	0	1585
Grp Volume(v), veh/h	220	279	288	23	633	659	36	0	0	71	0	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1834	1781	1777	1845	387	0	0	1401	0	1585
Q Serve(g_s), s	12.6	6.1	6.1	1.3	25.2	25.3	1.2	0.0	0.0	0.0	0.0	13.2
Cycle Q Clear(g_c), s	12.6	6.1	6.1	1.3	25.2	25.3	14.4	0.0	0.0	5.4	0.0	13.2
Prop In Lane	1.00		0.11	1.00		0.08	0.64		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	253	1219	1258	33	1000	1038	118	0	0	265	0	251
V/C Ratio(X)	0.87	0.23	0.23	0.69	0.63	0.63	0.31	0.00	0.00	0.27	0.00	0.83
Avail Cap(c_a), veh/h	386	1219	1258	101	1000	1038	267	0	0	424	0	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.8	6.1	6.1	50.8	15.5	15.5	42.3	0.0	0.0	39.2	0.0	42.5
Incr Delay (d2), s/veh	8.7	0.4	0.4	9.2	3.1	3.0	0.5	0.0	0.0	0.2	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	2.2	2.3	0.7	10.5	10.9	0.9	0.0	0.0	1.6	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	6.5	6.5	60.0	18.5	18.4	42.8	0.0	0.0	39.4	0.0	45.1
LnGrp LOS	D	A	A	E	B	B	D	A	A	D	A	D
Approach Vol, veh/h		787			1315			36			278	
Approach Delay, s/veh		19.4			19.2			42.8			43.7	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	6.3	76.5	21.4	19.2	63.7	21.4
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	5.9	71.5	28.3	22.6	* 55	28.3
Max Q Clear Time (g_c+I1), s	3.3	8.1	15.2	14.6	27.3	16.4
Green Ext Time (p_c), s	0.0	5.3	0.8	0.2	16.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX E

EXISTING FREEWAY ANALYSIS CALCULATION SHEETS

HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6134	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1598
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7880	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2096
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2296
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2296
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.9
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.6		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	5376	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1386
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6906	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1798
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	30.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	5893	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1519
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	7570	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.85	Flow Rate (V_p), pc/h/ln	2226
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	42.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10188	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2101
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5378	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1120
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.3
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9199	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1877
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4856	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1252
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2284
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9149	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1867
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4830	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1017
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2105
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.3
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4381	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2381
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – Ex AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4218	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2244
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.97
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	42.7
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7905	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2016
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.280
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6759	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	1878
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	16.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6928	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1786
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	30.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.240
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5923	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1702
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	14.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	7595	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1978
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.430
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6493	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.89	Flow Rate (V_p), pc/h/ln	1824
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	25.5		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6715	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1385
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.520
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10568	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	2348
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.16
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	30.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6063	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1250
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.330
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	9542	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	2742
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.25
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	19.3		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6030	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1243
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.290
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9491	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2063
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.02
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	17.1		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	4533	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2464
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.07
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – Ex PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	2914	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1502
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.0
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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APPENDIX F

CALTRANS RAMP METER RATES AND EXISTING FIELD OBSERVATIONS

Location (I.D.)	Route	Dir	Period	Cars per green	Sec./ Cycle	(per lane) Veh./hr	Total # lanes	HOV
WB LJVD (218)	5	NB	1500 - 1830	1	6.5	555	1	No
EB LJVD (246)	5	NB	1500 - 1900	2	7.2 - 11.2	996 - 643	2	Lt
EB LJVD (122)	5	SB	1500 - 1900	1	6.3 - 10.5	570 - 343	2	Lt
WB LJVD (123)	5	SB	1500 - 1900	2	7.2 - 11.2	996 - 643	2	No
Gilman Dr (16303)	5	SB	1500 - 1900	2	10.3 - 15.1	696 - 478	3	Lt
Nobel Dr (16307)	5	SB	1500 - 1900	2	9.4 - 13.6	768 - 528	3	Lt
Miramar Rd (171)	805	NB	0530 - 0930	1	6.3 - 9.0	1140 - 804	2	Lt
EB LJVD (170)	805	NB	0530 - 0545	1	7.2 - 12.9	996 - 559	2	Rt
			0545 - 0700		8.3	871		
			0700 - 0900		9.6	746		
			0900 - 0930		7.2	996		
Governor Dr (169)	805	NB	0530 - 0540	1	6.3 - 9.3	570 - 385	2	Lt
			0540 - 0930		9.3	385		
Miramar Rd (73)	805	SB	1430 - 1900	2	10.2	704	2	No
EB LJVD (72)	805	SB	1430 - 1900	2	7.2 - 12.1	996 - 593	2	Lt
Nobel Dr (300)	805	SB	1430 - 1900	1	15.7	229	3	Lt
Governor Dr (71)	805	SB	1430 - 1830	2	9.4	768	1	No
			1830 - 1900		8.5	845		

The meters normally operate in a traffic responsive mode.
There are 15 separate rates or steps between the slowest and the fastest discharge rate that depend on the mainlane volumes.

Table 4-9 Existing Summary of Freeway Ramp Metering Operations

On-Ramp	Peak Hour	Number of Lanes		Storage Length (ft)		Meter Rate (veh/hr/ln) (a)	Ramp Volume (per lane)			Excess Demand (veh/hr)		Delay (min) (c)		Queue Length (ft/ln)	
		GP	HOV	GP	HOV		Total	GP	HOV	GP	HOV	GP	HOV	GP	HOV
I-5 SB & Gilman Dr	AM	2	1	570	570	n/a	735	294	147						
	PM					635 *	1615	646	323	22	0	2	0	275	0
I-5 SB & Nobel Dr	AM	2	1	490	370	n/a	407	163	81						
	PM					528	1162	465	232	0	0	0	0	0	0
I-5 NB & La Jolla Village Dr (WB to NB)	AM	1	0	715	n/a	n/a	488	390	98						
	PM					555	544	435	109	0	0	0	0	0	0
I-5 NB & La Jolla Village Dr (EB to NB)	AM	1	1	410	410	n/a	844	675	169						
	PM					n/a (b)	1248	998	250						
I-5 SB & La Jolla Village Dr (WB to SB)	AM	1	1	535	475	n/a	314	251	63						
	PM					865 *	1095	876	219	11	0	1	0	275	0
I-5 SB & La Jolla Village Dr (EB to SB)	AM	1	1	355	265	n/a	221	177	44						
	PM					570 *	820	656	164	86	0	9	0	2150	0
I-805 NB & La Jolla Village Dr (WB to NB)	AM	1	1	1850	1090	804	481	385	96	0	0	0	0	0	0
	PM					n/a	446	357	89						
I-805 NB & La Jolla Village Dr (EB to NB)	AM	1	1	780	780	746	802	642	160	0	0	0	0	0	0
	PM					n/a	1371	1097	274						
I-805 SB & La Jolla Village Dr (WB to SB)	AM	1	1	1290	1290	n/a	497	398	99						
	PM					704	640	512	128	0	0	0	0	0	0
I-805 SB & La Jolla Village Dr (EB to SB)	AM	2	1	2220	920	n/a	441	177	88						
	PM					593	1016	407	203	0	0	0	0	0	0
I-805 SB & Nobel Dr	AM	2	1	915	915	n/a	680	272	136						
	PM					229	671	269	134	80	0	**21**	0	1000	0
I-805 NB Governor Dr	AM	1	1	485	485	385	395	316	79	0	0	0	0	0	0
	PM					n/a	337	270	67						
I-805 SB & Governor Dr	AM	1	0	515	n/a	n/a	484	387	97						
	PM					768	1015	812	203	44	0	3	0	1100	0

Notes:

(a) The ramp meter rate represents the most restrictive rate obtained from Caltrans. Cells that contain an "*" indicate meter rates that were manually adjusted to reflect queue lengths from field observations.

(b) A ramp meter rate ranging between 643 to 996 veh/hr/ln was provided by Caltrans, but field observations indicated that the ramp was not turned on.

(c) Delays exceeding 15-minutes are shown in **bold** font.

TABLE A
OBSERVED RAMP METER OPERATIONS

Location	Peak Period	Observed Maximum Delay (min)	Observed Maximum Queue [a]	
			(vehicles)	(feet) [b]
I-5 / Nobel Drive Interchange				
Nobel Drive to Southbound I-5 (2 SOV lanes + 1 HOV lane)	AM	*Ramp meter not activated, no queue or delay observed*		
	PM	2:00	10	250’

Footnotes:

a. Queue measured from ramp meter limit line to back of last vehicle in queue.

b. 25 feet per car assumed in queue length calculations.

APPENDIX G

MXD MODEL CALCULATIONS

MIXED USE TRIP GENERATION MODEL V4 - INPUT

All shaded cells are inputs
Regular inputs (project-specific)
Inputs that may depend on regional values from census data, travel demand model, etc…
Treat like other inputs, but please send values and source to Mark Feldman so that a library of values can be compiled in future versions!

Section 1 - General Site Information

Site Name: Costa Verde

Geographic — **Notes / Instructions**

Developed Area (in acres)	15	Include streets, ROW, parking lots, pocket parks. Do not include open space, vacant lots.
Number of Intersections	7	Count intersections either within or adjacent to the project site, and major project site access points to the street system (signalized or unsignalized).

Land Use - Surrounding Area

Employment within one mile of the MXD	40,107	Do not include employment within the MXD itself
Employment within a 30 minute Transit Trip (Door-to-door)	366,063	Include employment within the MXD itself This can be a difficult number to get - some suggestions are in the instructions tab in "disclaimers and warnings"

Site Demographics

Enter Population Directly?	No	If "No", will apply average HH size factors (in section 2) to dwelling units below
Population		You do not need to enter population here. It will be calculated based on dwelling units below and average HH sizes in section 2.
Average Vehicles Owned per Dwelling Unit	1.77	For guidance, one can look up Census 2000 Summary File 3 block group data for the closest block group to the site, at the URL indicated to the right, choosing table H44 when it prompts you for a table: http://factfinder.census.gov/servlet/CTGeoSearchByListServlet?ds_name=DEC_2000_SF3_U&_lang=en&_ts=257951516373

Section 2 - Variable Modeling Parameters

Conversion Factors

Average Household Size

		Source:	What does this input affect?
Estate, Urban or Rural	3.2	n/a - no SFDUs	
Single Family Detached	3.2	n/a - no SFDUs	
Condominium	2.34	n/a - no Apts	Directly affects trip internalization and mode splits. Also used to compute site population if population isn't entered directly.
Apartment	2.34	n/a - no Apts	
Mobile Home (Family)	2.5	n/a - no mobile homes	

Jobs per ksf

		Source:	What does this input affect?
Retail	2.0	ITE Trip Generation Manual	
Office	3.0	ITE Trip Generation Manual	Used to compute site employment for any land uses which are entered in ksf rather than jobs. For retail, if land uses are entered in jobs, it's used to convert back to ksf for trip generation calculations.
Light Industrial	1.0	ITE Trip Generation Manual	
Manufacturing	0.5	ITE Trip Generation Manual	
Warehousing	1.0	ITE Trip Generation Manual	
Misc. Uses	2.0	ITE Trip Generation Manual	

Jobs from ITE rates per other unit

		Source	What does this input affect?
Jobs per Hotel Room	0.50	ITE Trip Generation Manual	Used to compute site employment for these land uses which are typically expressed in other units
Jobs per Movie Screen	4.00	ITE Trip Generation Manual	
Grade School Jobs per student	0.10	ITE Trip Generation Manual	
High School / Middle School Jobs per Student	0.10	ITE Trip Generation Manual	
College Jobs per student	0.25	ITE Trip Generation Manual	

Average Trip Lengths (in miles)
Source: PSRC Travel Model Documentation, Cambridge Systematics, 2007.

	HBW	HBO	NHB	
External Trips	12.92	6.58	6.75	
Intra-site Trips	0.25	0.25	0.25	Used for VMT calculations only

Trip Purpose Splits by Land Use Type
This will affect the final results significantly. Keep "Use NCHRP" on "Yes" unless you have reliable splits which have been QA/QC

For each land use type, choose whether to use NCHRP 365 splits as outlined on the Mode Parameters tab.
If "Yes" is chosen, the percentages will not affect the results. If "No," then enter the splits.

NOTE: For residences, the NHB Attractions are automatically calculated as the remainder to ensure the total is 100%
NOTE: For all other purposes, the NHB attractions are automatically set equal to the NHB productions, and the HBO attractions are automatically calculated as the remainder to ensure the total is 100%
NOTE: There is no NCHRP split defined for schools, so the split has to be entered below.

		Productions			Attractions			
DAILY	**Use NCHRP?**	**HBW**	**HBO**	**NHB**	**HBW**	**HBO**	**NHB**	**Source (if not using NCHRP):**
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	
AM PEAK HOUR								
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	
PM PEAK HOUR								
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	

NON-HOME BASED TRIPS GENERATED BY PROJECT HOUSEHOLDS
Enter the percent of these that occur…

		Source for this information:	
Completely Within the Project Site	25%		
With one trip end external to the Project Site	15%		This only affects VMT calculations
Completely outside the Project Site	60%		

SITE-SPECIFIC INTERNALIZATION

This section of input is for when you have specific trips you want to EXCLUDE from the MXD process. These trips will be counted as internal, and subtracted from the "raw" trips before applying the model. The overall trip reduction percentage will still take these trips into account, and thus be a higher reduction than if you were just letting the model work on all the raw trips.

Site-Specific Internalization Percentages

Land Use	Use Site Specific Internalization?	% of Attractions which come from internal locations HBW	HBO	NHB	Please note sources here: (important! These shouldn't just be guesses!)
Residential	No		50%	5%	
Retail (applies to "local-serving" retail only, see below)	No	36%	100%	100%	not needed
Office	No	36%	76%	81%	
Industrial	No	36%	76%	81%	
School	No	36%	100%	0%	

Note: The HBW percentage for residential is blacked out, because HBW trips are never attracted to residences
Note: The retail HBO percentage should be 100% since it applies to local-serving retail, no need for a source
Note: if the schools are appropriately sized for the project, school HBO attractions should be 100% above, no need for a source

Local-Serving Retail Parameters (part of the site-specific internalization calculation)

The above internalization is likely to vary significantly among different types of retail. Therefore, the inputs below are used to specify which retail uses are "local-serving," i.e. will draw a significant portion of its shoppers from within the project. The rest will just go through the MXD model process.

% of retail which is local-serving

Super Regional Shopping Center	32%
Regional Shopping Center	32%
Community Shopping Center	32%
Neighborhood Shopping Center	32%
Speciality Retail / Strip Commercial	32%
Supermarket	100%
Drugstore	100%
Bank with Drive-Thru	100%
Discount Store	32%
Restuarants	
Quality	50%
Sit-down, High Turnover	50%
Fast Food (With Drive-thru)	50%
Fast Food (Without Drive-thru)	50%
Delicatessen (7 AM - 4 PM)	50%

Section 3 - Trip Generation

NOTE: Be sure to enter only occupied units / spaces	Quantity	Units	Trip Equation Method (if applicable)	Trips Daily	Trips AM Peak Hour	Trips PM Peak Hour	SANDAG Daily Parameters Average Rate	Log Multipler	Log Constant	PEAK HOUR PERCENTAGES AM	PM	Jobs Per Input Unit
Residential												
Estate, Urban or Rural		DU		0	0	0	12			8%	10%	
Single Family Detached		DU		0	0	0	10			8%	10%	
Condominium		DU		0	0	0	8			8%	10%	
Apartment		DU		0	0	0	6			8%	9%	
Mobile Home (Family)		DU		0	0	0	5			8%	11%	
Retail												
Super Regional Shopping Center		ksf	Average Rate	0	0	0	35	0.502	6.945	4%	10%	2.0
Regional Shopping Center		ksf	Average Rate	0	0	0	50	0.502	6.945	4%	9%	2.0
Community Shopping Center	178	ksf		14,240	570	1,424	80			4%	10%	2.0
Neighborhood Shopping Center		ksf		0	0	0	120			4%	10%	2.0
Speciality Retail / Strip Commercial		ksf		0	0	0	40			3%	9%	2.0
Supermarket		ksf		0	0	0	150			4%	10%	2.0
Drugstore		ksf		0	0	0	90			8%	8%	2.0
Bank with Drive-Thru		ksf		0	0	0	200			5%	10%	2.0
Discount Store		ksf		0	0	0	60			3%	8%	2.0
Restaurant												
Quality		ksf		0	0	0	100			1%	8%	2.0
Sit-down, High Turnover		ksf		0	0	0	160			8%	8%	2.0
Fast Food (With Drive-thru)		ksf		0	0	0	650			7%	7%	2.0
Fast Food (Without Drive-thru)		ksf		0	0	0	700			5%	7%	2.0
Delicatessen (7 AM - 4 PM)		ksf		0	0	0	150			9%	3%	2.0
Office												
Standard Commercial Office	40	ksf	Fitted Curve	845	118	110	20	0.756	3.95	14%	13%	3.0
Large Commercial Office		ksf	Fitted Curve	0	0	0	17	0.756	3.95	13%	14%	3.0
Office Park		ksf		0	0	0	12			13%	13%	3.0
Single Tenant Office		ksf		0	0	0	14			15%	15%	3.0
Corporate Headquarters		ksf		0	0	0	7			17%	16%	3.0
Government (Civic Center)		ksf		0	0	0	30			9%	12%	3.0
Post Office (Community, w/mail drop lane)		ksf		0	0	0	30			7%	10%	3.0
Medical-Dental		ksf		0	0	0	50			6%	11%	3.0
Industrial												
Industrial / Business Park (with commercial)		ksf		0	0	0	16			12%	12%	1.0
Industrial / Business Park (no commercial)		ksf		0	0	0	8			11%	12%	1.0
Industrial Plant		ksf		0	0	0	10			14%	15%	1.0
Manufacturing		ksf		0	0	0	4			19%	20%	0.5
Warehousing		ksf		0	0	0	5			13%	15%	1.0
Storage		ksf		0	0	0	2			6%	9%	0.5
Science Research & Development	360	ksf		2,880	461	403	8			16%	14%	1.0
Lodging												
Hotel (w/convention facilities, restaurant)	200	Occ. Room		2,000	120	160	10			6%	8%	0.50
Motel		Occ. Room		0	0	0	9			8%	9%	0.50
Resort Hotel		Occ. Room		0	0	0	8			5%	7%	0.50
Misc. Uses												
Movie Theater		seat		0	0	0	0.9			0.33%	8%	4.00
Religious Facility		ksf		0	0	0	9			5%	8%	2.0
Gas Station (w/Food Mart and Car Wash)		Pump		0	0	0	155			8%	9%	2.0
Hospital		Bed		0	0	0	20			8%	10%	2.0
Convalescent / Nursing Facility		Bed		0	0	0	3			7%	7%	2.0
Library		ksf		0	0	0	50			2%	10%	2.0
Park (developed with meeting rooms and sports facilities)		acre		0	0	0	50			13%	9%	0
Transit Station (Light Rail with Parking)		occupied pkg space		0	0	0	4			14%	15%	0
Park & Ride Lot		occupied pkg space		0	0	0	8			14%	15%	0
Education												
University		Student		0	0	0	2.4			10%	9%	0.25
Junior College		Student		0	0	0	1.2			12%	9%	0.25
High School		Student		0	0	0	1.3			20%	10%	0.10
Middle / Junior High		Student		0	0	0	1.4			30%	9%	0.10
Elementary		Student		0	0	0	1.6			32%	9%	0.10
Day Care		Student		0	0	0	5			17%	18%	0.10

	Daily	AM Peak Hour	PM Peak Hour
Trips from Land uses not covered above ==>	0	0	0
Jobs in those Land Uses	0		

	Daily	AM Peak Hour	PM Peak Hour
Total "Raw" SANDAG Trip Generation Trips	**19,965**	**1,269**	**2,097**

MIXED USE TRIP GENERATION MODEL V4 - RESULTS

MODEL APPLICATION - ALL TRIPS

		Daily				AM Peak Hour				PM Peak Hour			
		HBW	HBO	NHB	Total	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total
Number of "Raw" SANDAG Rate Trips Subject to Model		4589	10134	5242	19965	737	456	75	1269	621	893	583	2097
Predicted Probabilities:													
	Internal Capture	0.78%	0.78%	6.88%	2.38%	0.78%	0.78%	6.88%	1.14%	0.78%	0.78%	6.88%	2.48%
	Walking External	1.46%	9.74%	9.36%	7.71%	1.46%	9.74%	9.36%	4.89%	1.46%	9.74%	9.36%	7.14%
	Transit External	4.88%	2.47%	3.54%	3.30%	4.88%	2.47%	3.54%	3.94%	4.88%	2.47%	3.54%	3.48%
Number of Trips:													
	Internal Capture	36	79	361	476	6	4	5	14	5	7	40	52
	Walking External	66	979	457	1502	11	44	7	61	9	86	51	146
	Transit External	222	248	173	644	36	11	2	49	30	22	19	71
Net Number of IXXI Vehicle Trips		**4264**	**8828**	**4251**	**17343**	**685**	**397**	**61**	**1143**	**577**	**778**	**473**	**1828**

	External Vehicle Trips			VMT		
Results	Raw	Net	Reduction %	Raw	Net	Reduction %
Daily	19,965	17,343	13%	80,675	71,058	12%
AM Peak Hour	1,269	1,143	10%	6,517	5,942	9%
PM Peak Hour	2,097	1,828	13%	8,917	7,895	11%

NOTE: External trips are attributed half to project site uses, internal trips all to site uses for purposes of VMT allocation.

MODEL APPLICATION - TRIP ENDS TO/FROM RESIDENCES IN THE PROJECT ONLY

THIS SECTION DOES NOT APPLY - PROJECT SITE HAS NO RESIDENCES

		Daily				AM Peak Hour				PM Peak Hour			
		HBW	HBO	NHB	Total	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total
Number of "Raw" ITE Trips Subject to Model		0	0	0	0	0	0	0	0	0	0	0	0
Predicted Probabilities:													
	Internal Capture	0.78%	0.78%	6.88%	#DIV/0!	0.78%	0.78%	6.88%	#DIV/0!	0.78%	0.78%	6.88%	#DIV/0!
	Walking External	1.46%	9.74%	9.36%	#DIV/0!	1.46%	9.74%	9.36%	#DIV/0!	1.46%	9.74%	9.36%	#DIV/0!
	Transit External	4.88%	2.47%	3.54%	#DIV/0!	4.88%	2.47%	3.54%	#DIV/0!	4.88%	2.47%	3.54%	#DIV/0!
Number of Trips:													
	Internal Capture	0	0	0	0	0	0	0	0	0	0	0	0
	Walking External	0	0	0	0	0	0	0	0	0	0	0	0
	Transit External	0	0	0	0	0	0	0	0	0	0	0	0
Net Number of IXXI Vehicle Trips generated by Project Residences		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

	External Vehicle Trips			VMT		
Results	Raw	Net	Reduction %	Raw	Net	Reduction %
Daily	0	0	#DIV/0!	0	0	#DIV/0!
AM Peak Hour	0	0	#DIV/0!	0	0	#DIV/0!
PM Peak Hour	0	0	#DIV/0!	0	0	#DIV/0!

NOTE: all trips generated by project households (either produced or attracted or both) are counted 100%. This cannot be compared directly to the VMT in the section above.

TRIP GENERATION FOR SMART GROWTH

PLANNING TOOLS FOR THE SAN DIEGO REGION

June 2010

SANDAG

Table 1 shows the SANDAG raw trips, the Mixed-Use Method's count predictions, and the actual external vehicle trip counts. Detail behind the SANDAG raw trips calculations is provided in Appendix B.

Table 1
Mixed-Use Method Analysis for SANDAG Sites

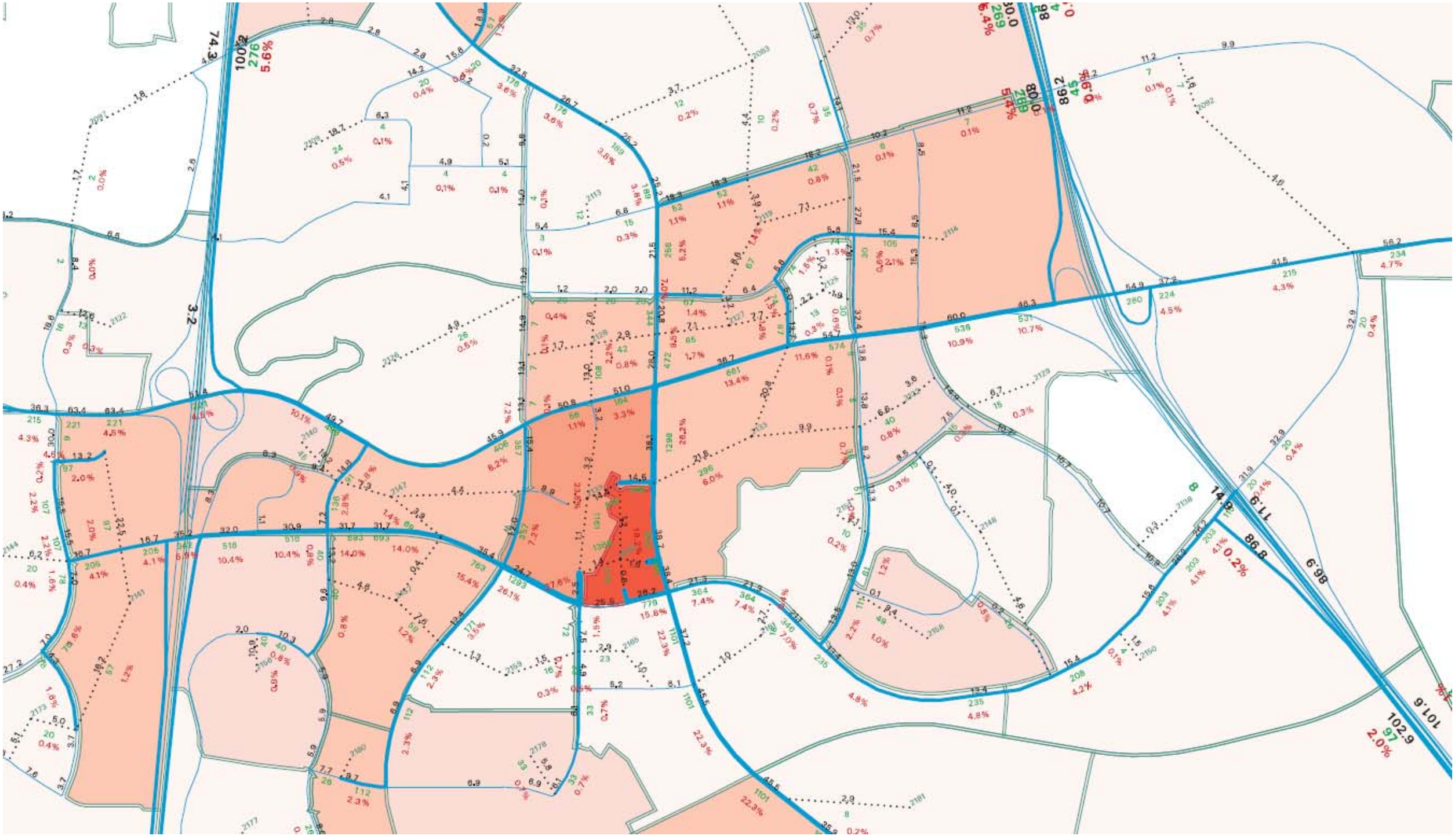
Site Name	Location	SANDAG Raw Trips[1]	Mixed-Use Method Trip Reduction Percentage	Mixed-Use Method Net Trips[2]	External Vehicle Trip Counts[3]	Percent Deviation between Mixed-Use Method and External Vehicle Counts
Rio Vista Station Village	San Diego	6,689	17%	5,538	5,307	4%
La Mesa Village Plaza	La Mesa	5,681	20%	4,539	4,280	6%
Uptown Center	San Diego	20,214	15%	17,097	16,886	1%
The Village at Morena Linda Vista	San Diego	6,375	26%	5,251	4,712	11%
Hazard Center	San Diego	15,051	12%	13,214	11,644	13%
Heritage Center at Otay Ranch	Chula Vista	10,505	7%	9,730	7,935	23%

(1) Using San Diego *Traffic Generators* Trip Rates; see Appendix B for details
(2) Application of Fehr & Peers Mixed Use Trip Generation Reduction Percentages to (1)
(3) Actual counts
Source: Fehr & Peers, 2009

Based on the results shown in the table above, the Mixed-Use Method is an excellent predictor of external vehicle trips generated by smart growth development, tending to be slightly conservative, but without overestimating smart growth trips to the same degree as conventional trip generation methods. In all cases listed in Table 1, the Mixed-Use Method results in an estimation of external vehicle trips that is below the levels of estimated trip generation using raw trips alone and at or above the level of trips that were determined through actual counts. On average, the *San Diego Traffic Generators* trip generation rates for suburban development would overestimate traffic from the six sites by 29 percent, while the Mixed-Use Method reduces the average overestimate to 9 percent.

Additional Comments

The 20 larger SGOA sites analyzed in Figure 1 provide data for both validation of the Mixed-Use Method and for future refinements. It should be noted that the method's underestimation of trip reduction is most noticeable when it comes to the transit trips component, and additional data could help improve future versions of the Mixed-Use Method. Data collection at additional sites in urban locations with high transit usage is recommended in order to uncover statistically significant variables that are related to the "distance to transit" characteristic. This will help subsequent versions of the method to do a better job of capturing the beneficial aspects of a TOD site's proximity to transit.


74.3
100.2
276
5.6%
3.2
80.0
269
5.4%
298
45
6.9%
60.0
535
10.9%
531
10.7%
86.8
0.2%
6.98
119
14.9
102.9
97
2.0%
101.6

APPENDIX H

EXISTING + PROJECT INTERSECTION ANALYSIS CALCULATION SHEETS

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

Ex + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	155	5	79	223	524	85	614	111	268	349	114
Future Volume (veh/h)	39	155	5	79	223	524	85	614	111	268	349	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.78	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	194	6	99	279	655	106	768	139	335	436	142
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	744	589	123	806	633	130	636	115	290	794	254
Arrive On Green	0.04	0.40	0.40	0.07	0.43	0.43	0.07	0.22	0.22	0.16	0.31	0.31
Sat Flow, veh/h	1781	1870	1481	1781	1870	1469	1781	2864	518	1781	2544	814
Grp Volume(v), veh/h	49	194	6	99	279	655	106	476	431	335	302	276
Grp Sat Flow(s),veh/h/ln	1781	1870	1481	1781	1870	1469	1781	1777	1606	1781	1777	1581
Q Serve(g_s), s	3.6	9.2	0.3	7.2	13.2	56.9	7.7	29.3	29.3	21.5	18.6	19.2
Cycle Q Clear(g_c), s	3.6	9.2	0.3	7.2	13.2	56.9	7.7	29.3	29.3	21.5	18.6	19.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.51
Lane Grp Cap(c), veh/h	63	744	589	123	806	633	130	395	357	290	555	493
V/C Ratio(X)	0.78	0.26	0.01	0.81	0.35	1.03	0.82	1.21	1.21	1.15	0.54	0.56
Avail Cap(c_a), veh/h	103	744	589	413	806	633	278	395	357	290	555	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.1	26.7	24.0	60.6	25.1	37.5	60.3	51.3	51.3	55.2	37.6	37.8
Incr Delay (d2), s/veh	7.4	0.1	0.0	4.7	0.1	44.9	0.4	95.4	95.9	101.4	3.8	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.2	0.1	3.4	5.9	27.9	3.5	23.5	21.3	17.8	8.7	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	26.8	24.1	65.2	25.2	82.5	60.8	146.7	147.3	156.6	41.4	42.4
LnGrp LOS	E	C	C	E	C	F	E	F	F	F	D	D
Approach Vol, veh/h		249			1033			1013			913	
Approach Delay, s/veh		35.3			65.4			137.9			84.0	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.9	35.0	13.5	57.6	14.0	46.9	9.1	62.0
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	21.5	26.4	30.6	* 34	20.6	27.3	7.6	56.9
Max Q Clear Time (g_c+I1), s	23.5	31.3	9.2	11.2	9.7	21.2	5.6	58.9
Green Ext Time (p_c), s	0.0	0.0	0.1	0.7	0.1	2.5	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay	91.3		
HCM 6th LOS	F		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

Ex + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1537	221	0	1356	366	0	0	0	544	0	1219
Future Volume (vph)	0	1537	221	0	1356	366	0	0	0	544	0	1219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.99
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1529				3433		2764
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1529				3433		2764
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1653	238	0	1458	394	0	0	0	585	0	1311
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	1653	238	0	1458	394	0	0	0	585	0	1299
Confl. Peds. (#/hr)	22		10	10		22	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free				Prot		custom
Protected Phases		2			6					4		5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		87.1	120.0		43.5	120.0				22.6		62.0
Effective Green, g (s)		87.1	120.0		43.5	120.0				22.6		62.0
Actuated g/C Ratio		0.73	1.00		0.36	1.00				0.19		0.52
Clearance Time (s)		5.7			5.7					4.6		4.2
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		4651	1538		1843	1529				646		1428
v/s Ratio Prot		0.26			c0.29					0.17		c0.30
v/s Ratio Perm			0.15			0.26						0.17
v/c Ratio		0.36	0.15		0.79	0.26				0.91		0.91
Uniform Delay, d1		6.1	0.0		34.2	0.0				47.7		26.4
Progression Factor		1.00	1.00		0.76	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.2		3.1	0.4				15.9		8.6
Delay (s)		6.3	0.2		29.0	0.4				63.6		35.0
Level of Service		A	A		C	A				E		D
Approach Delay (s)		5.5			22.9			0.0			43.8	
Approach LOS		A			C			A			D	

Intersection Summary					
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.86				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	78.1%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1299	782	0	1271	439	451	0	583	0	0	0
Future Volume (vph)	0	1299	782	0	1271	439	451	0	583	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.97			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2713			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2713			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1443	869	0	1412	488	501	0	648	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	81	0	0	0
Lane Group Flow (vph)	0	1443	869	0	1412	488	501	0	567	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		80.3	120.0		91.3	120.0	18.4		25.2			
Effective Green, g (s)		80.3	120.0		91.3	120.0	18.4		25.2			
Actuated g/C Ratio		0.67	1.00		0.76	1.00	0.15		0.21			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3402	1538		3868	1538	526		569			
v/s Ratio Prot		0.28			0.28		0.15		c0.06			
v/s Ratio Perm			c0.56			0.32			0.15			
v/c Ratio		0.42	0.57		0.37	0.32	0.95		1.00			
Uniform Delay, d1		9.2	0.0		4.8	0.0	50.4		47.3			
Progression Factor		1.42	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.3	1.4		0.3	0.5	27.4		36.4			
Delay (s)		13.4	1.4		5.0	0.5	77.7		83.7			
Level of Service		B	A		A	A	E		F			
Approach Delay (s)		8.8			3.9			81.1			0.0	
Approach LOS		A			A			F			A	

Intersection Summary				
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	54.8%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1638	161	120	1220	3	476	2	178	4	3	14
Future Volume (veh/h)	13	1638	161	120	1220	3	476	2	178	4	3	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.79
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	1861	183	136	1386	3	541	0	203	5	3	16
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	2908	1223	185	3210	7	775	0	662	20	12	22
Arrive On Green	0.01	0.57	0.57	0.04	0.41	0.41	0.22	0.00	0.22	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1541	3456	5260	11	3563	0	3041	1134	680	1245
Grp Volume(v), veh/h	15	1861	183	136	897	492	541	0	203	8	0	16
Grp Sat Flow(s),veh/h/ln	1781	1702	1541	1728	1702	1868	1781	0	1520	1814	0	1245
Q Serve(g_s), s	1.2	34.6	4.0	5.5	26.5	26.5	19.6	0.0	7.8	0.6	0.0	1.8
Cycle Q Clear(g_c), s	1.2	34.6	4.0	5.5	26.5	26.5	19.6	0.0	7.8	0.6	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.62		1.00
Lane Grp Cap(c), veh/h	22	2908	1223	185	2077	1140	775	0	662	31	0	22
V/C Ratio(X)	0.67	0.64	0.15	0.74	0.43	0.43	0.70	0.00	0.31	0.25	0.00	0.74
Avail Cap(c_a), veh/h	71	2908	1223	262	2077	1140	944	0	806	53	0	36
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.64	0.64	0.64	0.91	0.00	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.8	20.4	3.6	66.5	24.0	24.0	50.5	0.0	45.9	67.9	0.0	68.5
Incr Delay (d2), s/veh	9.3	0.8	0.2	2.0	0.4	0.8	4.7	0.0	1.1	1.6	0.0	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	13.8	2.9	2.5	11.6	12.8	9.3	0.0	3.1	0.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.1	21.3	3.8	68.5	24.4	24.7	55.2	0.0	47.0	69.5	0.0	85.3
LnGrp LOS	E	C	A	E	C	C	E	A	D	E	A	F
Approach Vol, veh/h		2059			1525			744			24	
Approach Delay, s/veh		20.1			28.4			53.0			80.0	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	85.4		7.3	6.2	91.1		35.4				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	10.6	* 69		4.1	5.6	73.3		37.1				
Max Q Clear Time (g_c+I1), s	7.5	36.6		3.8	3.2	28.5		21.6				
Green Ext Time (p_c), s	0.1	29.9		0.0	0.0	29.0		7.4				

Intersection Summary		
HCM 6th Ctrl Delay	29.0	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	766	1541	85	65	670	80	247	370	176	139	132	234
Future Volume (veh/h)	766	1541	85	65	670	80	247	370	176	139	132	234
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.89	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	901	1813	100	76	788	94	291	435	207	164	155	275
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	854	2158	119	119	1029	122	286	1058	421	159	1081	431
Arrive On Green	0.08	0.14	0.14	0.01	0.07	0.07	0.08	0.30	0.30	0.09	0.30	0.30
Sat Flow, veh/h	3456	4944	272	3456	4603	545	3456	3554	1414	1781	3554	1417
Grp Volume(v), veh/h	901	1247	666	76	581	301	291	435	207	164	155	275
Grp Sat Flow(s),veh/h/ln	1728	1702	1812	1728	1702	1744	1728	1777	1414	1781	1777	1417
Q Serve(g_s), s	34.6	49.9	50.1	3.1	23.5	23.7	11.6	13.7	16.9	12.5	4.4	23.5
Cycle Q Clear(g_c), s	34.6	49.9	50.1	3.1	23.5	23.7	11.6	13.7	16.9	12.5	4.4	23.5
Prop In Lane	1.00		0.15	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	854	1486	791	119	761	390	286	1058	421	159	1081	431
V/C Ratio(X)	1.05	0.84	0.84	0.64	0.76	0.77	1.02	0.41	0.49	1.03	0.14	0.64
Avail Cap(c_a), veh/h	854	1486	791	131	761	390	286	1058	421	159	1091	435
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.3	55.1	55.2	68.3	61.2	61.3	64.2	39.3	40.4	63.8	35.4	42.0
Incr Delay (d2), s/veh	41.8	4.2	7.8	6.0	7.2	13.8	54.4	0.3	1.0	79.8	0.1	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.1	23.8	26.2	1.5	11.6	12.7	7.3	6.1	6.0	9.2	2.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.0	59.4	63.0	74.3	68.4	75.1	118.6	39.6	41.4	143.6	35.5	45.5
LnGrp LOS	F	E	E	E	E	E	F	D	D	F	D	D
Approach Vol, veh/h		2814			958			933			594	
Approach Delay, s/veh		75.2			70.9			64.6			70.0	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	66.5	16.0	48.3	39.0	36.7	16.9	47.4
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	5.3	* 61	11.6	* 43	34.6	31.3	12.5	41.7
Max Q Clear Time (g_c+I1), s	15.1	52.1	13.6	25.5	36.6	25.7	14.5	18.9
Green Ext Time (p_c), s	0.0	8.4	0.0	2.6	0.0	4.2	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	72.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1784	72	0	1179	124	0	0	157	0	0	35
Future Volume (Veh/h)	0	1784	72	0	1179	124	0	0	157	0	0	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	2149	87	0	1420	149	0	0	189	0	0	42
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.71			0.71			0.85	0.85	0.71	0.85	0.85	0.71
vC, conflicting volume	1579			2246			2728	3782	780	2420	3750	568
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	368			1305			98	1335	0	0	1298	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	75	100	100	94
cM capacity (veh/h)	832			368			682	128	752	634	134	754

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	860	860	517	568	568	433	189	42
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	87	0	0	149	189	42
cSH	1700	1700	1700	1700	1700	1700	752	754
Volume to Capacity	0.51	0.51	0.30	0.33	0.33	0.25	0.25	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	25	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	11.4	10.1
Lane LOS							B	B
Approach Delay (s)	0.0			0.0			11.4	10.1
Approach LOS							B	B

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	54.3%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	394	1443	104	208	1425	402	207	1288	147	256	291	77
Future Volume (veh/h)	394	1443	104	208	1425	402	207	1288	147	256	291	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	464	1698	122	245	1676	473	244	1515	173	301	342	91
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	2338	708	217	1980	730	291	1074	465	148	1068	463
Arrive On Green	0.27	0.92	0.92	0.02	0.13	0.13	0.11	0.40	0.40	0.08	0.30	0.30
Sat Flow, veh/h	3456	5106	1547	3456	5106	1544	3456	3554	1539	1781	3554	1539
Grp Volume(v), veh/h	464	1698	122	245	1676	473	244	1515	173	301	342	91
Grp Sat Flow(s),veh/h/ln	1728	1702	1547	1728	1702	1544	1728	1777	1539	1781	1777	1539
Q Serve(g_s), s	18.6	11.7	1.1	8.8	44.9	36.0	9.7	42.3	11.1	11.6	10.4	6.2
Cycle Q Clear(g_c), s	18.6	11.7	1.1	8.8	44.9	36.0	9.7	42.3	11.1	11.6	10.4	6.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	2338	708	217	1980	730	291	1074	465	148	1068	463
V/C Ratio(X)	1.01	0.73	0.17	1.13	0.85	0.65	0.84	1.41	0.37	2.04	0.32	0.20
Avail Cap(c_a), veh/h	459	2338	708	217	1980	730	351	1074	465	148	1068	463
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.42	0.42	0.42	0.91	0.91	0.91
Uniform Delay (d), s/veh	51.4	3.7	3.2	68.5	57.0	41.5	61.2	41.9	32.5	64.2	37.9	36.4
Incr Delay (d2), s/veh	44.7	2.0	0.5	63.5	0.4	0.4	5.5	187.3	0.3	488.6	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	2.1	0.5	6.0	20.8	15.0	4.4	45.4	4.0	25.3	4.6	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.1	5.7	3.8	132.1	57.4	41.9	66.7	229.2	32.8	552.8	38.1	36.7
LnGrp LOS	F	A	A	F	E	D	E	F	C	F	D	D
Approach Vol, veh/h		2284			2394			1932			734	
Approach Delay, s/veh		24.0			62.0			191.1			249.0	
Approach LOS		C			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	69.8	16.2	47.8	23.0	60.0	16.0	48.0
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	8.8	* 58	14.2	* 40	18.6	47.5	11.6	42.3
Max Q Clear Time (g_c+I1), s	10.8	13.7	11.7	12.4	20.6	46.9	13.6	44.3
Green Ext Time (p_c), s	0.0	37.4	0.1	3.9	0.0	0.6	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		102.8
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1710	36	71	2173	416	20	23	58	44	16	32
Future Volume (veh/h)	100	1710	36	71	2173	416	20	23	58	44	16	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.93	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	1988	42	83	2527	484	23	27	67	36	40	37
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	3598	1095	126	2981	533	148	156	245	65	69	49
Arrive On Green	0.02	0.23	0.23	0.05	0.91	0.91	0.08	0.08	0.08	0.04	0.04	0.04
Sat Flow, veh/h	1781	5106	1554	3456	4340	776	1781	1870	2941	1781	1886	1343
Grp Volume(v), veh/h	116	1988	42	83	1943	1068	23	27	67	36	40	37
Grp Sat Flow(s),veh/h/ln	1781	1702	1554	1728	1702	1712	1781	1870	1470	1781	1870	1359
Q Serve(g_s), s	7.6	48.0	2.9	3.3	28.7	44.3	1.7	1.9	3.0	2.8	2.9	3.8
Cycle Q Clear(g_c), s	7.6	48.0	2.9	3.3	28.7	44.3	1.7	1.9	3.0	2.8	2.9	3.8
Prop In Lane	1.00		1.00	1.00		0.45	1.00		1.00	1.00		0.99
Lane Grp Cap(c), veh/h	97	3598	1095	126	2338	1176	148	156	245	65	68	50
V/C Ratio(X)	1.20	0.55	0.04	0.66	0.83	0.91	0.16	0.17	0.27	0.55	0.58	0.76
Avail Cap(c_a), veh/h	97	3598	1095	146	2338	1176	548	576	905	65	68	50
HCM Platoon Ratio	0.33	0.33	0.33	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.21	0.21	0.21	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.7	34.3	17.0	65.8	3.1	3.8	59.6	59.7	60.2	66.3	66.4	66.8
Incr Delay (d2), s/veh	109.2	0.1	0.0	0.5	0.3	1.3	0.2	0.2	0.2	26.0	27.5	65.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	22.0	1.0	1.5	3.1	3.7	0.8	0.9	1.1	1.7	1.9	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.9	34.4	17.0	66.3	3.5	5.1	59.8	59.9	60.4	92.4	93.9	131.8
LnGrp LOS	F	C	B	E	A	A	E	E	E	F	F	F
Approach Vol, veh/h		2146			3094			117			113	
Approach Delay, s/veh		41.8			5.7			60.2			106.0	
Approach LOS		D			A			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	103.9		10.0	12.0	101.4		16.6
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9
Max Green Setting (Gmax), s	5.1	66.4		5.1	7.6	64.7		43.1
Max Q Clear Time (g_c+I1), s	5.3	50.0		5.8	9.6	46.3		5.0
Green Ext Time (p_c), s	0.0	15.7		0.0	0.0	18.4		0.3

Intersection Summary		
HCM 6th Ctrl Delay		23.1
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

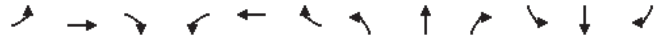
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	1440	102	195	2513	1111	104	188	217	160	32	43
Future Volume (veh/h)	270	1440	102	195	2513	1111	104	188	217	160	32	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	300	1600	113	217	2792	1234	116	209	241	178	36	48
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	2907	882	267	2969	1563	143	604	669	138	599	256
Arrive On Green	0.14	1.00	1.00	0.08	0.58	0.58	0.04	0.17	0.17	0.04	0.17	0.17
Sat Flow, veh/h	3456	5106	1550	3456	5106	2688	3456	3554	2673	3456	3554	1518
Grp Volume(v), veh/h	300	1600	113	217	2792	1234	116	209	241	178	36	48
Grp Sat Flow(s),veh/h/ln	1728	1702	1550	1728	1702	1344	1728	1777	1336	1728	1777	1518
Q Serve(g_s), s	9.6	0.0	0.0	8.7	70.7	49.7	4.7	7.3	10.4	5.6	1.2	3.8
Cycle Q Clear(g_c), s	9.6	0.0	0.0	8.7	70.7	49.7	4.7	7.3	10.4	5.6	1.2	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	2907	882	267	2969	1563	143	604	669	138	599	256
V/C Ratio(X)	1.27	0.55	0.13	0.81	0.94	0.79	0.81	0.35	0.36	1.29	0.06	0.19
Avail Cap(c_a), veh/h	237	2907	882	358	2969	1563	143	939	922	138	926	396
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.09	0.09	0.09	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	0.0	0.0	63.6	27.1	22.7	66.6	51.2	43.6	67.2	48.9	50.0
Incr Delay (d2), s/veh	142.7	0.6	0.2	0.7	0.8	0.4	22.6	0.7	0.6	173.1	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.2	0.1	3.8	27.7	15.3	2.5	3.3	3.6	5.8	0.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	203.1	0.6	0.2	64.3	27.9	23.1	89.2	51.9	44.2	240.3	49.0	50.6
LnGrp LOS	F	A	A	E	C	C	F	D	D	F	D	D
Approach Vol, veh/h		2013			4243			566			262	
Approach Delay, s/veh		30.7			28.3			56.3			179.2	
Approach LOS		C			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	85.2	10.2	28.9	14.0	86.9	10.0	29.1
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	10.8	63.1	5.8	36.5	9.6	* 69	5.6	* 37
Max Q Clear Time (g_c+I1), s	11.7	2.0	6.7	5.8	11.6	72.7	7.6	12.4
Green Ext Time (p_c), s	0.1	35.5	0.0	0.6	0.0	0.0	0.0	4.9

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

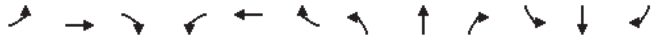
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1414	403	0	2063	482	0	0	0	694	0	1756
Future Volume (vph)	0	1414	403	0	2063	482	0	0	0	694	0	1756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1553				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1553				3433		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1571	448	0	2292	536	0	0	0	771	0	1951
RTOR Reduction (vph)	0	0	0	0	0	102	0	0	0	0	0	21
Lane Group Flow (vph)	0	1571	448	0	2292	434	0	0	0	771	0	1930
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov					Prot		custom
Protected Phases		2			6	4					4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		58.5	120.0		48.8	97.2					48.4		59.0
Effective Green, g (s)		58.5	120.0		48.8	97.2					48.4		59.0
Actuated g/C Ratio		0.49	1.00		0.41	0.81					0.40		0.49
Clearance Time (s)		7.5			7.5	5.6					5.6		
Vehicle Extension (s)		2.0			2.0	2.0					2.0		
Lane Grp Cap (vph)		2478	2707		2067	1257					1384		1370
v/s Ratio Prot		0.31			c0.45	0.14					0.22		c0.69
v/s Ratio Perm			0.17			0.14						
v/c Ratio		0.63	0.17		1.11	0.35					0.56		1.41
Uniform Delay, d1		22.8	0.0		35.6	3.0					27.6		30.5
Progression Factor		1.00	1.00		0.70	1.74					1.00		1.00
Incremental Delay, d2		1.2	0.1		55.1	0.0					0.3		188.4
Delay (s)		24.1	0.1		80.2	5.3					27.8		218.9
Level of Service		C	A		F	A					C		F
Approach Delay (s)		18.7			66.0			0.0			164.8	
Approach LOS		B			E			A			F	

Intersection Summary			
HCM 2000 Control Delay	88.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	113.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1297	812	0	1592	439	953	0	400	0	0	0
Future Volume (vph)	0	1297	812	0	1592	439	953	0	400	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1557		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1557		6408	1538	3433		2787			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1457	912	0	1789	493	1071	0	449	0	0	0
RTOR Reduction (vph)	0	0	176	0	0	0	0	0	24	0	0	0
Lane Group Flow (vph)	0	1457	736	0	1789	493	1071	0	425	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		52.6	96.9		62.6	120.0	44.3		55.2			
Effective Green, g (s)		52.6	96.9		62.6	120.0	44.3		49.6			
Actuated g/C Ratio		0.44	0.81		0.52	1.00	0.37		0.41			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		2228	1257		3342	1538	1267		1151			
v/s Ratio Prot		c0.29	0.22		c0.28		c0.31		0.15			
v/s Ratio Perm			0.26			0.32						
v/c Ratio		0.65	0.59		0.54	0.32	0.85		0.37			
Uniform Delay, d1		26.5	4.2		19.0	0.0	34.7		24.4			
Progression Factor		0.70	24.12		1.00	1.00	1.00		1.00			
Incremental Delay, d2		1.2	0.4		0.6	0.6	5.1		0.1			
Delay (s)		19.7	102.1		19.7	0.6	39.9		24.4			
Level of Service		B	F		B	A	D		C			
Approach Delay (s)		51.4			15.5			35.3			0.0	
Approach LOS		D			B			D			A	

Intersection Summary				
HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	63.2%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	7	112	11	31	74
Future Volume (Veh/h)	8	7	112	11	31	74
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	8	122	12	34	80
Pedestrians	28		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	317	105			162	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	317	105			162	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			98	
cM capacity (veh/h)	614	900			1381	

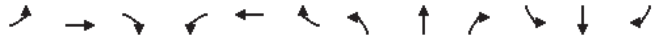
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	9	8	81	53	114
Volume Left	9	0	0	0	34
Volume Right	0	8	0	12	0
cSH	614	900	1700	1700	1381
Volume to Capacity	0.01	0.01	0.05	0.03	0.02
Queue Length 95th (ft)	1	1	0	0	2
Control Delay (s)	11.0	9.0	0.0	0.0	2.4
Lane LOS	B	A			A
Approach Delay (s)	10.1		0.0		2.4
Approach LOS	B				

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	31.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	52	47	94	121	36	56
Future Volume (Veh/h)	52	47	94	121	36	56
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	60	54	108	139	41	64
Pedestrians	10		12			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	314	144			257	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314	144			257	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	94			97	
cM capacity (veh/h)	622	863			1294	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	114	72	175	62	43
Volume Left	60	0	0	41	0
Volume Right	54	0	139	0	0
cSH	717	1700	1700	1294	1700
Volume to Capacity	0.16	0.04	0.10	0.03	0.03
Queue Length 95th (ft)	14	0	0	2	0
Control Delay (s)	11.0	0.0	0.0	5.3	0.0
Lane LOS	B			A	
Approach Delay (s)	11.0	0.0		3.1	
Approach LOS	B				

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	30.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	14	54	51	46	82	215	1431	136	90	300	214
Future Volume (veh/h)	129	14	54	51	46	82	215	1431	136	90	300	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.76	1.00		0.91	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	15	59	56	80	70	236	1573	149	99	330	235
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	13	52	591	310	240	116	1960	183	71	1133	786
Arrive On Green	0.05	0.05	0.05	0.17	0.17	0.17	0.09	0.80	0.80	0.07	0.96	0.96
Sat Flow, veh/h	3456	262	1031	3563	1870	1449	1781	3272	306	1781	1973	1369
Grp Volume(v), veh/h	142	0	74	56	80	70	236	846	876	99	296	269
Grp Sat Flow(s),veh/h/ln	1728	0	1293	1781	1870	1449	1781	1777	1801	1781	1777	1565
Q Serve(g_s), s	5.7	0.0	7.1	1.9	5.2	5.9	9.1	36.9	39.2	5.6	1.3	1.4
Cycle Q Clear(g_c), s	5.7	0.0	7.1	1.9	5.2	5.9	9.1	36.9	39.2	5.6	1.3	1.4
Prop In Lane	1.00		0.80	1.00		1.00	1.00		0.17	1.00		0.87
Lane Grp Cap(c), veh/h	175	0	66	591	310	240	116	1064	1079	71	1020	899
V/C Ratio(X)	0.81	0.00	1.13	0.09	0.26	0.29	2.04	0.79	0.81	1.39	0.29	0.30
Avail Cap(c_a), veh/h	175	0	66	967	508	393	116	1064	1079	71	1020	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	65.8	0.0	66.5	49.5	50.9	51.2	63.9	9.5	9.7	65.3	1.3	1.3
Incr Delay (d2), s/veh	22.6	0.0	150.5	0.0	0.2	0.2	496.0	6.1	6.7	229.6	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	5.1	0.8	2.5	2.2	20.0	11.2	12.1	7.0	0.6	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.4	0.0	216.9	49.5	51.0	51.4	559.9	15.6	16.4	294.9	1.8	1.9
LnGrp LOS	F	A	F	D	D	D	F	B	B	F	A	A
Approach Vol, veh/h		216			206			1958			664	
Approach Delay, s/veh		132.4			50.7			81.5			45.6	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	89.9		12.0	13.5	86.4		28.1				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	5.6	69.1		7.1	9.1	* 66		38.0				
Max Q Clear Time (g_c+I1), s	7.6	41.2		9.1	11.1	3.4		7.9				
Green Ext Time (p_c), s	0.0	19.6		0.0	0.0	6.5		0.5				

Intersection Summary		
HCM 6th Ctrl Delay	75.2	
HCM 6th LOS	E	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	81	0	1782	325	80
Future Volume (Veh/h)	0	81	0	1782	325	80
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	85	0	1876	342	84
Pedestrians	14			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.60					
vC, conflicting volume	1346	180	440			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	223	180	440			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	90	100			
cM capacity (veh/h)	435	815	1103			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	85	938	938	137	137	152
Volume Left	0	0	0	0	0	0
Volume Right	85	0	0	0	0	84
cSH	815	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.55	0.55	0.08	0.08	0.09
Queue Length 95th (ft)	9	0	0	0	0	0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.9	0.0		0.0		
Approach LOS	A					

Intersection Summary				
Average Delay		0.4		
Intersection Capacity Utilization		62.1%	ICU Level of Service	B
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	336	113	231	786	0	0
Future Volume (veh/h)	336	113	231	786	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	354	119	243	827		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2404	794	315	3756		
Arrive On Green	0.92	0.92	0.18	1.00		
Sat Flow, veh/h	2696	859	3456	3647		
Grp Volume(v), veh/h	240	233	243	827		
Grp Sat Flow(s),veh/h/ln	1777	1685	1728	1777		
Q Serve(g_s), s	1.2	1.2	6.7	0.0		
Cycle Q Clear(g_c), s	1.2	1.2	6.7	0.0		
Prop In Lane		0.51	1.00			
Lane Grp Cap(c), veh/h	1641	1557	315	3756		
V/C Ratio(X)	0.15	0.15	0.77	0.22		
Avail Cap(c_a), veh/h	1641	1557	1410	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.96	0.96		
Uniform Delay (d), s/veh	0.3	0.3	39.9	0.0		
Incr Delay (d2), s/veh	0.2	0.2	1.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.1	0.1	2.7	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.5	0.5	41.3	0.1		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	473			1070		
Approach Delay, s/veh	0.5			9.5		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	13.3	97.2				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 41	50.5				* 96
Max Q Clear Time (g_c+I1), s	8.7	3.2				2.0
Green Ext Time (p_c), s	0.4	8.7				4.5

Intersection Summary				
HCM 6th Ctrl Delay		6.7		
HCM 6th LOS		A		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

Ex + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	343	0	0	561	44	289	219	422	0	0	62
Future Volume (vph)	0	343	0	0	561	44	289	219	422	0	0	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			0.98		1.00	1.00	0.95			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			0.99		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (prot)		3539			6217		1681	1756	1501			1611
Flt Permitted		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (perm)		3539			6217		1681	1756	1501			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	381	0	0	623	49	321	243	469	0	0	69
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	230	0	0	66
Lane Group Flow (vph)	0	381	0	0	665	0	276	288	239	0	0	3
Confl. Peds. (#/hr)	72		27	27		72	38		30	30		38
Confl. Bikes (#/hr)			10			66			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		66.3			57.8		24.7	24.7	24.7			4.0
Effective Green, g (s)		66.3			57.8		24.7	24.7	24.7			4.0
Actuated g/C Ratio		0.66			0.58		0.25	0.25	0.25			0.04
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2346			3593		415	433	370			64
v/s Ratio Prot		c0.11			c0.11		c0.16	0.16				0.00
v/s Ratio Perm									0.16			
v/c Ratio		0.16			0.19		0.67	0.67	0.64			0.04
Uniform Delay, d1		6.4			10.0		33.9	33.9	33.7			46.2
Progression Factor		1.00			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.1			0.1		3.1	3.0	2.9			0.1
Delay (s)		6.5			10.1		37.0	36.9	36.6			46.3
Level of Service		A			B		D	D	D			D
Approach Delay (s)		6.5			10.1			36.8			46.3	
Approach LOS		A			B			D			D	

Intersection Summary				
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.32			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	52.3%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

Ex + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	568	61	56	511	227	155	436	150	90	95	50
Future Volume (veh/h)	55	568	61	56	511	227	155	436	150	90	95	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.75	1.00		0.76	1.00		0.82	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	638	69	63	574	255	174	490	169	101	107	56
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	1630	171	81	1273	451	236	1160	426	309	1236	510
Arrive On Green	0.03	0.36	0.36	0.05	0.37	0.37	0.07	0.33	0.33	0.09	0.35	0.35
Sat Flow, veh/h	3456	4525	475	1781	3404	1206	3456	3554	1306	3456	3554	1323
Grp Volume(v), veh/h	62	475	232	63	574	255	174	490	169	101	107	56
Grp Sat Flow(s),veh/h/ln	1728	1702	1596	1781	1702	1206	1728	1777	1306	1728	1777	1323
Q Serve(g_s), s	1.9	11.0	11.5	3.7	13.5	17.8	5.2	11.4	10.6	2.9	2.1	2.9
Cycle Q Clear(g_c), s	1.9	11.0	11.5	3.7	13.5	17.8	5.2	11.4	10.6	2.9	2.1	2.9
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	1226	575	81	1273	451	236	1160	426	309	1236	510
V/C Ratio(X)	0.57	0.39	0.40	0.78	0.45	0.57	0.74	0.42	0.40	0.33	0.09	0.11
Avail Cap(c_a), veh/h	137	1226	575	111	1273	451	280	1160	426	326	1236	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.6	25.2	25.4	50.1	25.0	26.3	48.5	27.9	27.6	45.3	23.3	21.3
Incr Delay (d2), s/veh	1.7	0.9	2.1	13.4	1.1	4.8	6.2	1.1	2.7	0.2	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.6	4.7	1.9	5.6	5.6	2.4	5.0	3.6	1.3	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	26.1	27.5	63.4	26.1	31.1	54.6	29.0	30.4	45.5	23.4	21.7
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	C	C
Approach Vol, veh/h		769			892			833			264	
Approach Delay, s/veh		28.6			30.2			34.6			31.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	43.4	11.6	41.8	7.8	44.9	13.9	39.5
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.8	35.9	8.6	36.0	4.2	38.3	10.0	34.6
Max Q Clear Time (g_c+I1), s	3.7	13.5	7.2	4.9	3.9	19.8	4.9	13.4
Green Ext Time (p_c), s	0.0	7.6	0.0	2.0	0.0	8.5	0.1	9.5

Intersection Summary	
HCM 6th Ctrl Delay	31.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	538	41	100	468	172	82	295	211	121	133	66
Future Volume (veh/h)	142	538	41	100	468	172	82	295	211	121	133	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85	1.00		0.85	1.00		0.69	1.00		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	585	45	109	509	187	89	321	229	132	145	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1771	134	165	1264	477	113	1156	371	94	1169	377
Arrive On Green	0.02	0.12	0.12	0.10	0.71	0.71	0.06	0.34	0.34	0.05	0.33	0.33
Sat Flow, veh/h	3456	4774	361	3456	3554	1341	1781	3404	1092	1781	3554	1147
Grp Volume(v), veh/h	154	414	216	109	509	187	89	321	229	132	145	72
Grp Sat Flow(s),veh/h/ln	1728	1702	1731	1728	1777	1341	1781	1702	1092	1781	1777	1147
Q Serve(g_s), s	4.7	11.8	12.1	3.2	6.1	5.9	5.2	7.3	18.6	5.6	3.0	4.8
Cycle Q Clear(g_c), s	4.7	11.8	12.1	3.2	6.1	5.9	5.2	7.3	18.6	5.6	3.0	4.8
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	1263	642	165	1264	477	113	1156	371	94	1169	377
V/C Ratio(X)	0.70	0.33	0.34	0.66	0.40	0.39	0.79	0.28	0.62	1.40	0.12	0.19
Avail Cap(c_a), veh/h	346	1263	642	319	1264	477	212	1198	384	94	1169	377
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.87	0.87	0.87	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	50.9	34.4	34.6	47.1	10.8	10.7	48.9	25.5	29.2	50.2	24.9	25.5
Incr Delay (d2), s/veh	1.5	0.7	1.3	1.5	0.8	2.1	4.5	0.4	5.5	231.3	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	5.5	5.8	1.4	2.1	1.7	2.5	3.0	5.4	8.5	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	35.1	35.9	48.5	11.6	12.8	53.4	25.9	34.8	281.5	25.1	26.4
LnGrp LOS	D	D	D	D	B	B	D	C	C	F	C	C
Approach Vol, veh/h		784			805			639			349	
Approach Delay, s/veh		38.7			16.9			32.9			122.3	
Approach LOS		D			B			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	41.5	9.5	45.0	11.1	40.4	11.1	43.4
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	5.6	* 37	9.8	33.6	12.6	30.0	10.6	* 33
Max Q Clear Time (g_c+I1), s	7.6	20.6	5.2	14.1	7.2	6.8	6.7	8.1
Green Ext Time (p_c), s	0.0	6.9	0.1	6.1	0.0	2.9	0.1	10.5

Intersection Summary	
HCM 6th Ctrl Delay	41.8
HCM 6th LOS	D

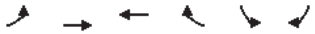
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	174	665	49	36	609	69	81	120	61	98	33	89
Future Volume (veh/h)	174	665	49	36	609	69	81	120	61	98	33	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	731	54	40	669	76	89	132	67	108	36	98
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	2142	157	51	1859	209	77	312	158	134	130	354
Arrive On Green	0.14	0.89	0.89	0.03	0.40	0.40	0.04	0.27	0.27	0.08	0.31	0.31
Sat Flow, veh/h	1781	4827	354	1781	4630	520	1781	1136	577	1781	425	1158
Grp Volume(v), veh/h	191	514	271	40	490	255	89	0	199	108	0	134
Grp Sat Flow(s),veh/h/ln	1781	1702	1777	1781	1702	1746	1781	0	1713	1781	0	1583
Q Serve(g_s), s	7.5	2.6	2.6	2.4	10.7	10.9	4.6	0.0	10.1	6.3	0.0	6.8
Cycle Q Clear(g_c), s	7.5	2.6	2.6	2.4	10.7	10.9	4.6	0.0	10.1	6.3	0.0	6.8
Prop In Lane	1.00		0.20	1.00		0.30	1.00		0.34	1.00		0.73
Lane Grp Cap(c), veh/h	126	1510	789	51	1367	701	77	0	470	134	0	485
V/C Ratio(X)	1.52	0.34	0.34	0.79	0.36	0.36	1.15	0.00	0.42	0.81	0.00	0.28
Avail Cap(c_a), veh/h	126	1510	789	101	1367	701	77	0	608	134	0	612
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.5	3.5	3.5	51.2	22.2	22.2	50.7	0.0	31.6	48.2	0.0	27.9
Incr Delay (d2), s/veh	264.4	0.5	1.0	9.6	0.7	1.5	149.0	0.0	0.2	27.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	0.8	1.0	1.2	4.4	4.7	5.2	0.0	4.2	3.8	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	309.9	4.0	4.5	60.7	22.9	23.7	199.7	0.0	31.8	75.3	0.0	28.0
LnGrp LOS	F	A	A	E	C	C	F	A	C	E	A	C
Approach Vol, veh/h		976			785			288			242	
Approach Delay, s/veh		64.0			25.1			83.7			49.1	
Approach LOS		E			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	52.2	9.0	37.3	11.9	47.8	12.4	34.0
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	3.1	35.5	4.6	41.0	7.5	34.0	8.0	37.6
Max Q Clear Time (g_c+I1), s	14.4	4.6	6.6	8.8	9.5	12.9	8.3	12.1
Green Ext Time (p_c), s	0.0	9.6	0.0	0.6	0.0	7.7	0.0	0.8

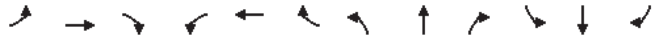
Intersection Summary	
HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	795	672	194	0	39
Future Volume (Veh/h)	0	795	672	194	0	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	893	755	218	0	44
Pedestrians		10	10		27	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.94				0.96	0.94
vC, conflicting volume	1000				1199	398
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	763				630	120
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	774				386	825

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	298	298	298	302	302	369	44
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	218	44
cSH	1700	1700	1700	1700	1700	1700	825
Volume to Capacity	0.18	0.18	0.18	0.18	0.18	0.22	0.05
Queue Length 95th (ft)	0	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.6
Approach LOS							A

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		30.8%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	437	141	93	353	60	323	1497	184	69	244	92
Future Volume (veh/h)	225	437	141	93	353	60	323	1497	184	69	244	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	242	470	152	100	380	65	347	1610	198	74	262	99
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	785	332	146	716	301	396	2000	873	59	1710	745
Arrive On Green	0.06	0.22	0.22	0.04	0.20	0.20	0.11	0.56	0.56	0.07	0.96	0.96
Sat Flow, veh/h	3456	3554	1502	3456	3554	1493	3456	3554	1552	1781	3554	1549
Grp Volume(v), veh/h	242	470	152	100	380	65	347	1610	198	74	262	99
Grp Sat Flow(s),veh/h/ln	1728	1777	1502	1728	1777	1493	1728	1777	1552	1781	1777	1549
Q Serve(g_s), s	8.6	16.6	12.3	4.0	13.4	5.1	13.8	50.7	9.0	4.6	0.5	0.4
Cycle Q Clear(g_c), s	8.6	16.6	12.3	4.0	13.4	5.1	13.8	50.7	9.0	4.6	0.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	785	332	146	716	301	396	2000	873	59	1710	745
V/C Ratio(X)	1.14	0.60	0.46	0.69	0.53	0.22	0.88	0.81	0.23	1.26	0.15	0.13
Avail Cap(c_a), veh/h	212	899	380	207	888	373	449	2000	873	59	1710	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.7	49.0	47.3	66.1	50.0	46.7	61.0	24.5	15.3	65.4	1.4	1.4
Incr Delay (d2), s/veh	104.6	1.2	1.4	2.1	0.6	0.4	14.9	3.6	0.6	204.5	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	7.5	4.8	1.8	6.1	1.9	6.9	21.8	3.3	5.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.3	50.1	48.7	68.3	50.6	47.0	75.9	28.0	15.9	269.9	1.6	1.7
LnGrp LOS	F	D	D	E	D	D	E	C	B	F	A	A
Approach Vol, veh/h		864			545			2155			435	
Approach Delay, s/veh		83.5			53.4			34.6			47.3	
Approach LOS		F			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	84.7	10.3	36.0	20.4	73.3	13.0	33.3
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	4.6	* 72	8.4	* 35	18.2	58.4	8.6	35.0
Max Q Clear Time (g_c+I1), s	6.6	52.7	6.0	18.6	15.8	2.5	10.6	15.4
Green Ext Time (p_c), s	0.0	16.1	0.0	4.7	0.2	3.3	0.0	2.7

Intersection Summary		
HCM 6th Ctrl Delay		49.1
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	421	517	11	16	267	66	21	192	88	19	49	211
Future Volume (veh/h)	421	517	11	16	267	66	21	192	88	19	49	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	434	533	11	16	275	68	22	198	91	20	51	218
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	540	1273	26	27	1107	647	39	352	166	361	379	309
Arrive On Green	0.16	0.36	0.36	0.02	0.22	0.22	0.16	0.16	0.16	0.20	0.20	0.20
Sat Flow, veh/h	3456	3555	73	1781	5106	1503	243	2203	1039	1781	1870	1526
Grp Volume(v), veh/h	434	266	278	16	275	68	169	0	142	20	51	218
Grp Sat Flow(s),veh/h/ln	1728	1777	1852	1781	1702	1503	1858	0	1627	1781	1870	1526
Q Serve(g_s), s	9.3	8.6	8.7	0.7	3.4	2.1	6.4	0.0	6.2	0.7	1.7	10.2
Cycle Q Clear(g_c), s	9.3	8.6	8.7	0.7	3.4	2.1	6.4	0.0	6.2	0.7	1.7	10.2
Prop In Lane	1.00		0.04	1.00		1.00	0.13		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	540	636	663	27	1107	647	297	0	260	361	379	309
V/C Ratio(X)	0.80	0.42	0.42	0.60	0.25	0.11	0.57	0.00	0.55	0.06	0.13	0.71
Avail Cap(c_a), veh/h	1004	1158	1207	93	2106	941	851	0	745	725	761	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	18.5	18.5	37.4	24.8	13.5	29.6	0.0	29.5	24.6	25.0	28.3
Incr Delay (d2), s/veh	1.1	0.9	0.9	7.6	0.1	0.1	0.6	0.0	0.7	0.1	0.2	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	3.5	3.7	0.3	1.3	1.0	2.8	0.0	2.4	0.3	0.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	19.4	19.4	45.0	24.9	13.6	30.3	0.0	30.2	24.7	25.2	32.5
LnGrp LOS	C	B	B	D	C	B	C	A	C	C	C	C
Approach Vol, veh/h		978			359			311			289	
Approach Delay, s/veh		25.1			23.6			30.2			30.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.6	33.4		20.4	16.3	22.6		17.1
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	4.6	* 50		31.1	22.2	31.5		35.0
Max Q Clear Time (g_c+I1), s	12.3	10.7		12.2	11.3	5.4		8.4
Green Ext Time (p_c), s	0.0	7.2		1.6	0.7	2.4		1.2

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	583	7	6	296	55	28	5	56	131	2	34
Future Volume (veh/h)	18	583	7	6	296	55	28	5	56	131	2	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.91	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	634	8	7	322	60	30	5	61	143	0	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1643	21	13	1316	235	37	6	75	492	0	411
Arrive On Green	0.02	0.32	0.32	0.01	0.30	0.30	0.08	0.08	0.08	0.14	0.00	0.14
Sat Flow, veh/h	1781	5192	65	1781	4326	774	487	81	991	3563	0	2976
Grp Volume(v), veh/h	20	415	227	7	251	131	96	0	0	143	0	37
Grp Sat Flow(s),veh/h/ln	1781	1702	1854	1781	1702	1696	1559	0	0	1781	0	1488
Q Serve(g_s), s	0.5	4.1	4.1	0.2	2.4	2.5	2.6	0.0	0.0	1.6	0.0	0.5
Cycle Q Clear(g_c), s	0.5	4.1	4.1	0.2	2.4	2.5	2.6	0.0	0.0	1.6	0.0	0.5
Prop In Lane	1.00		0.04	1.00		0.46	0.31		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	35	1077	587	13	1035	516	118	0	0	492	0	411
V/C Ratio(X)	0.57	0.39	0.39	0.53	0.24	0.25	0.82	0.00	0.00	0.29	0.00	0.09
Avail Cap(c_a), veh/h	270	2521	1373	188	2357	1174	398	0	0	2631	0	2198
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	11.6	11.6	21.5	11.4	11.4	19.8	0.0	0.0	16.8	0.0	16.3
Incr Delay (d2), s/veh	5.3	0.4	0.7	11.5	0.2	0.4	5.1	0.0	0.0	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	1.5	0.1	0.8	0.8	1.0	0.0	0.0	0.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	12.0	12.3	33.0	11.6	11.8	24.9	0.0	0.0	17.1	0.0	16.4
LnGrp LOS	C	B	B	C	B	B	C	A	A	B	A	B
Approach Vol, veh/h		662			389			96			180	
Approach Delay, s/veh		12.5			12.0			24.9			17.0	
Approach LOS		B			B			C			B	

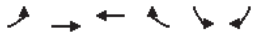
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	19.7		10.9	5.3	19.1		8.2
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	4.6	* 32		32.1	6.6	30.1		11.1
Max Q Clear Time (g_c+I1), s	2.5	6.1		3.6	2.5	4.5		4.6
Green Ext Time (p_c), s	0.0	7.3		0.5	0.0	3.9		0.1

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	174	634	317	1078	268	44
Future Volume (veh/h)	174	634	317	1078	268	44
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	667	334	1135	282	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	170	3866	2250	1013	423	194
Arrive On Green	0.05	0.76	0.66	0.66	0.12	0.12
Sat Flow, veh/h	3456	5274	3572	1533	3456	1585
Grp Volume(v), veh/h	183	667	334	1135	282	46
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1533	1728	1585
Q Serve(g_s), s	4.6	3.4	3.5	62.0	7.3	2.5
Cycle Q Clear(g_c), s	4.6	3.4	3.5	62.0	7.3	2.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	170	3866	2250	1013	423	194
V/C Ratio(X)	1.08	0.17	0.15	1.12	0.67	0.24
Avail Cap(c_a), veh/h	170	3866	2250	1013	1389	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	3.2	6.0	15.9	39.3	37.2
Incr Delay (d2), s/veh	91.9	0.1	0.1	67.3	3.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.9	1.1	36.7	3.2	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	136.5	3.2	6.0	83.2	42.3	38.2
LnGrp LOS	F	A	A	F	D	D
Approach Vol, veh/h		850	1469		328	
Approach Delay, s/veh		31.9	65.7		41.7	
Approach LOS		C	E		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		77.0		16.8	9.0	68.0
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		71.0		37.7	4.6	62.0
Max Q Clear Time (g_c+I1), s		5.4		9.3	6.6	64.0
Green Ext Time (p_c), s		12.5		2.2	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			51.9			
HCM 6th LOS			D			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	350	554	174	1487	0	0
Future Volume (veh/h)	350	554	174	1487	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	368	583	183	1565		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6512	4986	244	9957		
Arrive On Green	1.00	1.00	0.14	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	368	583	183	1565		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	5.1	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	5.1	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6512	4986	244	9957		
V/C Ratio(X)	0.06	0.12	0.75	0.16		
Avail Cap(c_a), veh/h	6512	4986	252	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.97	0.97	0.78	0.78		
Uniform Delay (d), s/veh	0.0	0.0	42.1	0.0		
Incr Delay (d2), s/veh	0.0	0.0	8.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.3	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	50.1	0.0		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	951			1748		
Approach Delay, s/veh	0.0			5.3		
Approach LOS	A			A		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	11.8	193.2				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	7.3	81.0				* 96
Max Q Clear Time (g_c+I1), s	7.1	2.0				2.0
Green Ext Time (p_c), s	0.0	3.3				11.4
Intersection Summary						
HCM 6th Ctrl Delay			3.4			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	348	0	0	668	910	733
Future Volume (vph)	348	0	0	668	910	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2684
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2684
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	359	0	0	689	938	756
RTOR Reduction (vph)	0	0	0	0	0	234
Lane Group Flow (vph)	359	0	0	689	938	522
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	45.7			55.8	31.1	36.5
Effective Green, g (s)	45.7			55.8	31.1	36.5
Actuated g/C Ratio	0.46			0.56	0.31	0.36
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1617			3575	1067	979
v/s Ratio Prot	c0.10			0.11	c0.27	c0.03
v/s Ratio Perm						0.17
v/c Ratio	0.22			0.19	0.88	0.53
Uniform Delay, d1	16.4			10.9	32.7	25.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.3			0.1	8.2	0.3
Delay (s)	16.8			11.1	40.8	25.3
Level of Service	B			B	D	C
Approach Delay (s)	16.8			11.1	33.9	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	28	173	55	24	22	149	1818	121	8	542	41
Future Volume (veh/h)	24	28	173	55	24	22	149	1818	121	8	542	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	128	121	59	26	24	160	1955	130	9	583	44
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	269	262	108	47	33	182	2397	157	15	2060	155
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.20	1.00	1.00	0.01	0.62	0.62
Sat Flow, veh/h	192	1559	1519	399	273	190	1781	3375	221	1781	3340	252
Grp Volume(v), veh/h	154	0	121	109	0	0	160	1016	1069	9	310	317
Grp Sat Flow(s),veh/h/ln	1751	0	1519	861	0	0	1781	1777	1819	1781	1777	1815
Q Serve(g_s), s	0.0	0.0	10.0	8.9	0.0	0.0	12.2	0.0	0.0	0.7	11.3	11.4
Cycle Q Clear(g_c), s	10.7	0.0	10.0	19.6	0.0	0.0	12.2	0.0	0.0	0.7	11.3	11.4
Prop In Lane	0.17		1.00	0.54		0.22	1.00		0.12	1.00		0.14
Lane Grp Cap(c), veh/h	332	0	262	188	0	0	182	1262	1292	15	1096	1119
V/C Ratio(X)	0.46	0.00	0.46	0.58	0.00	0.00	0.88	0.80	0.83	0.60	0.28	0.28
Avail Cap(c_a), veh/h	414	0	333	250	0	0	262	1262	1292	53	1096	1119
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.42	0.42	0.42	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	0.0	52.1	58.4	0.0	0.0	54.9	0.0	0.0	69.2	12.4	12.5
Incr Delay (d2), s/veh	0.4	0.0	0.5	1.0	0.0	0.0	7.6	2.4	2.7	13.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	3.9	3.8	0.0	0.0	5.2	0.8	1.0	0.4	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	0.0	52.5	59.4	0.0	0.0	62.5	2.4	2.7	82.5	13.1	13.1
LnGrp LOS	D	A	D	E	A	A	E	A	A	F	B	B
Approach Vol, veh/h		275			109			2245			636	
Approach Delay, s/veh		52.6			59.4			6.8			14.1	
Approach LOS		D			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.7	92.2		29.1	5.6	105.3		29.1				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	20.6	73.5		30.7	4.2	* 90		30.7				
Max Q Clear Time (g_c+I1), s	14.2	13.4		21.6	2.7	2.0		12.7				
Green Ext Time (p_c), s	0.1	5.2		0.2	0.0	61.2		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	306	142	247	236	260	71	1439	223	183	515	259
Future Volume (veh/h)	471	306	142	247	236	260	71	1439	223	183	515	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	535	348	161	281	268	295	81	1635	253	208	585	294
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1143	462	138	1143	496	71	1408	619	138	1408	623
Arrive On Green	0.04	0.32	0.32	0.04	0.32	0.32	0.04	0.40	0.40	0.04	0.40	0.40
Sat Flow, veh/h	3456	3554	1435	3456	3554	1541	1781	3554	1561	3456	3554	1573
Grp Volume(v), veh/h	535	348	161	281	268	295	81	1635	253	208	585	294
Grp Sat Flow(s),veh/h/ln	1728	1777	1435	1728	1777	1541	1781	1777	1561	1728	1777	1573
Q Serve(g_s), s	4.0	7.4	8.6	4.0	5.5	16.1	4.0	39.6	11.7	4.0	11.9	13.9
Cycle Q Clear(g_c), s	4.0	7.4	8.6	4.0	5.5	16.1	4.0	39.6	11.7	4.0	11.9	13.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1143	462	138	1143	496	71	1408	619	138	1408	623
V/C Ratio(X)	3.87	0.30	0.35	2.03	0.23	0.60	1.14	1.16	0.41	1.50	0.42	0.47
Avail Cap(c_a), veh/h	138	1411	570	138	1386	601	71	1408	619	138	1408	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	25.5	25.9	48.0	24.9	28.4	48.0	30.2	21.8	48.0	21.8	22.4
Incr Delay (d2), s/veh	1309.0	0.3	1.0	489.1	0.2	2.2	148.6	80.8	2.0	260.9	0.9	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.8	3.1	3.0	11.1	2.3	6.1	4.7	31.2	4.5	6.7	4.8	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1357.0	25.8	26.9	537.1	25.1	30.7	196.6	111.0	23.8	308.9	22.7	25.0
LnGrp LOS	F	C	C	F	C	C	F	F	C	F	C	C
Approach Vol, veh/h		1044			844			1969			1087	
Approach Delay, s/veh		708.1			197.5			103.3			78.1	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	45.3	8.4	37.9	8.4	45.3	8.4	37.9
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7
Max Green Setting (Gmax), s	4.0	32.8	4.0	* 40	4.0	* 33	4.0	39.0
Max Q Clear Time (g_c+I1), s	10.0	41.6	6.0	10.6	6.0	15.9	6.0	18.1
Green Ext Time (p_c), s	0.0	0.0	0.0	6.0	0.0	8.3	0.0	5.2

Intersection Summary		
HCM 6th Ctrl Delay		241.6
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	131	0	0	910	420	974	0	0	901	115
Future Vol, veh/h	0	0	131	0	0	910	420	974	0	0	901	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	142	0	0	989	457	1059	0	0	979	125

Major/Minor	Minor2					Major1			Major2			
Conflicting Flow All	-	-	490			979	0	-	-	-	0	
Stage 1	-	-	-			-	-	-	-	-	-	
Stage 2	-	-	-			-	-	-	-	-	-	
Critical Hdwy	-	-	6.94			4.14	-	-	-	-	-	
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-	
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-	
Pot Cap-1 Maneuver	0	0	524			701	-	0	0	-	-	
Stage 1	0	0	-			-	-	0	0	-	-	
Stage 2	0	0	-			-	-	0	0	-	-	
Platoon blocked, %							-			-	-	
Mov Cap-1 Maneuver	-	0	524			701	-	-	-	-	-	
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-	
Stage 1	-	0	-			-	-	-	-	-	-	
Stage 2	-	0	-			-	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	14.4	5.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	701	-	524	-	-
HCM Lane V/C Ratio	0.651	-	0.272	-	-
HCM Control Delay (s)	19.2	-	14.4	-	-
HCM Lane LOS	C	-	B	-	-
HCM 95th %tile Q(veh)	4.8	-	1.1	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	132	181	1213	721	442	590
Future Volume (veh/h)	132	181	1213	721	442	590
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	143	197	1318	0	480	641
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	270	240	1490		382	2460
Arrive On Green	0.15	0.15	0.42	0.00	0.21	0.69
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	143	197	1318	0	480	641
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.0	9.7	27.6	0.0	17.3	5.5
Cycle Q Clear(g_c), s	6.0	9.7	27.6	0.0	17.3	5.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	270	240	1490		382	2460
V/C Ratio(X)	0.53	0.82	0.88		1.26	0.26
Avail Cap(c_a), veh/h	707	629	1490		382	2460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	33.1	21.6	0.0	31.7	4.7
Incr Delay (d2), s/veh	0.6	2.6	8.0	0.0	134.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	3.8	11.6	0.0	21.1	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.1	35.8	29.6	0.0	166.5	4.9
LnGrp LOS	C	D	C		F	A
Approach Vol, veh/h	340		1318	A		1121
Approach Delay, s/veh	34.3		29.6			74.1
Approach LOS	C		C			E
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	41.3		17.3		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		* 56
Max Q Clear Time (g_c+I1), s	19.3	29.6		11.7		7.5
Green Ext Time (p_c), s	0.0	2.2		0.5		2.7

Intersection Summary	
HCM 6th Ctrl Delay	48.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	300	212	0	1876	278	169	601
Future Volume (veh/h)	300	212	0	1876	278	169	601
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	326	230		2039	302	184	653
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	360	320		2218	981	231	2549
Arrive On Green	0.20	0.20		0.62	0.62	0.07	0.72
Sat Flow, veh/h	1781	1585		3647	1572	3456	3647
Grp Volume(v), veh/h	326	230		2039	302	184	653
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1572	1728	1777
Q Serve(g_s), s	25.0	19.0		70.9	12.5	7.3	8.9
Cycle Q Clear(g_c), s	25.0	19.0		70.9	12.5	7.3	8.9
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	360	320		2218	981	231	2549
V/C Ratio(X)	0.91	0.72		0.92	0.31	0.80	0.26
Avail Cap(c_a), veh/h	397	353		2218	981	249	2549
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	52.2		23.2	12.2	64.4	6.9
Incr Delay (d2), s/veh	23.6	7.2		7.7	0.8	13.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.6	16.7		28.9	4.3	3.6	3.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	78.2	59.4		30.9	13.1	78.1	7.1
LnGrp LOS	E	E		C	B	E	A
Approach Vol, veh/h	556			2341			837
Approach Delay, s/veh	70.4			28.6			22.7
Approach LOS	E			C			C
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	13.8	93.1		33.2		106.8	
Change Period (Y+Rc), s	4.4	5.7		4.9		6.4	
Max Green Setting (Gmax), s	10.1	83.7		31.2		89.1	
Max Q Clear Time (g_c+I1), s	19.3	72.9		27.0		10.9	
Green Ext Time (p_c), s	0.0	9.7		1.2		2.8	

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

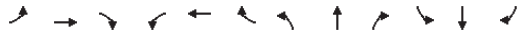
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	99	34	50	56	70	60	1340	337	71	437	38
Future Volume (veh/h)	34	99	34	50	56	70	60	1340	337	71	437	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	106	37	54	60	75	65	1441	362	76	470	41
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	335	110	91	230	191	106	1817	441	188	2204	192
Arrive On Green	0.03	0.13	0.13	0.03	0.13	0.13	0.03	0.64	0.64	0.05	0.67	0.67
Sat Flow, veh/h	1781	2580	848	3456	1777	1473	3456	2823	685	3456	3302	287
Grp Volume(v), veh/h	37	71	72	54	60	75	65	888	915	76	252	259
Grp Sat Flow(s),veh/h/ln	1781	1777	1651	1728	1777	1473	1728	1777	1731	1728	1777	1812
Q Serve(g_s), s	2.7	4.8	5.2	2.0	4.0	6.2	2.5	47.0	52.7	2.8	7.3	7.3
Cycle Q Clear(g_c), s	2.7	4.8	5.2	2.0	4.0	6.2	2.5	47.0	52.7	2.8	7.3	7.3
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.40	1.00		0.16
Lane Grp Cap(c), veh/h	47	231	214	91	230	191	106	1144	1114	188	1186	1210
V/C Ratio(X)	0.78	0.31	0.34	0.59	0.26	0.39	0.61	0.78	0.82	0.40	0.21	0.21
Avail Cap(c_a), veh/h	103	530	493	139	499	414	162	1144	1114	188	1186	1210
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	52.1	52.3	63.6	51.7	52.7	63.2	16.7	17.8	60.3	8.5	8.5
Incr Delay (d2), s/veh	9.9	0.3	0.3	2.3	0.2	0.5	2.1	5.2	6.8	6.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.2	2.2	0.9	1.8	2.3	1.1	18.5	20.6	1.4	2.7	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.7	52.3	52.6	65.8	52.0	53.2	65.3	21.9	24.6	66.6	8.9	8.9
LnGrp LOS	E	D	D	E	D	D	E	C	C	E	A	A
Approach Vol, veh/h		180			189			1868			587	
Approach Delay, s/veh		56.8			56.4			24.8			16.4	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	90.5	7.9	22.0	8.5	93.6	7.9	22.0
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	7.2	60.9	5.3	39.4	6.2	* 62	7.6	37.1
Max Q Clear Time (g_c+I1), s	4.8	54.7	4.0	7.2	4.5	9.3	4.7	8.2
Green Ext Time (p_c), s	0.0	5.3	0.0	0.5	0.0	4.2	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	871	16	8	590	29	37	0	21	47	0	29
Future Volume (veh/h)	63	871	16	8	590	29	37	0	21	47	0	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	947	17	9	641	32	40	0	23	51	0	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	1826	33	17	1609	80	233	12	53	352	0	166
Arrive On Green	0.05	0.51	0.51	0.01	0.47	0.47	0.10	0.00	0.10	0.10	0.00	0.10
Sat Flow, veh/h	1781	3572	64	1781	3444	172	757	118	503	1388	0	1585
Grp Volume(v), veh/h	68	471	493	9	330	343	63	0	0	51	0	32
Grp Sat Flow(s),veh/h/ln	1781	1777	1859	1781	1777	1839	1377	0	0	1388	0	1585
Q Serve(g_s), s	1.4	6.7	6.7	0.2	4.6	4.7	1.1	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear(g_c), s	1.4	6.7	6.7	0.2	4.6	4.7	1.8	0.0	0.0	1.0	0.0	0.7
Prop In Lane	1.00		0.03	1.00		0.09	0.63		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	96	909	951	17	830	859	298	0	0	352	0	166
V/C Ratio(X)	0.71	0.52	0.52	0.53	0.40	0.40	0.21	0.00	0.00	0.14	0.00	0.19
Avail Cap(c_a), veh/h	774	3024	3163	354	2610	2702	1400	0	0	1410	0	1374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.8	6.2	6.2	18.8	6.7	6.7	16.1	0.0	0.0	15.8	0.0	15.6
Incr Delay (d2), s/veh	3.6	0.6	0.6	9.2	0.5	0.5	0.1	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	1.7	0.1	1.2	1.3	0.4	0.0	0.0	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	6.8	6.8	28.0	7.2	7.2	16.2	0.0	0.0	15.8	0.0	15.8
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	B
Approach Vol, veh/h		1032			682			63			83	
Approach Delay, s/veh		7.7			7.4			16.2			15.8	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	4.8	24.5	8.9	6.5	22.8	8.9
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	7.6	65.0	33.1	16.6	* 56	33.1
Max Q Clear Time (g_c+I1), s	2.2	8.7	3.0	3.4	6.7	3.8
Green Ext Time (p_c), s	0.0	10.8	0.2	0.1	8.3	0.2

Intersection Summary	
HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	180	13	100	179	394	27	349	85	410	624	20
Future Volume (veh/h)	27	180	13	100	179	394	27	349	85	410	624	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.92	1.00		0.87	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	194	14	108	192	424	29	375	91	441	671	22
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	479	373	132	579	450	37	891	212	354	1754	57
Arrive On Green	0.02	0.26	0.26	0.07	0.31	0.31	0.02	0.32	0.32	0.20	0.50	0.50
Sat Flow, veh/h	1781	1870	1455	1781	1870	1454	1781	2761	656	1781	3502	115
Grp Volume(v), veh/h	29	194	14	108	192	424	29	238	228	441	340	353
Grp Sat Flow(s),veh/h/ln	1781	1870	1455	1781	1870	1454	1781	1777	1640	1781	1777	1840
Q Serve(g_s), s	2.1	11.4	1.0	7.9	10.4	37.5	2.1	13.8	14.4	26.2	15.6	15.6
Cycle Q Clear(g_c), s	2.1	11.4	1.0	7.9	10.4	37.5	2.1	13.8	14.4	26.2	15.6	15.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.40	1.00		0.06
Lane Grp Cap(c), veh/h	37	479	373	132	579	450	37	574	529	354	890	921
V/C Ratio(X)	0.79	0.41	0.04	0.82	0.33	0.94	0.79	0.42	0.43	1.25	0.38	0.38
Avail Cap(c_a), veh/h	89	483	376	305	707	550	211	574	529	354	890	921
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	40.8	36.9	60.2	35.1	44.4	64.4	34.9	35.1	52.9	20.3	20.4
Incr Delay (d2), s/veh	13.2	0.2	0.0	4.6	0.1	20.9	11.5	1.9	2.2	132.8	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.3	0.3	3.7	4.8	16.0	1.1	6.3	6.1	24.7	6.8	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.6	41.0	36.9	64.8	35.2	65.3	75.9	36.9	37.3	185.7	21.6	21.6
LnGrp LOS	E	D	D	E	D	E	E	D	D	F	C	C
Approach Vol, veh/h		237			724			495			1134	
Approach Delay, s/veh		45.2			57.3			39.4			85.4	
Approach LOS		D			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.6	48.3	14.2	38.9	7.1	71.8	7.1	46.0
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	26.2	29.7	22.6	* 34	15.6	40.3	6.6	49.9
Max Q Clear Time (g_c+I1), s	28.2	16.4	9.9	13.4	4.1	17.6	4.1	39.5
Green Ext Time (p_c), s	0.0	3.4	0.1	0.7	0.0	6.8	0.0	1.3

Intersection Summary				
HCM 6th Ctrl Delay	65.1			
HCM 6th LOS	E			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2101	820	0	1289	1052	0	0	0	651	0	651
Future Volume (vph)	0	2101	820	0	1289	1052	0	0	0	651	0	651
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1533				3433		2734
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1533				3433		2734
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2144	837	0	1315	1073	0	0	0	664	0	664
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	2144	837	0	1315	1073	0	0	0	664	0	656
Confl. Peds. (#/hr)	16		10	10		16	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free				Prot		custom
Protected Phases		2			6					4		5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		47.3	138.0		37.4	138.0				80.4		86.1
Effective Green, g (s)		47.3	138.0		37.4	138.0				80.4		86.1
Actuated g/C Ratio		0.34	1.00		0.27	1.00				0.58		0.62
Clearance Time (s)		5.7			5.7					4.6		4.2
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2196	1538		1378	1533				2000		1705
v/s Ratio Prot		c0.33			0.26					0.19		0.02
v/s Ratio Perm			0.54			c0.70						0.22
v/c Ratio		0.98	0.54		0.95	0.70				0.33		0.38
Uniform Delay, d1		44.8	0.0		49.5	0.0				14.9		12.8
Progression Factor		1.00	1.00		1.11	1.00				1.00		1.00
Incremental Delay, d2		14.4	1.4		9.2	1.3				0.4		0.1
Delay (s)		59.2	1.4		64.2	1.3				15.4		12.9
Level of Service		E	A		E	A				B		B
Approach Delay (s)		43.0			36.0			0.0			14.1	
Approach LOS		D			D			A			B	

Intersection Summary				
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	57.6%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: I-5 NB Off Ramp & La Jolla Village Drive

Ex + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1504	1248	0	2052	531	289	0	298	0	0	0
Future Volume (vph)	0	1504	1248	0	2052	531	289	0	298	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.98			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2737			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2737			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1551	1287	0	2115	547	298	0	307	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	9	0	0	0
Lane Group Flow (vph)	0	1551	1287	0	2115	547	298	0	298	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		44.3	138.0		60.3	138.0	67.4		79.2			
Effective Green, g (s)		44.3	138.0		60.3	138.0	67.4		79.2			
Actuated g/C Ratio		0.32	1.00		0.44	1.00	0.49		0.57			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		1632	1538		2221	1538	1676		1570			
v/s Ratio Prot		0.30			c0.42		0.09		0.02			
v/s Ratio Perm			c0.84			0.36			0.09			
v/c Ratio		0.95	0.84		0.95	0.36	0.18		0.19			
Uniform Delay, d1		45.8	0.0		37.5	0.0	19.8		14.1			
Progression Factor		0.58	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		8.4	3.2		10.8	0.6	0.2		0.3			
Delay (s)		35.0	3.2		48.2	0.6	20.0		14.3			
Level of Service		C	A		D	A	C		B			
Approach Delay (s)		20.6			38.5			17.1			0.0	
Approach LOS		C			D			B			A	

Intersection Summary				
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	56.5%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
4: Lebon Drive & La Jolla Village Drive

Ex + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1836	273	276	2104	4	473	7	125	8	1	6
Future Volume (veh/h)	13	1836	273	276	2104	4	473	7	125	8	1	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1933	287	291	2215	4	498	0	137	8	1	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	2760	1175	347	3311	6	763	0	649	20	2	15
Arrive On Green	0.01	0.54	0.54	0.03	0.21	0.21	0.21	0.00	0.21	0.01	0.01	0.01
Sat Flow, veh/h	1781	5106	1547	3456	5263	10	3563	0	3031	1592	199	1194
Grp Volume(v), veh/h	14	1933	287	291	1433	786	498	0	137	9	0	6
Grp Sat Flow(s),veh/h/ln	1781	1702	1547	1728	1702	1868	1781	0	1515	1791	0	1194
Q Serve(g_s), s	1.2	42.0	8.4	12.6	58.1	58.1	19.2	0.0	5.6	0.7	0.0	0.7
Cycle Q Clear(g_c), s	1.2	42.0	8.4	12.6	58.1	58.1	19.2	0.0	5.6	0.7	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	21	2760	1175	347	2141	1175	763	0	649	22	0	15
V/C Ratio(X)	0.67	0.70	0.24	0.84	0.67	0.67	0.65	0.00	0.21	0.41	0.00	0.41
Avail Cap(c_a), veh/h	447	2760	1175	728	2141	1175	1451	0	1235	49	0	33
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.46	0.46	0.46	0.09	0.09	0.09	0.88	0.00	0.88	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.8	25.5	5.5	71.3	45.1	45.1	53.9	0.0	48.5	73.5	0.0	73.5
Incr Delay (d2), s/veh	6.1	0.7	0.2	0.2	0.2	0.3	3.8	0.0	0.7	4.4	0.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	17.0	5.8	5.9	26.7	29.4	9.0	0.0	2.2	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.9	26.2	5.8	71.5	45.2	45.3	57.7	0.0	49.2	77.9	0.0	80.0
LnGrp LOS	E	C	A	E	D	D	E	A	D	E	A	F
Approach Vol, veh/h		2234			2510			635			15	
Approach Delay, s/veh		23.9			48.3			55.8			78.7	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	86.8		6.8	6.2	100.1		37.0				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	31.6	* 34		4.1	37.6	27.3		61.1				
Max Q Clear Time (g_c+I1), s	14.6	44.0		2.7	3.2	60.1		21.2				
Green Ext Time (p_c), s	0.5	0.0		0.0	0.0	0.0		9.8				

Intersection Summary		
HCM 6th Ctrl Delay	39.2	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	1493	114	353	1556	93	262	214	76	182	751	792
Future Volume (veh/h)	363	1493	114	353	1556	93	262	214	76	182	751	792
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.91	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	378	1555	119	368	1621	97	273	223	79	190	782	825
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	432	1936	148	405	1935	116	221	1217	494	213	1414	581
Arrive On Green	0.12	0.40	0.40	0.04	0.13	0.13	0.02	0.11	0.11	0.12	0.40	0.40
Sat Flow, veh/h	3456	4824	369	3456	4915	294	3456	3554	1443	1781	3554	1460
Grp Volume(v), veh/h	378	1097	577	368	1122	596	273	223	79	190	782	825
Grp Sat Flow(s),veh/h/ln	1728	1702	1789	1728	1702	1805	1728	1777	1443	1781	1777	1460
Q Serve(g_s), s	16.1	42.7	42.8	15.9	48.3	48.3	9.6	8.5	7.4	15.8	25.5	59.7
Cycle Q Clear(g_c), s	16.1	42.7	42.8	15.9	48.3	48.3	9.6	8.5	7.4	15.8	25.5	59.7
Prop In Lane	1.00		0.21	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	432	1366	718	405	1340	711	221	1217	494	213	1414	581
V/C Ratio(X)	0.88	0.80	0.80	0.91	0.84	0.84	1.23	0.18	0.16	0.89	0.55	1.42
Avail Cap(c_a), veh/h	705	1366	718	405	1340	711	221	1217	494	340	1414	581
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.5	39.7	39.7	71.3	60.6	60.6	73.4	47.5	47.0	65.1	34.8	45.2
Incr Delay (d2), s/veh	2.2	2.8	5.1	23.2	6.4	11.3	136.0	0.1	0.2	10.8	0.6	199.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	18.4	19.8	8.8	23.4	25.9	8.7	4.0	2.8	7.8	11.2	53.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.7	42.4	44.8	94.5	66.9	71.9	209.5	47.6	47.2	75.8	35.4	244.1
LnGrp LOS	E	D	D	F	E	E	F	D	D	E	D	F
Approach Vol, veh/h		2052			2086			575			1797	
Approach Delay, s/veh		47.6			73.2			124.4			135.5	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	66.1	14.0	65.4	23.1	65.0	22.4	57.0
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	17.6	* 44	9.6	* 60	30.6	30.6	28.6	40.3
Max Q Clear Time (g_c+I1), s	17.9	44.8	11.6	61.7	18.1	50.3	17.8	10.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.6	0.0	0.2	2.2

Intersection Summary	
HCM 6th Ctrl Delay	86.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1551	200	0	1806	53	0	0	103	0	0	196
Future Volume (Veh/h)	0	1551	200	0	1806	53	0	0	103	0	0	196
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1686	217	0	1963	58	0	0	112	0	0	213
Pedestrians		10			10			10			18	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.79			0.71			0.81	0.81	0.71	0.81	0.81	0.79
vC, conflicting volume	2039			1913			2682	3844	690	2694	3923	711
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1383			851			521	1948	0	536	2046	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	85	100	100	75
cM capacity (veh/h)	382			551			257	51	756	284	44	836

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	674	674	554	785	785	451	112	213
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	217	0	0	58	112	213
cSH	1700	1700	1700	1700	1700	1700	756	836
Volume to Capacity	0.40	0.40	0.33	0.46	0.46	0.27	0.15	0.25
Queue Length 95th (ft)	0	0	0	0	0	0	13	25
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.6	10.8
Lane LOS							B	B
Approach Delay (s)	0.0			0.0			10.6	10.8
Approach LOS							B	B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

Ex + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	1183	306	389	1261	145	251	308	227	494	981	338
Future Volume (veh/h)	165	1183	306	389	1261	145	251	308	227	494	981	338
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	1259	326	414	1341	154	267	328	241	526	1044	360
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1769	523	464	2130	970	315	618	255	378	1048	444
Arrive On Green	0.13	0.69	0.69	0.09	0.28	0.28	0.03	0.06	0.06	0.21	0.29	0.29
Sat Flow, veh/h	3456	5106	1511	3456	5106	1520	3456	3554	1465	1781	3554	1506
Grp Volume(v), veh/h	176	1259	326	414	1341	154	267	328	241	526	1044	360
Grp Sat Flow(s),veh/h/ln	1728	1702	1511	1728	1702	1520	1728	1777	1465	1781	1777	1506
Q Serve(g_s), s	7.4	22.4	17.5	17.8	34.4	7.5	11.5	13.5	24.6	31.8	44.0	33.2
Cycle Q Clear(g_c), s	7.4	22.4	17.5	17.8	34.4	7.5	11.5	13.5	24.6	31.8	44.0	33.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	1769	523	464	2130	970	315	618	255	378	1048	444
V/C Ratio(X)	0.80	0.71	0.62	0.89	0.63	0.16	0.85	0.53	0.95	1.39	1.00	0.81
Avail Cap(c_a), veh/h	290	1769	523	544	2130	970	359	618	255	378	1048	444
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.49	0.49	0.49	0.82	0.82	0.82	0.93	0.93	0.93
Uniform Delay (d), s/veh	64.6	18.5	17.7	67.2	43.9	14.5	71.7	64.7	70.0	59.1	52.8	49.0
Incr Delay (d2), s/veh	8.4	2.5	5.5	7.6	0.7	0.2	11.8	0.8	36.9	191.3	25.8	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	6.2	5.0	8.6	15.4	2.8	5.9	6.6	12.4	34.4	23.3	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.0	21.0	23.2	74.8	44.6	14.6	83.6	65.6	106.9	250.4	78.6	59.6
LnGrp LOS	E	C	C	E	D	B	F	E	F	F	E	E
Approach Vol, veh/h		1761			1909			836			1930	
Approach Delay, s/veh		26.6			48.7			83.2			121.9	
Approach LOS		C			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.5	57.5	18.1	49.9	13.9	68.1	36.2	31.8
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	23.6	* 49	15.6	* 43	12.6	59.5	31.8	26.1
Max Q Clear Time (g_c+I1), s	19.8	24.4	13.5	46.0	9.4	36.4	33.8	26.6
Green Ext Time (p_c), s	0.4	20.2	0.1	0.0	0.1	18.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

Ex + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1644	194	252	1534	87	156	23	237	320	76	220
Future Volume (veh/h)	66	1644	194	252	1534	87	156	23	237	320	76	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.91	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	1981	234	304	1848	105	208	0	286	248	286	265
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	2011	608	267	2088	118	778	0	629	322	338	275
Arrive On Green	0.10	0.79	0.79	0.15	0.85	0.85	0.22	0.00	0.22	0.18	0.18	0.18
Sat Flow, veh/h	1781	5106	1545	3456	4935	280	3563	0	2882	1781	1870	1521
Grp Volume(v), veh/h	80	1981	234	304	1273	680	208	0	286	248	286	265
Grp Sat Flow(s),veh/h/ln	1781	1702	1545	1728	1702	1811	1781	0	1441	1781	1870	1521
Q Serve(g_s), s	6.7	55.2	6.9	11.6	34.3	34.8	7.3	0.0	12.9	19.9	22.2	25.9
Cycle Q Clear(g_c), s	6.7	55.2	6.9	11.6	34.3	34.8	7.3	0.0	12.9	19.9	22.2	25.9
Prop In Lane	1.00		1.00	1.00		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	2011	608	267	1440	766	778	0	629	322	338	275
V/C Ratio(X)	0.94	0.99	0.38	1.14	0.88	0.89	0.27	0.00	0.45	0.77	0.85	0.96
Avail Cap(c_a), veh/h	86	2011	608	267	1440	766	974	0	788	322	338	275
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.35	0.35	0.35	0.63	0.63	0.63	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	15.5	10.4	63.4	9.3	9.3	48.7	0.0	50.9	58.5	59.4	61.0
Incr Delay (d2), s/veh	39.8	8.9	0.6	86.9	5.4	9.8	0.1	0.0	0.2	15.1	21.3	45.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	10.7	2.0	7.9	5.1	6.3	3.3	0.0	4.7	10.3	12.5	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.4	24.5	11.0	150.3	14.7	19.1	48.7	0.0	51.1	73.6	80.7	106.5
LnGrp LOS	F	C	B	F	B	B	D	A	D	E	F	F
Approach Vol, veh/h		2295			2257			494			799	
Approach Delay, s/veh		26.0			34.3			50.1			87.1	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	64.4		32.0	11.6	68.8		37.6
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9
Max Green Setting (Gmax), s	11.6	50.8		27.1	7.2	55.2		41.0
Max Q Clear Time (g_c+I1), s	13.5	57.2		27.9	8.7	36.8		14.9
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	17.2		1.1

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

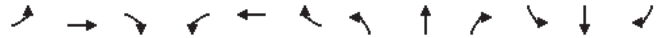
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	2044	73	297	1630	262	170	138	412	755	341	72
Future Volume (veh/h)	84	2044	73	297	1630	262	170	138	412	755	341	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	2405	86	349	1918	308	200	162	485	888	401	85
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	2092	633	256	2306	1208	247	769	788	574	1105	479
Arrive On Green	0.07	0.82	0.82	0.07	0.45	0.45	0.07	0.22	0.22	0.17	0.31	0.31
Sat Flow, veh/h	3456	5106	1544	3456	5106	2675	3456	3554	2690	3456	3554	1540
Grp Volume(v), veh/h	99	2405	86	349	1918	308	200	162	485	888	401	85
Grp Sat Flow(s),veh/h/ln	1728	1702	1544	1728	1702	1338	1728	1777	1345	1728	1777	1540
Q Serve(g_s), s	4.2	61.5	1.7	11.1	49.5	10.7	8.6	5.6	23.4	24.9	13.1	6.0
Cycle Q Clear(g_c), s	4.2	61.5	1.7	11.1	49.5	10.7	8.6	5.6	23.4	24.9	13.1	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	2092	633	256	2306	1208	247	769	788	574	1105	479
V/C Ratio(X)	0.81	1.15	0.14	1.36	0.83	0.25	0.81	0.21	0.62	1.55	0.36	0.18
Avail Cap(c_a), veh/h	122	2092	633	256	2306	1208	359	877	870	574	1105	479
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.34	0.34	0.34	0.73	0.73	0.73	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	13.5	8.2	69.4	36.1	25.5	68.6	48.3	46.1	62.5	40.1	37.7
Incr Delay (d2), s/veh	12.2	69.5	0.2	181.5	2.7	0.4	4.8	0.3	1.8	255.2	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	20.2	0.6	11.4	21.0	3.5	4.0	2.6	8.1	31.3	5.9	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.4	83.1	8.3	251.0	38.8	25.9	73.4	48.5	47.9	317.7	40.5	38.0
LnGrp LOS	F	F	A	F	D	C	E	D	D	F	D	D
Approach Vol, veh/h		2590			2575			847			1374	
Approach Delay, s/veh		80.5			66.0			54.0			219.5	
Approach LOS		F			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	67.0	15.1	51.9	9.7	73.3	29.3	37.7
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	11.1	57.2	15.6	46.0	5.3	* 64	24.9	* 37
Max Q Clear Time (g_c+I1), s	13.1	63.5	10.6	15.1	6.2	51.5	26.9	25.4
Green Ext Time (p_c), s	0.0	0.0	0.2	5.4	0.0	11.3	0.0	4.6

Intersection Summary		
HCM 6th Ctrl Delay	98.3	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2119	1092	0	1713	847	0	0	0	210	0	476
Future Volume (vph)	0	2119	1092	0	1713	847	0	0	0	210	0	476
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1537				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1537				3433		2787
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	2436	1255	0	1969	974	0	0	0	241	0	547
RTOR Reduction (vph)	0	0	0	0	0	161	0	0	0	0	0	25
Lane Group Flow (vph)	0	2436	1255	0	1969	813	0	0	0	241	0	522
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov				Prot		custom
Protected Phases		2			6	4				4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		94.7	138.0		85.0	115.2				30.2		40.8
Effective Green, g (s)		94.7	138.0		85.0	115.2				30.2		40.8
Actuated g/C Ratio		0.69	1.00		0.62	0.83				0.22		0.30
Clearance Time (s)		7.5			7.5	5.6				5.6		
Vehicle Extension (s)		2.0			2.0	2.0				2.0		
Lane Grp Cap (vph)		3489	2707		3132	1283				751		823
v/s Ratio Prot		c0.48			0.39	0.14				0.07		c0.19
v/s Ratio Perm			0.46			0.39						
v/c Ratio		0.70	0.46		0.63	0.63				0.32		0.63
Uniform Delay, d1		13.0	0.0		16.6	4.0				45.3		42.1
Progression Factor		1.00	1.00		0.21	113.82				1.00		1.00
Incremental Delay, d2		1.2	0.6		0.6	0.5				0.1		1.2
Delay (s)		14.2	0.6		4.2	455.7				45.4		43.3
Level of Service		B	A		A	F				D		D
Approach Delay (s)		9.6			153.6			0.0			43.9	
Approach LOS		A			F			A			D	

Intersection Summary					
HCM 2000 Control Delay	70.3	HCM 2000 Level of Service		E	
HCM 2000 Volume to Capacity ratio	0.73				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		17.8	
Intersection Capacity Utilization	65.3%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1055	1274	0	2067	762	494	0	217	0	0	0
Future Volume (vph)	0	1055	1274	0	2067	762	494	0	217	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1563		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1563		6408	1538	3433		2787			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	1199	1448	0	2349	866	561	0	247	0	0	0
RTOR Reduction (vph)	0	0	180	0	0	0	0	0	18	0	0	0
Lane Group Flow (vph)	0	1199	1268	0	2349	866	561	0	229	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		50.0	115.2		59.7	138.0	65.2		75.8			
Effective Green, g (s)		50.0	115.2		59.7	138.0	65.2		70.2			
Actuated g/C Ratio		0.36	0.83		0.43	1.00	0.47		0.51			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		1842	1304		2772	1538	1621		1417			
v/s Ratio Prot		0.24	c0.46		c0.37		0.16		0.08			
v/s Ratio Perm			0.35			0.56						
v/c Ratio		0.65	0.97		0.85	0.56	0.35		0.16			
Uniform Delay, d1		36.7	10.0		35.1	0.0	23.0		18.1			
Progression Factor		1.04	12.69		1.00	1.00	1.00		1.00			
Incremental Delay, d2		1.4	15.4		3.4	1.5	0.0		0.0			
Delay (s)		39.6	142.2		38.5	1.5	23.0		18.2			
Level of Service		D	F		D	A	C		B			
Approach Delay (s)		95.7			28.5			21.5			0.0	
Approach LOS		F			C			C			A	

Intersection Summary				
HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	84.6%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	23	69	15	9	165
Future Volume (Veh/h)	18	23	69	15	9	165
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	21	27	81	18	11	194
Pedestrians	11		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	330	70			110	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	330	70			110	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	97			99	
cM capacity (veh/h)	622	961			1464	

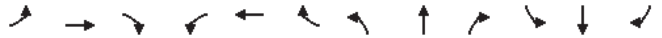
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	21	27	54	45	205
Volume Left	21	0	0	0	11
Volume Right	0	27	0	18	0
cSH	622	961	1700	1700	1464
Volume to Capacity	0.03	0.03	0.03	0.03	0.01
Queue Length 95th (ft)	3	2	0	0	1
Control Delay (s)	11.0	8.9	0.0	0.0	0.5
Lane LOS	B	A			A
Approach Delay (s)	9.8		0.0		0.5
Approach LOS	A				

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	28.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	228	70	131	164	76	173
Future Volume (Veh/h)	228	70	131	164	76	173
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	243	74	139	174	81	184
Pedestrians	16		10			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	506	182			329	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	506	182			329	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	46	91			93	
cM capacity (veh/h)	453	811			1211	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	317	93	220	142	123
Volume Left	243	0	0	81	0
Volume Right	74	0	174	0	0
cSH	505	1700	1700	1211	1700
Volume to Capacity	0.63	0.05	0.13	0.07	0.07
Queue Length 95th (ft)	107	0	0	5	0
Control Delay (s)	23.4	0.0	0.0	4.9	0.0
Lane LOS	C			A	
Approach Delay (s)	23.4	0.0		2.6	
Approach LOS	C				

Intersection Summary				
Average Delay		9.1		
Intersection Capacity Utilization		45.4%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	72	162	249	66	169	143	354	215	300	1055	321
Future Volume (veh/h)	262	72	162	249	66	169	143	354	215	300	1055	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.73	1.00		0.86	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	276	76	171	262	151	124	151	373	226	316	1111	338
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	43	97	823	432	316	174	804	477	257	1143	342
Arrive On Green	0.11	0.11	0.11	0.23	0.23	0.23	0.07	0.26	0.26	0.14	0.43	0.43
Sat Flow, veh/h	3456	402	904	3563	1870	1370	1781	2099	1246	1781	2661	797
Grp Volume(v), veh/h	276	0	247	262	151	124	151	315	284	316	736	713
Grp Sat Flow(s),veh/h/ln	1728	0	1306	1781	1870	1370	1781	1777	1569	1781	1777	1681
Q Serve(g_s), s	11.6	0.0	16.1	9.2	10.1	11.5	12.6	22.4	23.0	21.6	60.5	63.1
Cycle Q Clear(g_c), s	11.6	0.0	16.1	9.2	10.1	11.5	12.6	22.4	23.0	21.6	60.5	63.1
Prop In Lane	1.00		0.69	1.00		1.00	1.00		0.79	1.00		0.47
Lane Grp Cap(c), veh/h	371	0	140	823	432	316	174	681	601	257	763	722
V/C Ratio(X)	0.74	0.00	1.76	0.32	0.35	0.39	0.87	0.46	0.47	1.23	0.96	0.99
Avail Cap(c_a), veh/h	371	0	140	929	488	357	197	681	601	257	763	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.34	0.34	0.34
Uniform Delay (d), s/veh	65.0	0.0	67.0	47.9	48.3	48.8	69.2	42.7	43.0	64.2	41.6	42.4
Incr Delay (d2), s/veh	7.0	0.0	370.2	0.1	0.2	0.3	27.1	2.3	2.7	115.8	12.2	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	19.8	4.1	4.8	4.0	7.2	10.8	9.8	18.1	28.8	29.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	0.0	437.1	48.0	48.4	49.1	96.2	45.0	45.6	180.0	53.8	59.2
LnGrp LOS	E	A	F	D	D	D	F	D	D	F	D	E
Approach Vol, veh/h		523			537			750			1765	
Approach Delay, s/veh		244.4			48.3			55.5			78.6	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.0	63.5		21.0	19.0	70.4		39.5				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	21.6	53.0		16.1	16.6	* 58		39.1				
Max Q Clear Time (g_c+I1), s	23.6	25.0		18.1	14.6	65.1		13.5				
Green Ext Time (p_c), s	0.0	5.4		0.0	0.0	0.0		1.3				

Intersection Summary			
HCM 6th Ctrl Delay		93.5	
HCM 6th LOS		F	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	205	0	712	1384	82
Future Volume (Veh/h)	0	205	0	712	1384	82
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	211	0	734	1427	85
Pedestrians	33			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	3			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.92					
vC, conflicting volume	1880	561	1545			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1778	561	1545			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	54	100			
cM capacity (veh/h)	65	454	414			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	211	367	367	571	571	370
Volume Left	0	0	0	0	0	0
Volume Right	211	0	0	0	0	85
cSH	454	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.22	0.22	0.34	0.34	0.22
Queue Length 95th (ft)	60	0	0	0	0	0
Control Delay (s)	19.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	19.6	0.0		0.0		
Approach LOS	C					

Intersection Summary				
Average Delay		1.7		
Intersection Capacity Utilization		49.1%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	686	318	682	1154	0	0
Future Volume (veh/h)	686	318	682	1154	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.90	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	738	342	733	1241		
Peak Hour Factor	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1776	822	801	3756		
Arrive On Green	0.78	0.78	0.46	1.00		
Sat Flow, veh/h	2361	1049	3456	3647		
Grp Volume(v), veh/h	578	502	733	1241		
Grp Sat Flow(s),veh/h/ln	1777	1540	1728	1777		
Q Serve(g_s), s	10.5	10.5	19.8	0.0		
Cycle Q Clear(g_c), s	10.5	10.5	19.8	0.0		
Prop In Lane		0.68	1.00			
Lane Grp Cap(c), veh/h	1392	1206	801	3756		
V/C Ratio(X)	0.42	0.42	0.91	0.33		
Avail Cap(c_a), veh/h	1392	1206	1306	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.87	0.87		
Uniform Delay (d), s/veh	3.5	3.5	25.9	0.0		
Incr Delay (d2), s/veh	0.9	1.1	3.7	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.0	2.7	6.2	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.4	4.5	29.6	0.2		
LnGrp LOS	A	A	C	A		
Approach Vol, veh/h	1080			1974		
Approach Delay, s/veh	4.5			11.1		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	27.4	83.1				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 38	53.5				* 96
Max Q Clear Time (g_c+I1), s	21.8	12.5				2.0
Green Ext Time (p_c), s	1.4	23.8				8.0

Intersection Summary		
HCM 6th Ctrl Delay	8.8	
HCM 6th LOS	A	

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

Ex + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	765	0	0	1071	9	281	33	304	0	0	295
Future Volume (vph)	0	765	0	0	1071	9	281	33	304	0	0	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.92			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.96	1.00			1.00
Satd. Flow (prot)		3539			6393		1681	1703	1455			1611
Flt Permitted		1.00			1.00		0.95	0.96	1.00			1.00
Satd. Flow (perm)		3539			6393		1681	1703	1455			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	850	0	0	1190	10	312	37	338	0	0	328
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	93	0	0	114
Lane Group Flow (vph)	0	850	0	0	1199	0	175	174	245	0	0	214
Confl. Peds. (#/hr)	35		85	85		35	51		57	57		51
Confl. Bikes (#/hr)			53			13			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		69.9			49.0		21.1	21.1	21.1			16.4
Effective Green, g (s)		69.9			49.0		21.1	21.1	21.1			16.4
Actuated g/C Ratio		0.70			0.49		0.21	0.21	0.21			0.16
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2473			3132		354	359	307			264
v/s Ratio Prot		0.24			c0.19		0.10	0.10				c0.13
v/s Ratio Perm									c0.17			
v/c Ratio		0.34			0.38		0.49	0.48	0.80			0.81
Uniform Delay, d1		6.0			16.0		34.8	34.7	37.4			40.3
Progression Factor		0.17			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.3			0.4		0.4	0.4	12.6			16.2
Delay (s)		1.4			16.4		35.1	35.0	50.0			56.5
Level of Service		A			B		D	D	D			E
Approach Delay (s)		1.4			16.4			42.4			56.5	
Approach LOS		A			B			D			E	

Intersection Summary				
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	70.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

Ex + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	765	165	143	1042	139	160	243	106	172	330	75
Future Volume (veh/h)	120	765	165	143	1042	139	160	243	106	172	330	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.83	1.00		0.86	1.00		0.86	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	823	177	154	1120	149	172	261	114	185	355	81
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1919	406	178	2325	309	219	832	320	233	847	407
Arrive On Green	0.05	0.47	0.47	0.07	0.35	0.35	0.06	0.23	0.23	0.02	0.08	0.08
Sat Flow, veh/h	3456	4059	859	1781	4458	592	3456	3554	1367	3456	3554	1370
Grp Volume(v), veh/h	129	688	312	154	855	414	172	261	114	185	355	81
Grp Sat Flow(s),veh/h/ln	1728	1702	1514	1781	1702	1646	1728	1777	1367	1728	1777	1370
Q Serve(g_s), s	5.5	20.0	20.5	12.8	29.5	29.5	7.4	9.1	10.5	8.0	14.3	7.8
Cycle Q Clear(g_c), s	5.5	20.0	20.5	12.8	29.5	29.5	7.4	9.1	10.5	8.0	14.3	7.8
Prop In Lane	1.00		0.57	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	1609	716	178	1776	858	219	832	320	233	847	407
V/C Ratio(X)	0.73	0.43	0.44	0.87	0.48	0.48	0.79	0.31	0.36	0.79	0.42	0.20
Avail Cap(c_a), veh/h	429	1609	716	304	1776	858	336	974	375	336	974	456
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	70.2	26.1	26.3	69.0	32.9	32.9	69.3	47.5	48.0	72.3	59.2	49.2
Incr Delay (d2), s/veh	2.2	0.8	1.9	4.5	0.7	1.5	3.0	1.0	3.0	4.2	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	8.4	7.9	6.3	13.1	12.9	3.4	4.2	3.9	3.8	7.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.4	27.0	28.2	73.5	33.7	34.5	72.2	48.5	51.1	76.5	60.0	49.8
LnGrp LOS	E	C	C	E	C	C	E	D	D	E	E	D
Approach Vol, veh/h		1129			1423			547			621	
Approach Delay, s/veh		32.5			38.2			56.5			63.6	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	76.1	13.9	40.6	12.0	83.4	14.5	40.0
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.0	49.8	14.6	41.1	18.6	56.8	14.6	41.1
Max Q Clear Time (g_c+I1), s	14.8	22.5	9.4	16.3	7.5	31.5	10.0	12.5
Green Ext Time (p_c), s	0.1	12.4	0.1	5.7	0.1	15.1	0.1	6.0

Intersection Summary	
HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	673	102	256	783	146	70	130	168	349	485	285
Future Volume (veh/h)	102	673	102	256	783	146	70	130	168	349	485	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.79	1.00		0.82	1.00		0.73	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	111	732	111	278	851	159	76	141	183	379	527	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1327	197	329	1269	464	95	817	279	399	1460	536
Arrive On Green	0.01	0.10	0.10	0.03	0.12	0.12	0.05	0.24	0.24	0.22	0.41	0.41
Sat Flow, veh/h	3456	4319	639	3456	3554	1298	1781	3404	1164	1781	3554	1304
Grp Volume(v), veh/h	111	573	270	278	851	159	76	141	183	379	527	310
Grp Sat Flow(s),veh/h/ln	1728	1702	1554	1728	1777	1298	1781	1702	1164	1781	1777	1304
Q Serve(g_s), s	4.8	24.0	24.8	12.0	34.4	16.9	6.3	4.9	21.3	31.5	15.4	27.6
Cycle Q Clear(g_c), s	4.8	24.0	24.8	12.0	34.4	16.9	6.3	4.9	21.3	31.5	15.4	27.6
Prop In Lane	1.00		0.41	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	1046	478	329	1269	464	95	817	279	399	1460	536
V/C Ratio(X)	0.71	0.55	0.56	0.85	0.67	0.34	0.80	0.17	0.66	0.95	0.36	0.58
Avail Cap(c_a), veh/h	290	1046	478	452	1269	464	162	817	279	423	1460	536
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.82	0.82	0.82	1.00	1.00	1.00	0.67	0.67	0.67
Uniform Delay (d), s/veh	72.9	57.5	57.8	71.5	57.7	50.0	70.2	45.2	51.4	57.3	30.6	34.2
Incr Delay (d2), s/veh	2.0	1.8	4.3	6.6	2.3	1.7	5.7	0.3	8.9	22.9	0.4	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	11.3	11.0	5.9	17.0	6.1	3.1	2.2	6.9	16.7	6.8	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	59.3	62.1	78.1	60.0	51.6	75.9	45.5	60.3	80.2	31.0	36.9
LnGrp LOS	E	E	E	E	E	D	E	D	E	F	C	D
Approach Vol, veh/h		954			1288			400			1216	
Approach Delay, s/veh		61.9			62.9			58.0			47.8	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	41.5	18.7	51.8	12.4	67.1	11.2	59.3
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	3.6	* 36	19.6	39.1	13.6	57.7	12.6	* 47
Max Q Clear Time (g_c+I1), s	3.5	23.3	14.0	26.8	8.3	29.6	6.8	36.4
Green Ext Time (p_c), s	0.2	3.4	0.3	6.3	0.0	13.5	0.1	7.6

Intersection Summary	
HCM 6th Ctrl Delay	57.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	687	222	116	1022	114	61	58	45	109	125	183
Future Volume (veh/h)	215	687	222	116	1022	114	61	58	45	109	125	183
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.93	1.00		0.91	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	731	236	123	1087	121	65	62	48	116	133	195
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	1784	564	144	1933	215	82	220	171	138	174	254
Arrive On Green	0.05	0.16	0.16	0.16	0.84	0.84	0.05	0.24	0.24	0.08	0.27	0.27
Sat Flow, veh/h	1781	3720	1176	1781	4625	514	1781	934	723	1781	649	952
Grp Volume(v), veh/h	229	668	299	123	800	408	65	0	110	116	0	328
Grp Sat Flow(s),veh/h/ln	1781	1702	1491	1781	1702	1735	1781	0	1657	1781	0	1601
Q Serve(g_s), s	19.2	26.5	27.1	10.1	10.9	11.0	5.4	0.0	8.1	9.6	0.0	28.3
Cycle Q Clear(g_c), s	19.2	26.5	27.1	10.1	10.9	11.0	5.4	0.0	8.1	9.6	0.0	28.3
Prop In Lane	1.00		0.79	1.00		0.30	1.00		0.44	1.00		0.59
Lane Grp Cap(c), veh/h	254	1633	715	144	1422	725	82	0	391	138	0	428
V/C Ratio(X)	0.90	0.41	0.42	0.86	0.56	0.56	0.79	0.00	0.28	0.84	0.00	0.77
Avail Cap(c_a), veh/h	340	1633	715	268	1422	725	126	0	410	245	0	503
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.4	44.0	44.3	62.0	8.1	8.1	70.8	0.0	46.9	68.3	0.0	50.6
Incr Delay (d2), s/veh	15.0	0.6	1.4	5.5	1.6	3.2	8.3	0.0	0.1	5.1	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	12.3	11.2	4.5	2.9	3.3	2.7	0.0	3.4	4.6	0.0	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.4	44.6	45.7	67.5	9.7	11.2	79.1	0.0	47.0	73.4	0.0	55.4
LnGrp LOS	F	D	D	E	A	B	E	A	D	E	A	E
Approach Vol, veh/h		1196			1331			175			444	
Approach Delay, s/veh		52.7			15.5			58.9			60.1	
Approach LOS		D			B			E			E	

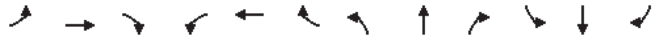
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	77.2	11.3	45.0	25.8	67.9	16.0	40.3
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	12.6	50.8	10.6	47.1	28.6	44.8	20.6	37.1
Max Q Clear Time (g_c+I1), s	12.1	29.1	7.4	30.3	21.2	13.0	11.6	10.1
Green Ext Time (p_c), s	0.1	10.5	0.0	1.3	0.2	16.3	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	921	1121	178	0	108
Future Volume (Veh/h)	0	921	1121	178	0	108
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	949	1156	184	0	111
Pedestrians		10	10		37	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.83				0.88	0.83
vC, conflicting volume	1377				1611	524
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	756				504	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	87
cM capacity (veh/h)	688				421	869

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	316	316	316	462	462	415	111
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	184	111
cSH	1700	1700	1700	1700	1700	1700	869
Volume to Capacity	0.19	0.19	0.19	0.27	0.27	0.24	0.13
Queue Length 95th (ft)	0	0	0	0	0	0	11
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.7
Approach LOS							A

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		42.0%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	405	185	363	731	82	288	427	96	178	1245	167
Future Volume (veh/h)	203	405	185	363	731	82	288	427	96	178	1245	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	413	189	370	746	84	294	436	98	182	1270	170
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	707	300	420	877	375	342	1695	736	126	1594	692
Arrive On Green	0.02	0.07	0.07	0.12	0.25	0.25	0.10	0.48	0.48	0.14	0.90	0.90
Sat Flow, veh/h	3456	3554	1507	3456	3554	1518	3456	3554	1544	1781	3554	1543
Grp Volume(v), veh/h	207	413	189	370	746	84	294	436	98	182	1270	170
Grp Sat Flow(s),veh/h/ln	1728	1777	1507	1728	1777	1518	1728	1777	1544	1781	1777	1543
Q Serve(g_s), s	8.9	16.9	18.3	15.8	30.0	6.6	12.6	11.0	5.3	10.6	19.3	2.2
Cycle Q Clear(g_c), s	8.9	16.9	18.3	15.8	30.0	6.6	12.6	11.0	5.3	10.6	19.3	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	707	300	420	877	375	342	1695	736	126	1594	692
V/C Ratio(X)	0.81	0.58	0.63	0.88	0.85	0.22	0.86	0.26	0.13	1.45	0.80	0.25
Avail Cap(c_a), veh/h	336	879	373	567	1111	475	452	1695	736	126	1594	692
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.1	64.1	64.7	64.8	53.9	45.1	66.6	23.4	21.9	64.4	5.3	4.4
Incr Delay (d2), s/veh	8.1	1.1	3.2	9.6	5.3	0.3	10.0	0.4	0.4	239.5	4.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	8.3	7.8	7.5	14.1	2.6	6.0	4.8	2.1	12.8	3.5	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.2	65.2	67.9	74.4	59.2	45.4	76.5	23.8	22.3	303.9	9.5	5.2
LnGrp LOS	F	E	E	E	E	D	E	C	C	F	A	A
Approach Vol, veh/h		809			1200			828			1622	
Approach Delay, s/veh		69.7			62.9			42.3			42.1	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	77.4	22.6	34.9	19.2	73.2	15.5	42.1
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	10.6	* 58	24.6	* 37	19.6	49.1	14.6	46.9
Max Q Clear Time (g_c+I1), s	12.6	13.0	17.8	20.3	14.6	21.3	10.9	32.0
Green Ext Time (p_c), s	0.0	5.9	0.5	4.4	0.3	16.2	0.1	5.0

Intersection Summary		
HCM 6th Ctrl Delay		52.7
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

Ex + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	363	371	18	90	671	46	10	28	26	45	205	520
Future Volume (veh/h)	363	371	18	90	671	46	10	28	26	45	205	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	374	382	19	93	692	47	10	29	27	46	211	536
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	435	1054	52	118	1265	944	40	114	99	645	677	559
Arrive On Green	0.13	0.31	0.31	0.07	0.25	0.25	0.08	0.08	0.08	0.36	0.36	0.36
Sat Flow, veh/h	3456	3429	170	1781	5106	1494	526	1510	1311	1781	1870	1544
Grp Volume(v), veh/h	374	197	204	93	692	47	35	0	31	46	211	536
Grp Sat Flow(s),veh/h/ln	1728	1777	1822	1781	1702	1494	1844	0	1503	1781	1870	1544
Q Serve(g_s), s	11.4	9.3	9.4	5.5	12.6	1.4	1.9	0.0	2.1	1.8	8.7	36.4
Cycle Q Clear(g_c), s	11.4	9.3	9.4	5.5	12.6	1.4	1.9	0.0	2.1	1.8	8.7	36.4
Prop In Lane	1.00		0.09	1.00		1.00	0.29		0.87	1.00		1.00
Lane Grp Cap(c), veh/h	435	546	560	118	1265	944	139	0	114	645	677	559
V/C Ratio(X)	0.86	0.36	0.36	0.79	0.55	0.05	0.25	0.00	0.27	0.07	0.31	0.96
Avail Cap(c_a), veh/h	471	546	560	326	1477	1006	602	0	491	652	684	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	28.9	28.9	49.3	35.1	8.4	46.7	0.0	46.7	22.4	24.6	33.4
Incr Delay (d2), s/veh	13.1	0.8	0.8	4.3	0.4	0.0	0.3	0.0	0.5	0.1	0.4	27.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	4.1	4.2	2.6	5.3	1.0	0.9	0.0	0.8	0.8	3.9	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	29.7	29.8	53.6	35.5	8.4	47.0	0.0	47.2	22.4	24.9	61.2
LnGrp LOS	E	C	C	D	D	A	D	A	D	C	C	E
Approach Vol, veh/h		775			832			66			793	
Approach Delay, s/veh		43.9			36.0			47.1			49.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	38.9		43.7	17.9	32.6		13.0
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	19.6	* 26		39.2	14.6	31.0		35.0
Max Q Clear Time (g_c+I1), s	7.5	11.4		38.4	13.4	14.6		4.1
Green Ext Time (p_c), s	0.1	3.5		0.4	0.1	5.0		0.2

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

Ex + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	359	26	55	741	172	10	3	16	61	7	33
Future Volume (veh/h)	51	359	26	55	741	172	10	3	16	61	7	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.93	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	366	27	56	756	176	10	3	16	67	0	34
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	2079	151	77	1770	406	15	4	23	342	0	285
Arrive On Green	0.04	0.43	0.43	0.04	0.43	0.43	0.03	0.03	0.03	0.10	0.00	0.10
Sat Flow, veh/h	1781	4836	350	1781	4096	941	552	166	883	3563	0	2966
Grp Volume(v), veh/h	52	256	137	56	626	306	29	0	0	67	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1782	1781	1702	1633	1600	0	0	1781	0	1483
Q Serve(g_s), s	1.4	2.3	2.4	1.5	6.4	6.5	0.9	0.0	0.0	0.9	0.0	0.5
Cycle Q Clear(g_c), s	1.4	2.3	2.4	1.5	6.4	6.5	0.9	0.0	0.0	0.9	0.0	0.5
Prop In Lane	1.00		0.20	1.00		0.58	0.34		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	73	1463	766	77	1471	705	42	0	0	342	0	285
V/C Ratio(X)	0.71	0.17	0.18	0.73	0.43	0.43	0.68	0.00	0.00	0.20	0.00	0.12
Avail Cap(c_a), veh/h	272	2341	1225	416	2608	1251	164	0	0	2085	0	1735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	8.7	8.8	23.5	9.8	9.9	24.0	0.0	0.0	20.7	0.0	20.6
Incr Delay (d2), s/veh	4.6	0.1	0.2	4.8	0.3	0.7	7.0	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.7	0.8	0.7	2.0	2.0	0.4	0.0	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	8.8	9.0	28.3	10.2	10.6	31.0	0.0	0.0	20.9	0.0	20.7
LnGrp LOS	C	A	A	C	B	B	C	A	A	C	A	C
Approach Vol, veh/h		445			988			29			101	
Approach Delay, s/veh		11.1			11.3			31.0			20.9	
Approach LOS		B			B			C			C	

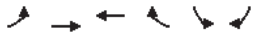
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	27.3		9.7	6.4	27.4		6.2
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	11.6	* 34		29.1	7.6	38.1		5.1
Max Q Clear Time (g_c+I1), s	3.5	4.4		2.9	3.4	8.5		2.9
Green Ext Time (p_c), s	0.0	4.4		0.3	0.0	11.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	81	372	751	272	703	233
Future Volume (veh/h)	81	372	751	272	703	233
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	376	759	275	710	235
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	159	2698	1534	549	1065	488
Arrive On Green	0.05	0.53	0.42	0.42	0.31	0.31
Sat Flow, veh/h	3456	5274	3831	1310	3456	1585
Grp Volume(v), veh/h	82	376	705	329	710	235
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1569	1728	1585
Q Serve(g_s), s	1.6	2.6	10.5	10.7	12.4	8.3
Cycle Q Clear(g_c), s	1.6	2.6	10.5	10.7	12.4	8.3
Prop In Lane	1.00			0.83	1.00	1.00
Lane Grp Cap(c), veh/h	159	2698	1425	657	1065	488
V/C Ratio(X)	0.52	0.14	0.49	0.50	0.67	0.48
Avail Cap(c_a), veh/h	200	3727	2070	954	1917	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	8.3	14.7	14.8	20.8	19.4
Incr Delay (d2), s/veh	1.0	0.1	0.7	1.5	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.8	3.8	3.7	4.8	7.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.2	8.4	15.4	16.3	22.0	20.6
LnGrp LOS	C	A	B	B	C	C
Approach Vol, veh/h		458	1034		945	
Approach Delay, s/veh		12.8	15.7		21.7	
Approach LOS		B	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		42.5		26.6	7.6	34.9
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		50.4		38.3	4.0	42.0
Max Q Clear Time (g_c+I1), s		4.6		14.4	3.6	12.7
Green Ext Time (p_c), s		6.0		6.9	0.0	16.0
Intersection Summary						
HCM 6th Ctrl Delay			17.5			
HCM 6th LOS			B			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	529	547	287	1097	0	0
Future Volume (veh/h)	529	547	287	1097	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	563	582	305	1167		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6381	4885	371	9957		
Arrive On Green	1.00	1.00	0.21	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	563	582	305	1167		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	8.4	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	8.4	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6381	4885	371	9957		
V/C Ratio(X)	0.09	0.12	0.82	0.12		
Avail Cap(c_a), veh/h	6381	4885	563	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.89	0.89	0.88	0.88		
Uniform Delay (d), s/veh	0.0	0.0	38.4	0.0		
Incr Delay (d2), s/veh	0.0	0.0	3.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.3	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.0	41.3	0.0		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	1145			1472		
Approach Delay, s/veh	0.0			8.6		
Approach LOS	A			A		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	15.4	189.6				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	10.6	72.0				* 96
Max Q Clear Time (g_c+I1), s	10.4	2.0				2.0
Green Ext Time (p_c), s	0.3	4.5				7.1
Intersection Summary						
HCM 6th Ctrl Delay			4.8			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	514	0	0	682	597	607
Future Volume (vph)	514	0	0	682	597	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2675
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2675
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	565	0	0	749	656	667
RTOR Reduction (vph)	0	0	0	0	0	140
Lane Group Flow (vph)	565	0	0	749	656	527
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	53.1			63.3	23.6	29.1
Effective Green, g (s)	53.1			63.3	23.6	29.1
Actuated g/C Ratio	0.53			0.63	0.24	0.29
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1879			4056	810	778
v/s Ratio Prot	c0.16			0.12	c0.19	c0.04
v/s Ratio Perm						0.16
v/c Ratio	0.30			0.18	0.81	0.68
Uniform Delay, d1	13.1			7.6	36.1	31.3
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.4			0.1	5.7	1.9
Delay (s)	13.5			7.7	41.8	33.2
Level of Service	B			A	D	C
Approach Delay (s)	13.5			7.7	37.4	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	25	208	245	38	15	179	755	29	16	1951	49
Future Volume (veh/h)	21	25	208	245	38	15	179	755	29	16	1951	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	0.99		0.96	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	255	253	39	15	185	778	30	16	2011	51
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	374	592	240	30	12	162	2389	92	23	2151	54
Arrive On Green	0.00	0.00	0.20	0.20	0.20	0.20	0.18	1.00	1.00	0.01	0.61	0.61
Sat Flow, veh/h	0	1870	2960	980	151	58	1781	3483	134	1781	3538	89
Grp Volume(v), veh/h	0	0	255	307	0	0	185	397	411	16	1005	1057
Grp Sat Flow(s),veh/h/ln	0	1870	1480	1190	0	0	1781	1777	1841	1781	1777	1850
Q Serve(g_s), s	0.0	0.0	11.3	30.0	0.0	0.0	13.6	0.0	0.0	1.3	76.5	78.4
Cycle Q Clear(g_c), s	0.0	0.0	11.3	30.0	0.0	0.0	13.6	0.0	0.0	1.3	76.5	78.4
Prop In Lane	0.00		1.00	0.82		0.05	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	0	374	592	282	0	0	162	1218	1262	23	1080	1125
V/C Ratio(X)	0.00	0.00	0.43	1.09	0.00	0.00	1.15	0.33	0.33	0.69	0.93	0.94
Avail Cap(c_a), veh/h	0	374	592	282	0	0	162	1218	1262	68	1080	1125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	52.5	62.3	0.0	0.0	61.4	0.0	0.0	73.7	26.5	26.9
Incr Delay (d2), s/veh	0.0	0.0	0.2	79.7	0.0	0.0	113.5	0.7	0.7	12.9	15.0	15.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.3	17.2	0.0	0.0	10.5	0.2	0.2	0.7	34.0	36.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	52.7	142.0	0.0	0.0	174.9	0.7	0.7	86.6	41.5	42.7
LnGrp LOS	A	A	D	F	A	A	F	A	A	F	D	D
Approach Vol, veh/h		255			307			993			2078	
Approach Delay, s/veh		52.7			142.0			33.1			42.5	
Approach LOS		D			F			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	97.1		34.9	6.3	108.8		34.9				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	13.6	91.2		30.0	5.7	* 99		30.0				
Max Q Clear Time (g_c+I1), s	15.6	80.4		32.0	3.3	2.0		13.3				
Green Ext Time (p_c), s	0.0	9.6		0.0	0.0	9.5		0.6				

Intersection Summary		
HCM 6th Ctrl Delay	49.0	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	279	118	314	334	117	189	535	250	411	1453	478
Future Volume (veh/h)	199	279	118	314	334	117	189	535	250	411	1453	478
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	297	126	334	355	124	201	569	266	437	1546	509
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	502	211	369	637	273	218	1403	621	843	1859	824
Arrive On Green	0.07	0.14	0.14	0.11	0.18	0.18	0.12	0.39	0.39	0.24	0.52	0.52
Sat Flow, veh/h	3456	3554	1496	3456	3554	1521	1781	3554	1573	3456	3554	1576
Grp Volume(v), veh/h	212	297	126	334	355	124	201	569	266	437	1546	509
Grp Sat Flow(s),veh/h/ln	1728	1777	1496	1728	1777	1521	1781	1777	1573	1728	1777	1576
Q Serve(g_s), s	11.5	14.9	12.0	18.2	17.3	8.8	21.2	21.9	23.4	20.8	69.8	43.2
Cycle Q Clear(g_c), s	11.5	14.9	12.0	18.2	17.3	8.8	21.2	21.9	23.4	20.8	69.8	43.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	502	211	369	637	273	218	1403	621	843	1859	824
V/C Ratio(X)	0.85	0.59	0.60	0.91	0.56	0.45	0.92	0.41	0.43	0.52	0.83	0.62
Avail Cap(c_a), veh/h	327	729	307	393	784	335	240	1403	621	843	1859	824
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	87.2	76.4	48.9	83.9	71.1	28.0	82.5	41.4	41.9	62.1	38.2	31.9
Incr Delay (d2), s/veh	12.3	2.4	5.6	22.3	1.5	2.3	34.4	0.9	2.2	0.3	4.5	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	7.0	4.9	9.3	8.1	3.5	11.8	9.8	9.7	9.1	30.8	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.5	78.8	54.6	106.2	72.6	30.3	116.8	42.3	44.0	62.4	42.7	35.4
LnGrp LOS	F	E	D	F	E	C	F	D	D	E	D	D
Approach Vol, veh/h		635			813			1036			2492	
Approach Delay, s/veh		80.9			79.9			57.2			44.7	
Approach LOS		F			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	80.7	26.0	31.9	27.7	104.5	18.1	39.7
Change Period (Y+Rc), s	5.1	* 5.7	5.7	* 5	4.4	5.1	4.4	5.7
Max Green Setting (Gmax), s	34.9	* 75	21.6	* 39	25.6	84.9	18.0	41.9
Max Q Clear Time (g_c+I1), s	22.8	25.4	20.2	16.9	23.2	71.8	13.5	19.3
Green Ext Time (p_c), s	0.7	10.1	0.1	4.4	0.1	12.2	0.2	4.9

Intersection Summary	
HCM 6th Ctrl Delay	57.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	51.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	422	0	0	366	331	463	0	0	1626	347
Future Vol, veh/h	0	0	422	0	0	366	331	463	0	0	1626	347
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	459	0	0	398	360	503	0	0	1767	377

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	-	-	884			1767	0	-	-	-	0
Stage 1	-	-	-			-	-	-	-	-	-
Stage 2	-	-	-			-	-	-	-	-	-
Critical Hdwy	-	-	6.94			4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 288			~ 349	-	0	0	-	-
Stage 1	0	0	-			-	-	0	0	-	-
Stage 2	0	0	-			-	-	0	0	-	-
Platoon blocked, %							-			-	-
Mov Cap-1 Maneuver	-	0	~ 288			~ 349	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-
Stage 1	-	0	-			-	-	-	-	-	-
Stage 2	-	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 314.4	38.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 349	-	288	-	-
HCM Lane V/C Ratio	1.031	-	1.593	-	-
HCM Control Delay (s)	91.8	-	$ 314.4	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	12.3	-	27.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	228	567	300	810	1238
Future Volume (veh/h)	352	228	567	300	810	1238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	248	616	0	880	1346
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	445	396	1212		384	2165
Arrive On Green	0.25	0.25	0.34	0.00	0.22	0.61
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	383	248	616	0	880	1346
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	18.4	12.4	12.4	0.0	19.3	21.3
Cycle Q Clear(g_c), s	18.4	12.4	12.4	0.0	19.3	21.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	445	396	1212		384	2165
V/C Ratio(X)	0.86	0.63	0.51		2.29	0.62
Avail Cap(c_a), veh/h	755	672	1212		384	2165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	29.8	23.5	0.0	35.1	11.0
Incr Delay (d2), s/veh	5.2	1.6	1.5	0.0	588.6	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	4.8	5.0	0.0	70.6	7.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.3	31.5	25.0	0.0	623.7	12.4
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	631		616	A		2226
Approach Delay, s/veh	35.0		25.0			254.0
Approach LOS	D		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.0	38.0		27.5		62.0
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 19	30.5		37.9		54.5
Max Q Clear Time (g_c+I1), s	21.3	14.4		20.4		23.3
Green Ext Time (p_c), s	0.0	3.4		2.0		11.4

Intersection Summary	
HCM 6th Ctrl Delay	173.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	85	22	0	932	46	41	2366
Future Volume (veh/h)	85	22	0	932	46	41	2366
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	89	23		971	48	43	2465
Peak Hour Factor	0.96	0.96		0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	112	100		2364	1047	547	3062
Arrive On Green	0.06	0.06		0.67	0.67	0.16	0.86
Sat Flow, veh/h	1781	1585		3647	1573	3456	3647
Grp Volume(v), veh/h	89	23		971	48	43	2465
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1573	1728	1777
Q Serve(g_s), s	7.4	2.1		18.9	1.6	1.6	46.9
Cycle Q Clear(g_c), s	7.4	2.1		18.9	1.6	1.6	46.9
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	112	100		2364	1047	547	3062
V/C Ratio(X)	0.79	0.23		0.41	0.05	0.08	0.80
Avail Cap(c_a), veh/h	356	317		2364	1047	547	3062
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.3	66.8		11.6	8.7	53.8	4.7
Incr Delay (d2), s/veh	4.7	0.4		0.5	0.1	0.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.9		7.1	0.5	0.7	9.9
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	74.1	67.3		12.1	8.7	54.1	7.0
LnGrp LOS	E	E		B	A	D	A
Approach Vol, veh/h	112			1019			2508
Approach Delay, s/veh	72.7			11.9			7.8
Approach LOS	E			B			A
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		135.7		14.3	30.2	105.5	
Change Period (Y+Rc), s		6.4		4.9	6.4	* 5.7	
Max Green Setting (Gmax), s		100.3		30.0	5.2	* 1E2	
Max Q Clear Time (g_c+I1), s		48.9		9.4	3.6	20.9	
Green Ext Time (p_c), s		40.7		0.1	0.0	13.9	

Intersection Summary	
HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

Ex + P PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	72	64	129	153	67	27	384	74	96	1312	70
Future Volume (veh/h)	20	72	64	129	153	67	27	384	74	96	1312	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	77	68	137	163	71	29	409	79	102	1396	74
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	175	133	183	317	131	65	1900	364	290	2421	128
Arrive On Green	0.02	0.09	0.09	0.05	0.13	0.13	0.02	0.64	0.64	0.08	0.71	0.71
Sat Flow, veh/h	1781	1859	1416	3456	2413	993	3456	2964	567	3456	3428	181
Grp Volume(v), veh/h	21	73	72	137	118	116	29	244	244	102	722	748
Grp Sat Flow(s),veh/h/ln	1781	1777	1498	1728	1777	1629	1728	1777	1755	1728	1777	1832
Q Serve(g_s), s	1.8	5.8	6.9	5.9	9.2	10.0	1.2	8.6	8.7	4.2	30.1	30.4
Cycle Q Clear(g_c), s	1.8	5.8	6.9	5.9	9.2	10.0	1.2	8.6	8.7	4.2	30.1	30.4
Prop In Lane	1.00		0.95	1.00		0.61	1.00		0.32	1.00		0.10
Lane Grp Cap(c), veh/h	28	167	141	183	234	214	65	1139	1125	290	1255	1294
V/C Ratio(X)	0.76	0.44	0.51	0.75	0.50	0.54	0.45	0.21	0.22	0.35	0.58	0.58
Avail Cap(c_a), veh/h	139	428	361	359	474	434	129	1139	1125	290	1255	1294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.6	64.2	64.7	70.0	60.6	60.9	72.8	11.2	11.2	64.8	10.9	10.9
Incr Delay (d2), s/veh	14.4	0.7	1.1	2.3	0.6	0.8	1.8	0.4	0.4	3.3	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.7	2.7	2.7	4.2	4.2	0.6	3.4	3.4	2.0	11.2	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.0	64.9	65.7	72.3	61.2	61.7	74.6	11.6	11.7	68.2	12.8	12.8
LnGrp LOS	F	E	E	E	E	E	E	B	B	E	B	B
Approach Vol, veh/h		166			371			517			1572	
Approach Delay, s/veh		68.2			65.5			15.2			16.4	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	101.6	12.4	19.0	7.2	111.4	6.7	24.6
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	12.6	66.5	15.6	36.1	5.6	* 74	11.7	40.0
Max Q Clear Time (g_c+I1), s	10.2	10.7	7.9	8.9	3.2	32.4	3.8	12.0
Green Ext Time (p_c), s	0.1	3.7	0.1	0.5	0.0	18.3	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

Ex + P PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	542	29	21	1157	77	21	5	7	65	0	190
Future Volume (veh/h)	202	542	29	21	1157	77	21	5	7	65	0	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	220	589	32	23	1258	84	23	5	8	71	0	207
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	2352	128	33	1903	127	83	21	14	265	0	251
Arrive On Green	0.14	0.69	0.69	0.02	0.56	0.56	0.16	0.16	0.16	0.16	0.00	0.16
Sat Flow, veh/h	1781	3428	186	1781	3381	225	169	133	86	1401	0	1585
Grp Volume(v), veh/h	220	305	316	23	660	682	36	0	0	71	0	207
Grp Sat Flow(s),veh/h/ln	1781	1777	1837	1781	1777	1830	387	0	0	1401	0	1585
Q Serve(g_s), s	12.6	6.8	6.8	1.3	26.9	27.1	1.2	0.0	0.0	0.0	0.0	13.2
Cycle Q Clear(g_c), s	12.6	6.8	6.8	1.3	26.9	27.1	14.4	0.0	0.0	5.4	0.0	13.2
Prop In Lane	1.00		0.10	1.00		0.12	0.64		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	253	1219	1260	33	1000	1030	118	0	0	265	0	251
V/C Ratio(X)	0.87	0.25	0.25	0.69	0.66	0.66	0.31	0.00	0.00	0.27	0.00	0.83
Avail Cap(c_a), veh/h	386	1219	1260	101	1000	1030	267	0	0	424	0	430
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.8	6.2	6.2	50.8	15.8	15.9	42.3	0.0	0.0	39.2	0.0	42.5
Incr Delay (d2), s/veh	8.7	0.5	0.5	9.2	3.4	3.3	0.5	0.0	0.0	0.2	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	2.5	2.5	0.7	11.2	11.6	0.9	0.0	0.0	1.6	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	6.7	6.7	60.0	19.3	19.2	42.8	0.0	0.0	39.4	0.0	45.1
LnGrp LOS	D	A	A	E	B	B	D	A	A	D	A	D
Approach Vol, veh/h		841			1365			36			278	
Approach Delay, s/veh		18.7			19.9			42.8			43.7	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	6.3	76.5	21.4	19.2	63.7	21.4
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	5.9	71.5	28.3	22.6	* 55	28.3
Max Q Clear Time (g_c+I1), s	3.3	8.8	15.2	14.6	29.1	16.4
Green Ext Time (p_c), s	0.0	5.9	0.8	0.2	16.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX I

EXISTING + PROJECT FREEWAY ANALYSIS CALCULATION SHEETS

HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6181	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1610
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7888	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2098
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2296
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2296
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.9
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.6		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5376	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1386
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6906	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1798
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	30.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5899	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1520
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7602	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.85	Flow Rate (V_p), pc/h/ln	2236
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	42.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10235	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2110
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.01
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5386	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1122
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.3
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9210	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1880
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4858	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1252
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2284
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9157	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1869
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4872	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1026
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2105
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.4
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4391	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2386
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – Ex + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4276	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2274
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	43.8
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7918	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2020
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.280
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6800	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	1889
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	16.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6928	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1786
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	30.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.240
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5923	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1702
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	14.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	7622	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1985
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.430
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6501	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.89	Flow Rate (V_p), pc/h/ln	1826
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	25.5		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6728	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1387
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.520
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10609	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	2358
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.16
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	30.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6066	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1251
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.330
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9551	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	2744
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.25
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	19.3		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6066	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1251
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.290
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9502	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2066
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.02
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	17.1		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4583	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2491
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.08
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – Ex + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2929	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1510
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.1
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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APPENDIX J

PLANNED LOCAL AND REGIONAL IMPROVEMENTS

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: REGENTS ROAD BRIDGE **PROJECT: NUC-18**

DEPARTMENT:
ENGINEERING & CAPITAL PROJECTS
CIP/WBS #: 530440 & 530441 / S-00729 & S-00730

COUNCIL DISTRICT: 1
COMMUNITY PLAN: NUC

DESCRIPTION:
THIS PROJECT PROVIDES FOR AN 870-FOOT BRIDGE SPANNING THE AT&SF RAILROAD AND A PORTION OF THE FLOOD PLAIN, WITH A FOUR-LANE MAJOR STREET WITH CLASS II BIKE LANES ON REGENTS ROAD FROM AT&SF RAILROAD BRIDGE TO 100 FEET NORTH OF LAHITTE COURT TO GOVERNOR DR. IN ADDITION, FROM NUC-12 THIS PROJECT ALSO INCLUDES THE CONSTRUCTION OF REGENTS ROAD, FROM 100 FEET NORTH OF LAHITTE COURT TO THE SOUTH ABUTMENT OF THE REGENTS ROAD BRIDGE OVER ROSE CANYON. AND FROM NUC-14, THE WIDENING OF REGENTS ROAD FROM 100 FEET NORTH OF LAHITTE COURT TO GOVERNOR DRIVE.

JUSTIFICATION:
THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

NOTE: AS PER COUNCIL DIRECTION R-301787 DATED AUGUST 21, 2006, THE SCOPE OF WORK FROM PROJECTS NUC-12 AND NUC-14 WERE COMBINED INTO THIS PROJECT IN FISCAL YEAR 2007.

FUNDING / SCHEDULE:
THIS PROJECT IS ON HOLD PENDING AN EIR. (COUNCIL RESOLUTION #R-302497 DATED 4/2/07.)

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012-16	FY 2017	FY 2018	FY 2019	FY 2020
FBA-NUC	$35,200,000	$2,194,898	$4,542,901	$0	$8,100,000	$8,100,000	$6,100,000	$6,162,201
TOTAL	**$35,200,000**	**$2,194,898**	**$4,542,901**	**$0**	**$8,100,000**	**$8,100,000**	**$6,100,000**	**$6,162,201**

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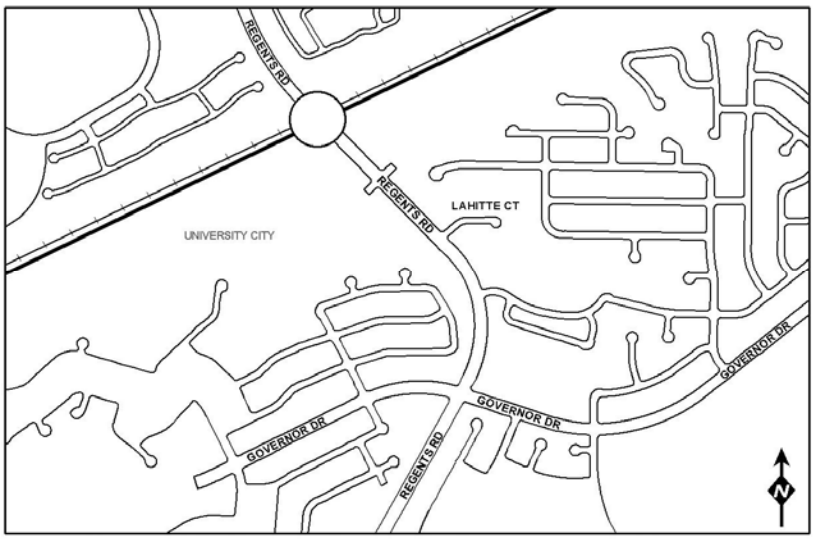

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **GENESEE AVENUE - NORTHBOUND DUAL LEFT TURN LANES AT EASTGATE MALL** **PROJECT:** **NUC-52**

DEPARTMENT:
ENGINEERING & CAPITAL PROJECTS
CIP/WBS #: N/A

COUNCIL DISTRICT: 1
COMMUNITY PLAN: NUC

DESCRIPTION:
THIS PROJECT PROVIDES FOR THE CONSTRUCTION OF NORTHBOUND DUAL LEFT-TURN LANES ON GENESEE AVENUE TO EASTGATE MALL.

JUSTIFICATION:
THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

FUNDING / NOTES / SCHEDULE:
ADDITIONAL RIGHT-OF-WAY IS ALSO REQUIRED; PROJECT TENTATIVELY SCHEDULED FOR FY 2019.

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012-18	FY 2019	FY 2020
FBA-NUC	$1,742,380	$0	$0	$0	$1,742,380	$0
TOTAL	**$1,742,380**	**$0**	**$0**	**$0**	**$1,742,380**	**$0**

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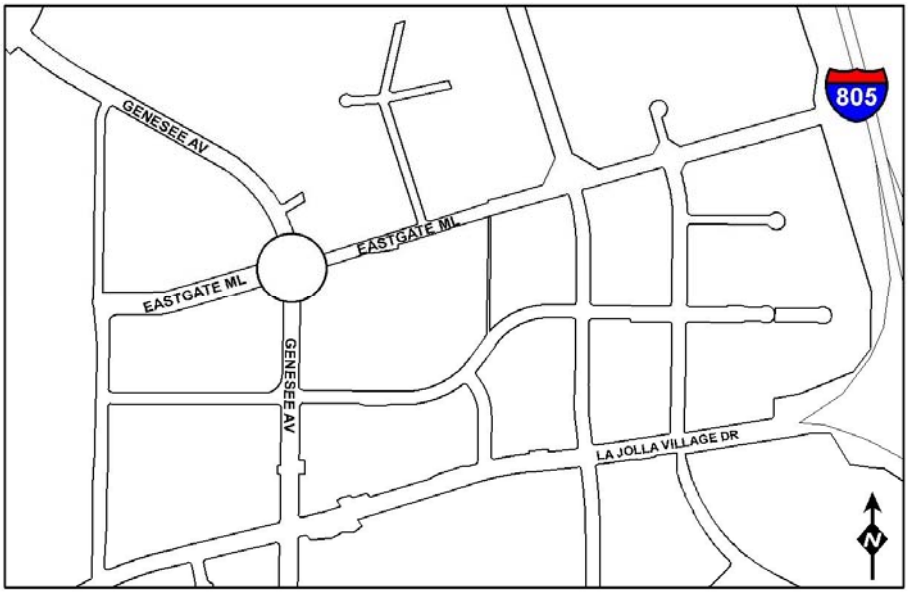

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **GENESEE AVENUE - NOBEL DRIVE TO SR-52** **PROJECT:** **NUC-A**

DEPARTMENT:
ENGINEERING & CAPITAL PROJECTS
CIP/WBS #: 524580 / S-00852

COUNCIL DISTRICT: 1
COMMUNITY PLAN: NUC

DESCRIPTION:

THIS PROJECT PROVIDES FOR WIDENING GENESEE AVENUE FROM NOBEL DRIVE TO STATE ROUTE 52 TO A MODIFIED SIX-LANE MAJOR STREET NORTH OF DECORO STREET AND A MODIFIED SIX-LANE PRIMARY ARTERIAL SOUTH OF DECORO STREET; INCLUDING A RIGHT-TURN LANE, EASTBOUND TO SOUTHBOUND, AT GENESEE AVENUE/NOBEL DRIVE; AND CLASS II BIKE LANES. IN ADDITION, FROM NUC-45 (COMBINED WITH THIS PROJECT IN FY 1995) A SEPARATE RIGHT TURN LANE EASTBOUND ON NOBEL DRIVE AT GENESEE AVENUE WILL BE PROVIDED.

JUSTIFICATION:

THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

SCHEDULE:

THIS PROJECT IS ON HOLD PENDING AN EIR. (COUNCIL RESOLUTION #R-302497 DATED 4/2/07 STIPULATES DELETION OF THE PROJECT PENDING A EIR.)

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012-16	FY 2017	FY 2018	FY 2019	FY 2020
FBA-NUC	$24,129,700	$1,439,109	$509,491	$0	$5,500,000	$5,500,000	$5,500,000	$5,681,100
STATE	$172,000	$0	$0	$0	$172,000	$0	$0	$0
TOTAL	**$24,301,700**	**$1,439,109**	**$509,491**	**$0**	**$5,672,000**	**$5,500,000**	**$5,500,000**	**$5,681,100**

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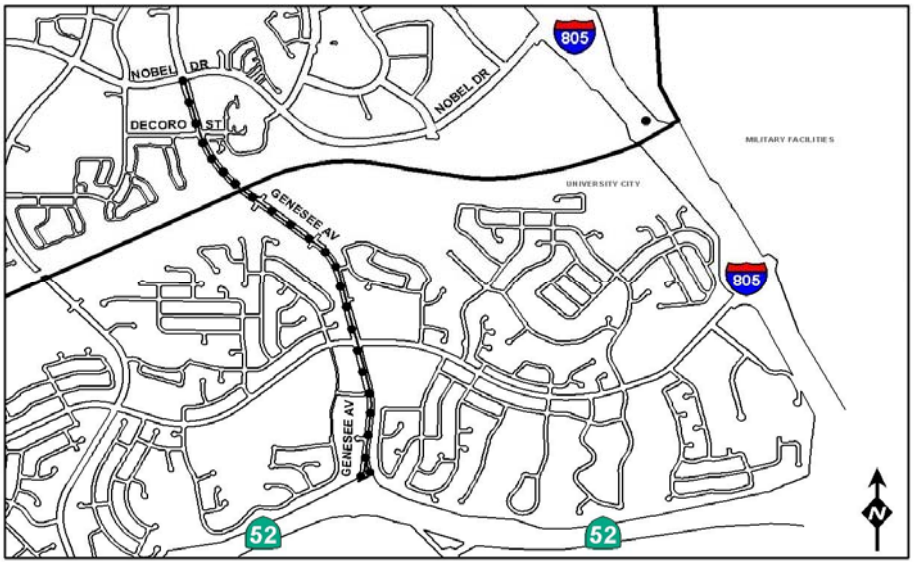

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **NOBEL DRIVE - LEBON DRIVE TO REGENTS ROAD AND GENESEE AVENUE TO TOWNE CENTRE DRIVE** **PROJECT:** **NUC-J**

DEPARTMENT:
ENGINEERING & CAPITAL PROJECTS
CIP/WBS #: 527210 / FUTURE

COUNCIL DISTRICT: 1
COMMUNITY PLAN: NUC

DESCRIPTION:
THIS PROJECT PROVIDES FOR A SIX-LANE MAJOR STREET ON NOBEL DRIVE FROM DANICA MAE ROAD TO REGENTS ROAD WITH NO RIGHT-OF-WAY ACQUISITION, AND A MODIFIED SIX-LANE PRIMARY ARTERIAL FROM GENESEE TO TOWNE CENTRE DRIVE (ORIGINALLY TO LOMBARD PLACE) BY WIDENING WITH RIGHT-OF-WAY ACQUISITION AND FROM LOMBARD PLACE TO TOWNE CENTRE DRIVE BY WIDENING BOTH SIDES WITH RIGHT-OF-WAY ACQUISITION. CLASS II BICYCLE LANES AND DUAL LEFT TURN LANES ON NOBEL DRIVE AT GENESEE AVENUE AND TOWNE CENTRE DRIVE ARE ALSO INCLUDED.

JUSTIFICATION:
THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

NOTES: ORIGINAL PROJECT LIMITS WERE REVISED PRIOR TO DELETE NOBEL DRIVE EAST OF TOWNE CENTRE DRIVE, AS PORTIONS OF THIS SEGMENT WERE ALREADY CONSTRUCTED AS PART OF PROJECT NUC-21, COMPLETED IN 2002.

SCHEDULE/FUNDING:
DESIGN IS SCHEDULED FOR FY 2014, AND CONSTRUCTION IS SCHEDULED FOR FY 2015.

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012-13	FY 2014	FY 2015	FY 2016-20
FBA-NUC	$4,773,825	$0	$0	$0	$2,386,913	$2,386,912	$0
TOTAL	**$4,773,825**	**$0**	**$0**	**$0**	**$2,386,913**	**$2,386,912**	**$0**

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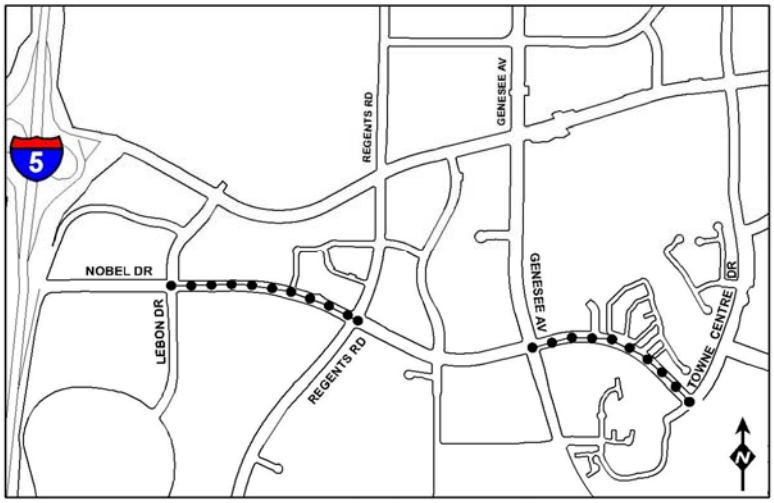

NORTH COAST CORRIDOR

Highway Improvements

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I-5/SR 56 Interchange
I-5/SR 78 Interchange
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I-5 Express Lanes Project

Final Environmental Document Certified

The **Final Environmental Impact Report / Environmental Impact Statement** (Final EIR/EIS) for the Interstate 5 (I-5) Express Lanes Project is available to the public.

The Final EIR/EIS addresses more than 6,000 comments received during the 2010 Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) and 2012 Supplemental Draft EIR/EIS review periods. Five key areas of interest by the public include – noise, mass transit, right-of-way impacts, mitigation, and lagoon impacts.

The document was signed on October 23, 2013 by Caltrans. The Final EIR/EIS is the result of an extensive planning and public outreach process.

Project Elements

The final environmental document identifies the Express Lanes only project as the preferred alternative, which will add two Express Lanes in each direction from La Jolla Village Drive in San Diego to Harbor Drive in Oceanside, separated from the existing general purpose lanes by a painted, striped buffer. This option has the smallest footprint of the build alternatives studied in the project's Draft EIR/EIS, has the least impacts to natural resources, requires the fewest property relocations, and has the lowest construction costs.

The project is consistent with the SANDAG 2050 Regional Transportation Plan and California State Bill 468, a key piece of legislation which helped shape the ultimate decision to move forward with the Express Lanes only option.

Phasing

The release of the Final EIR/EIS allows the project to move closer to the start of construction on the first phase of the project which includes High Occupancy Vehicle (HOV), or carpool lanes, from Manchester Avenue to State Route 78. View more information about **North Coast Corridor Phase 1 projects**.

Ways to view the Final EIR/EIS:

- Online: **Final Environmental Impact Report/Environmental Impact Statement**
- Hard copies are available at the Caltrans Building – 4050 Taylor Street, San Diego, CA 92110 or by visiting your local library.
- Please contact the Caltrans Public Information Office at (619) 688-6670 to request the document in Spanish.

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Introduction | I-805 South | I-805 North | Construction Notices

I-805 North Express Lanes Project

The Interstate 805 (I-805) North Project covers a distance of approximately four miles, from just south of State Route 52 (SR 52) to just north of Mira Mesa Boulevard in San Diego. The project will widen the freeway to accommodate four carpool, or High Occupancy Vehicle (HOV), lanes from SR 52 to La Jolla Village Drive and two carpool lanes from La Jolla Village Drive to just north of Mira Mesa Boulevard.

Additionally, the project will construct a south-facing Direct Access Ramp (DAR) at Carroll Canyon Road to allow carpoolers, vanpools, buses, motorcycles and solo drivers in permitted clean air vehicles to easily access the carpool lanes. The south-facing DAR will connect to the recently-completed (April 2014) north-facing DAR and Carroll Canyon Road extension bridge, which includes a new **bike lane** to improve travel between Sorrento Valley and Mira Mesa. A DAR will also be constructed at Nobel Drive, which also includes a new Park & Ride lot on the southwest corner of I-805 and Nobel Drive to encourage carpooling and to provide bus transfers from the proposed Bus Rapid Transit facility.

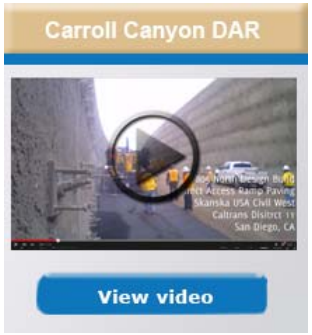
Project plans also include reconfiguring the Governor Drive interchange by relocating the southbound entrance-ramp to the northwest quadrant. This would minimize the conflict with southbound I-805 traffic merging onto SR 52. Lastly, the project includes a direct freeway-to-freeway HOV connector in the median, from westbound SR 52 to northbound I-805 and southbound I-805 to eastbound SR 52.

The project will be constructed in five stages. The contract for Stage 1 was awarded in March 2012 and will be developed as a Design-Build contract. Design efforts are underway and construction started in spring 2013.

New Transportation Choices

The I-805 North Project is an integral part of a modern, new transportation backbone that will meet the future needs of travelers in our region. Since I-805 opened in 1975, vehicle trips on the freeway have increased by 300 percent and are projected to increase in the future. As such, improvements are planned to provide commuters with new transportation options to reduce traffic and travel times along the I-805 corridor.

These improvements include the construction of HOV/ Express Lanes, Direct Access Ramps (DAR)s to provide commuters direct access to the HOV and Express Lanes, and Park and Ride facilities, which will provide



commuters with access to a planned Bus Rapid Transit (BRT) System.

Improvements to I-805 will help accommodate the projected population and employment growth in the region by connecting employment and activity centers including offices, shopping, recreational facilities, communities, and schools. Improvements to I-805 also will help maintain and grow the region's economy, through the enhanced movement of goods and services along a main transportation artery for the region.

Project Funding

The estimated cost of the project is $587 million. Funding is expected to come from a combination of federal, state, and local programs, including *TransNet*, a half-cent sales tax for transportation projects.

Stage 1 (2013 - 2016)

Stage 1 consists of constructing one carpool lane in each direction, from just north of SR 52 to just north of Mira Mesa Boulevard and the south-facing DAR at Carroll Canyon Road. Bridge modifications at Mira Mesa Boulevard, Carroll Canyon Road, Rose Canyon, and Governor Drive are also part of stage 1. This stage is estimated to cost approximately $86 million.

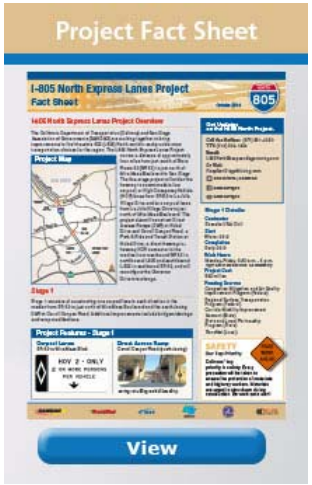
Stage 1 milestone: On Monday, June 22, 2015, one southbound carpool lane from just south of La Jolla Village Drive to just north of SR 52 opened to traffic.

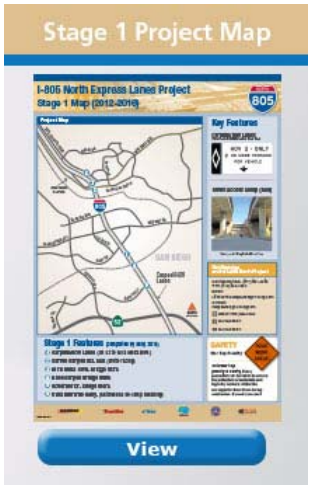
Stage 2-4 (2017 - 2020)

Stages 2 through 4 will construct the second carpool lane in the median from just north of SR 52 to just north of La Jolla Village Drive. Because the existing median cannot accommodate the second carpool lane, the outside lanes will be widened. Additionally, the Nobel Drive DAR and the Nobel Drive Park & Ride and Transit Station will be constructed, and the Governor Drive interchange will be reconfigured. These three stages are estimated to cost approximately $411 million.

Stage 5 (2037 - 2040)

Stage 5 will construct a direct freeway to freeway HOV connector in the median, from westbound SR 52 to northbound I-805 and southbound I-805 to eastbound SR 52, which will also accommodate travel in the reverse direction. This final stage is estimated to cost approximately $90 million.





APPENDIX K

NEAR-TERM (OPENING DAY 2023) WITHOUT AND WITH PROJECT INTERSECTION ANALYSIS CALCULATION SHEETS

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	241	31	78	286	597	150	814	138	420	433	114
Future Volume (veh/h)	39	241	31	78	286	597	150	814	138	420	433	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.87	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	301	39	98	358	746	188	1018	172	525	541	142
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	1251	160	122	766	633	213	950	160	565	1054	266
Arrive On Green	0.04	0.40	0.40	0.07	0.43	0.43	0.12	0.22	0.22	0.16	0.27	0.27
Sat Flow, veh/h	1781	3140	401	1781	1777	1469	1781	4292	723	3456	3975	1003
Grp Volume(v), veh/h	49	169	171	98	358	746	188	807	383	525	460	223
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1469	1781	1702	1611	1728	1702	1574
Q Serve(g_s), s	3.6	8.3	8.5	7.2	18.9	56.9	13.7	29.2	29.2	19.8	15.2	16.0
Cycle Q Clear(g_c), s	3.6	8.3	8.5	7.2	18.9	56.9	13.7	29.2	29.2	19.8	15.2	16.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.45	1.00		0.64
Lane Grp Cap(c), veh/h	63	708	703	122	766	633	213	754	357	565	903	417
V/C Ratio(X)	0.78	0.24	0.24	0.81	0.47	1.18	0.88	1.07	1.08	0.93	0.51	0.53
Avail Cap(c_a), veh/h	103	708	703	413	766	633	278	754	357	565	903	417
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.1	26.4	26.5	60.6	26.8	37.6	57.2	51.4	51.4	54.4	41.2	41.5
Incr Delay (d2), s/veh	7.4	0.1	0.1	4.7	0.2	95.9	2.2	34.6	39.5	21.5	2.1	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.6	3.7	3.4	8.1	36.9	6.3	16.0	15.7	10.3	6.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	26.5	26.5	65.3	26.9	133.4	59.4	86.0	90.8	75.9	43.3	46.3
LnGrp LOS	E	C	C	E	C	F	E	F	F	E	D	D
Approach Vol, veh/h		389			1202			1378			1208	
Approach Delay, s/veh		32.1			96.2			83.7			58.0	
Approach LOS		C			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	34.9	13.4	57.7	20.2	40.7	9.1	62.0
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	21.6	26.3	30.6	* 34	20.6	27.3	7.6	56.9
Max Q Clear Time (g_c+I1), s	21.8	31.2	9.2	10.5	15.7	18.0	5.6	58.9
Green Ext Time (p_c), s	0.0	0.0	0.1	1.3	0.1	4.1	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay	75.1	
HCM 6th LOS	E	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1568	221	0	1375	439	0	0	0	646	0	1219
Future Volume (vph)	0	1568	221	0	1375	439	0	0	0	646	0	1219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.99
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1529				3433		2761
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1529				3433		2761
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1686	238	0	1478	472	0	0	0	695	0	1311
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	1686	238	0	1478	472	0	0	0	695	0	1299
Confl. Peds. (#/hr)	22		10	10		22	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free				Prot		custom
Protected Phases		2			6					4		5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		82.3	120.0		41.0	120.0				27.4		64.5
Effective Green, g (s)		82.3	120.0		41.0	120.0				27.4		64.5
Actuated g/C Ratio		0.69	1.00		0.34	1.00				0.23		0.54
Clearance Time (s)		5.7			5.7					4.6		4.2
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		4394	1538		1737	1529				783		1484
v/s Ratio Prot		0.26			c0.29					c0.20		c0.27
v/s Ratio Perm			0.15			0.31						0.20
v/c Ratio		0.38	0.15		0.85	0.31				0.89		0.88
Uniform Delay, d1		8.0	0.0		36.7	0.0				44.8		24.2
Progression Factor		1.00	1.00		0.78	1.00				1.00		1.00
Incremental Delay, d2		0.3	0.2		4.7	0.5				11.6		5.9
Delay (s)		8.3	0.2		33.3	0.5				56.4		30.2
Level of Service		A	A		C	A				E		C
Approach Delay (s)		7.3			25.3			0.0			39.2	
Approach LOS		A			C			A			D	

Intersection Summary					
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.87				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	78.5%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: I-5 NB Off Ramp & La Jolla Village Drive

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1432	782	0	1363	490	451	0	750	0	0	0
Future Volume (vph)	0	1432	782	0	1363	490	451	0	750	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.97			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2713			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2713			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1591	869	0	1514	544	501	0	833	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	59	0	0	0
Lane Group Flow (vph)	0	1591	869	0	1514	544	501	0	774	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		80.3	120.0		91.3	120.0	18.4		25.2			
Effective Green, g (s)		80.3	120.0		91.3	120.0	18.4		25.2			
Actuated g/C Ratio		0.67	1.00		0.76	1.00	0.15		0.21			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3402	1538		3868	1538	526		569			
v/s Ratio Prot		0.31			0.30		0.15		c0.08			
v/s Ratio Perm			c0.56			0.35			0.21			
v/c Ratio		0.47	0.57		0.39	0.35	0.95		1.36			
Uniform Delay, d1		9.6	0.0		4.9	0.0	50.4		47.4			
Progression Factor		1.43	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.4	1.3		0.3	0.6	27.4		173.1			
Delay (s)		14.0	1.3		5.2	0.6	77.7		220.5			
Level of Service		B	A		A	A	E		F			
Approach Delay (s)		9.6			4.0			166.9			0.0	
Approach LOS		A			A			F			A	

Intersection Summary				
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	63.2%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
4: Lebon Drive & La Jolla Village Drive

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1949	150	120	1365	3	474	2	178	4	3	14
Future Volume (veh/h)	13	1949	150	120	1365	3	474	2	178	4	3	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.79
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	2215	170	136	1551	3	539	0	203	5	3	16
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	2910	1223	185	3213	6	774	0	661	20	12	22
Arrive On Green	0.01	0.57	0.57	0.04	0.41	0.41	0.22	0.00	0.22	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1541	3456	5262	10	3563	0	3041	1134	680	1245
Grp Volume(v), veh/h	15	2215	170	136	1003	551	539	0	203	8	0	16
Grp Sat Flow(s),veh/h/ln	1781	1702	1541	1728	1702	1868	1781	0	1520	1814	0	1245
Q Serve(g_s), s	1.2	46.1	3.7	5.5	30.4	30.4	19.5	0.0	7.8	0.6	0.0	1.8
Cycle Q Clear(g_c), s	1.2	46.1	3.7	5.5	30.4	30.4	19.5	0.0	7.8	0.6	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.62		1.00
Lane Grp Cap(c), veh/h	22	2910	1223	185	2079	1141	774	0	661	31	0	22
V/C Ratio(X)	0.67	0.76	0.14	0.74	0.48	0.48	0.70	0.00	0.31	0.25	0.00	0.74
Avail Cap(c_a), veh/h	71	2910	1223	262	2079	1141	944	0	806	53	0	36
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	0.43	0.43	0.43	0.92	0.00	0.92	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.8	22.9	3.6	66.5	25.1	25.1	50.5	0.0	46.0	67.9	0.0	68.5
Incr Delay (d2), s/veh	7.0	1.1	0.1	1.4	0.3	0.6	4.7	0.0	1.1	1.6	0.0	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	18.4	2.7	2.5	13.3	14.7	9.3	0.0	3.1	0.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.8	24.0	3.7	67.9	25.4	25.7	55.3	0.0	47.1	69.5	0.0	85.3
LnGrp LOS	E	C	A	E	C	C	E	A	D	E	A	F
Approach Vol, veh/h		2400			1690			742			24	
Approach Delay, s/veh		22.9			28.9			53.0			80.0	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	85.5		7.3	6.2	91.2		35.3				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	10.6	* 69		4.1	5.6	73.3		37.1				
Max Q Clear Time (g_c+I1), s	7.5	48.1		3.8	3.2	32.4		21.5				
Green Ext Time (p_c), s	0.1	20.1		0.0	0.0	30.4		7.4				

Intersection Summary		
HCM 6th Ctrl Delay	29.9	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

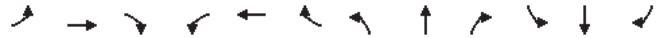
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	922	1717	64	83	716	124	267	430	271	148	157	313
Future Volume (veh/h)	922	1717	64	83	716	124	267	430	271	148	157	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.89	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1085	2020	75	98	842	146	314	506	319	174	185	368
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	832	2626	97	131	1383	238	286	1065	424	159	1088	434
Arrive On Green	0.16	0.35	0.35	0.01	0.10	0.10	0.08	0.30	0.30	0.09	0.31	0.31
Sat Flow, veh/h	3456	5048	187	3456	4358	750	3456	3554	1415	1781	3554	1418
Grp Volume(v), veh/h	1085	1360	735	98	656	332	314	506	319	174	185	368
Grp Sat Flow(s),veh/h/ln	1728	1702	1831	1728	1702	1704	1728	1777	1415	1781	1777	1418
Q Serve(g_s), s	33.7	49.8	50.1	4.0	25.8	26.1	11.6	16.3	28.5	12.5	5.3	34.1
Cycle Q Clear(g_c), s	33.7	49.8	50.1	4.0	25.8	26.1	11.6	16.3	28.5	12.5	5.3	34.1
Prop In Lane	1.00		0.10	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	832	1771	952	131	1080	541	286	1065	424	159	1088	434
V/C Ratio(X)	1.30	0.77	0.77	0.75	0.61	0.61	1.10	0.47	0.75	1.09	0.17	0.85
Avail Cap(c_a), veh/h	832	1771	952	131	1080	541	286	1065	424	159	1091	435
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.7	38.1	38.2	68.5	54.3	54.5	64.2	40.0	44.3	63.8	35.5	45.5
Incr Delay (d2), s/veh	141.8	1.8	3.3	18.9	2.5	5.1	77.2	0.3	6.5	98.7	0.1	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.6	22.2	24.4	2.1	12.3	12.8	8.2	7.2	10.8	10.0	2.4	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	200.5	39.9	41.5	87.4	56.9	59.6	141.4	40.4	50.8	162.5	35.6	60.3
LnGrp LOS	F	D	D	F	E	E	F	D	D	F	D	E
Approach Vol, veh/h		3180			1086			1139			727	
Approach Delay, s/veh		95.1			60.5			71.2			78.5	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	78.6	16.0	48.6	38.1	50.2	16.9	47.7
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	5.3	* 61	11.6	* 43	33.7	32.2	12.5	41.7
Max Q Clear Time (g_c+I1), s	13.5	52.1	13.6	36.1	35.7	28.1	14.5	30.5
Green Ext Time (p_c), s	0.0	8.5	0.0	2.0	0.0	3.4	0.0	4.3

Intersection Summary	
HCM 6th Ctrl Delay	82.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2079	75	0	1258	124	0	0	176	0	0	35
Future Volume (Veh/h)	0	2079	75	0	1258	124	0	0	176	0	0	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	2505	90	0	1516	149	0	0	212	0	0	42
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.72			0.64			0.78	0.78	0.64	0.78	0.78	0.72
vC, conflicting volume	1675			2605			3117	4235	900	2658	4206	600
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	568			1524			278	1715	0	0	1678	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	69	100	100	95
cM capacity (veh/h)	713			274			466	68	679	531	72	766

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1002	1002	591	606	606	452	212	42
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	90	0	0	149	212	42
cSH	1700	1700	1700	1700	1700	1700	679	766
Volume to Capacity	0.59	0.59	0.35	0.36	0.36	0.27	0.31	0.05
Queue Length 95th (ft)	0	0	0	0	0	0	33	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	12.7	10.0
Lane LOS							B	A
Approach Delay (s)	0.0			0.0			12.7	10.0
Approach LOS							B	A

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1677	86	165	1494	484	205	1495	305	290	291	90
Future Volume (veh/h)	471	1677	86	165	1494	484	205	1495	305	290	291	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	554	1973	101	194	1758	569	241	1759	359	341	342	106
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	558	2294	695	217	1791	686	290	1543	465	316	1582	477
Arrive On Green	0.32	0.90	0.90	0.02	0.12	0.12	0.11	0.40	0.40	0.09	0.31	0.31
Sat Flow, veh/h	3456	5106	1547	3456	5106	1542	3456	5106	1539	3456	5106	1540
Grp Volume(v), veh/h	554	1973	101	194	1758	569	241	1759	359	341	342	106
Grp Sat Flow(s),veh/h/ln	1728	1702	1547	1728	1702	1542	1728	1702	1539	1728	1702	1540
Q Serve(g_s), s	22.4	24.2	1.1	7.8	48.1	44.7	9.6	42.3	28.3	12.8	6.9	7.1
Cycle Q Clear(g_c), s	22.4	24.2	1.1	7.8	48.1	44.7	9.6	42.3	28.3	12.8	6.9	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	558	2294	695	217	1791	686	290	1543	465	316	1582	477
V/C Ratio(X)	0.99	0.86	0.15	0.89	0.98	0.83	0.83	1.14	0.77	1.08	0.22	0.22
Avail Cap(c_a), veh/h	558	2294	695	217	1791	686	380	1543	465	316	1582	477
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.59	0.59	0.59	0.91	0.91	0.91
Uniform Delay (d), s/veh	47.3	5.1	4.0	68.1	61.5	46.7	61.2	41.9	37.7	63.6	35.7	35.8
Incr Delay (d2), s/veh	36.2	4.5	0.4	4.6	3.4	1.1	5.5	68.2	4.9	71.1	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	3.4	0.4	3.8	22.7	18.7	4.3	26.4	10.7	8.8	2.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	9.6	4.4	72.7	64.9	47.8	66.8	110.1	42.6	134.7	35.8	36.1
LnGrp LOS	F	A	A	E	E	D	E	F	D	F	D	D
Approach Vol, veh/h		2628			2521			2359			789	
Approach Delay, s/veh		25.0			61.6			95.4			78.6	
Approach LOS		C			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	68.6	16.1	49.1	27.0	54.8	17.2	48.0
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	8.8	* 56	15.4	* 40	22.6	42.3	12.8	42.3
Max Q Clear Time (g_c+I1), s	9.8	26.2	11.6	9.1	24.4	50.1	14.8	44.3
Green Ext Time (p_c), s	0.0	28.3	0.2	4.2	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	61.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	2136	41	81	2270	466	24	25	62	57	21	41
Future Volume (veh/h)	104	2136	41	81	2270	466	24	25	62	57	21	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.93	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	121	2484	48	94	2640	542	28	29	72	46	52	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	3608	1099	138	2970	567	151	159	250	52	55	38
Arrive On Green	0.04	0.47	0.47	0.05	0.92	0.92	0.08	0.08	0.08	0.03	0.03	0.03
Sat Flow, veh/h	1781	5106	1554	3456	4290	818	1781	1870	2944	1781	1870	1307
Grp Volume(v), veh/h	121	2484	48	94	2054	1128	28	29	72	46	52	48
Grp Sat Flow(s),veh/h/ln	1781	1702	1554	1728	1702	1704	1781	1870	1472	1781	1870	1307
Q Serve(g_s), s	7.6	53.2	2.3	3.7	33.8	61.6	2.0	2.0	3.2	3.6	3.9	4.1
Cycle Q Clear(g_c), s	7.6	53.2	2.3	3.7	33.8	61.6	2.0	2.0	3.2	3.6	3.9	4.1
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	97	3608	1099	138	2357	1180	151	159	250	52	55	38
V/C Ratio(X)	1.25	0.69	0.04	0.68	0.87	0.96	0.19	0.18	0.29	0.88	0.95	1.25
Avail Cap(c_a), veh/h	97	3608	1099	146	2357	1180	570	599	942	52	55	38
HCM Platoon Ratio	0.67	0.67	0.67	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.23	0.23	0.23	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.5	24.8	11.4	65.4	3.0	4.1	59.6	59.6	60.1	67.7	67.8	68.0
Incr Delay (d2), s/veh	131.4	0.3	0.0	0.9	0.5	2.7	0.2	0.2	0.2	91.1	106.6	229.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	22.9	0.8	1.7	3.0	4.0	0.9	1.0	1.2	3.0	3.5	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	198.9	25.1	11.4	66.3	3.5	6.8	59.8	59.8	60.3	158.8	174.5	297.7
LnGrp LOS	F	C	B	E	A	A	E	E	E	F	F	F
Approach Vol, veh/h		2653			3276			129			146	
Approach Delay, s/veh		32.8			6.4			60.1			210.0	
Approach LOS		C			A			E			F	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	10.0	104.2	9.0	12.0	102.2	16.8
Change Period (Y+Rc), s	4.4	5.3	4.9	4.4	5.3	4.9
Max Green Setting (Gmax), s	5.6	65.7	4.1	7.6	64.0	44.8
Max Q Clear Time (g_c+I1), s	15.3	55.2	6.1	9.6	63.6	5.2
Green Ext Time (p_c), s	0.0	10.4	0.0	0.0	0.4	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
9: Towne Center Drive & La Jolla Village Drive

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	631	1490	123	257	2600	1636	114	328	232	246	59	110
Future Volume (veh/h)	631	1490	123	257	2600	1636	114	328	232	246	59	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	701	1656	137	286	2889	1818	127	364	258	273	66	122
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	2700	819	333	2860	1504	143	680	782	138	675	289
Arrive On Green	0.14	1.00	1.00	0.10	0.56	0.56	0.04	0.19	0.19	0.04	0.19	0.19
Sat Flow, veh/h	3456	5106	1549	3456	5106	2686	3456	3554	2682	3456	3554	1523
Grp Volume(v), veh/h	701	1656	137	286	2889	1818	127	364	258	273	66	122
Grp Sat Flow(s),veh/h/ln	1728	1702	1549	1728	1702	1343	1728	1777	1341	1728	1777	1523
Q Serve(g_s), s	9.6	0.0	0.0	11.4	78.4	78.4	5.1	12.9	10.6	5.6	2.1	9.9
Cycle Q Clear(g_c), s	9.6	0.0	0.0	11.4	78.4	78.4	5.1	12.9	10.6	5.6	2.1	9.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	2700	819	333	2860	1504	143	680	782	138	675	289
V/C Ratio(X)	2.96	0.61	0.17	0.86	1.01	1.21	0.89	0.54	0.33	1.97	0.10	0.42
Avail Cap(c_a), veh/h	237	2700	819	358	2860	1504	143	939	978	138	926	397
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.53	0.09	0.09	0.09	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	0.0	0.0	62.3	30.8	30.8	66.8	51.0	39.3	67.2	46.8	49.9
Incr Delay (d2), s/veh	887.3	0.6	0.2	1.8	7.9	94.4	37.4	1.3	0.5	463.7	0.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	33.1	0.1	0.1	5.1	32.9	44.0	3.0	5.9	3.6	11.4	1.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	947.7	0.6	0.2	64.1	38.7	125.2	104.2	52.3	39.8	530.9	46.9	51.7
LnGrp LOS	F	A	A	E	F	F	F	D	D	F	D	D
Approach Vol, veh/h		2494			4993			749			461	
Approach Delay, s/veh		266.7			71.6			56.8			334.8	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.4	79.5	10.2	31.9	14.0	83.9	10.0	32.1
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	14.5	63.1	5.8	36.5	9.6	* 69	5.6	* 37
Max Q Clear Time (g_c+I1), s	13.4	2.0	7.1	11.9	11.6	80.4	7.6	14.9
Green Ext Time (p_c), s	0.1	37.6	0.0	1.4	0.0	0.0	0.0	6.9

Intersection Summary		
HCM 6th Ctrl Delay	140.3	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

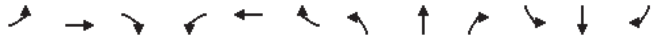
HCM Signalized Intersection Capacity Analysis
10: I-805 SB Ramps & La Jolla Village Drive/Miramar Road

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1502	462	0	2448	482	0	0	0	758	0	2010
Future Volume (vph)	0	1502	462	0	2448	482	0	0	0	758	0	2010
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1554				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1554				3433		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1669	513	0	2720	536	0	0	0	842	0	2233
RTOR Reduction (vph)	0	0	0	0	0	121	0	0	0	0	0	19
Lane Group Flow (vph)	0	1669	513	0	2720	415	0	0	0	842	0	2214
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov					Prot		custom
Protected Phases		2			6	4					4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		58.5	120.0		44.4	92.8					48.4		63.4
Effective Green, g (s)		58.5	120.0		44.4	92.8					48.4		63.4
Actuated g/C Ratio		0.49	1.00		0.37	0.77					0.40		0.53
Clearance Time (s)		7.5			7.5	5.6					5.6		
Vehicle Extension (s)		2.0			2.0	2.0					2.0		
Lane Grp Cap (vph)		2478	2707		1881	1201					1384		1472
v/s Ratio Prot		0.33			c0.53	0.14					0.25		c0.79
v/s Ratio Perm			0.19			0.13						
v/c Ratio		0.67	0.19		1.45	0.35					0.61		1.50
Uniform Delay, d1		23.5	0.0		37.8	4.2					28.3		28.3
Progression Factor		1.00	1.00		0.77	1.41					1.00		1.00
Incremental Delay, d2		1.5	0.2		202.6	0.0					0.5		230.3
Delay (s)		24.9	0.2		231.8	6.0					28.8		258.6
Level of Service		C	A		F	A					C		F
Approach Delay (s)		19.1			194.6				0.0			195.7	
Approach LOS		B			F				A			F	

Intersection Summary				
HCM 2000 Control Delay	150.0	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.56			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	129.6%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1385	869	0	1755	468	1244	0	468	0	0	0
Future Volume (vph)	0	1385	869	0	1755	468	1244	0	468	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1561		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1561		6408	1538	3433		2787			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1556	976	0	1972	526	1398	0	526	0	0	0
RTOR Reduction (vph)	0	0	190	0	0	0	0	0	21	0	0	0
Lane Group Flow (vph)	0	1556	786	0	1972	526	1398	0	505	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		44.2	96.7		54.4	120.0	52.5		63.6			
Effective Green, g (s)		44.2	96.7		54.4	120.0	52.5		58.0			
Actuated g/C Ratio		0.37	0.81		0.45	1.00	0.44		0.48			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		1872	1257		2904	1538	1501		1347			
v/s Ratio Prot		c0.31	0.27		c0.31		c0.41		0.18			
v/s Ratio Perm			0.23			0.34						
v/c Ratio		0.83	0.63		0.68	0.34	0.93		0.37			
Uniform Delay, d1		34.5	4.6		25.9	0.0	32.0		19.6			
Progression Factor		0.74	25.68		1.00	1.00	1.00		1.00			
Incremental Delay, d2		3.4	0.5		1.3	0.6	10.6		0.1			
Delay (s)		28.9	117.7		27.2	0.6	42.6		19.6			
Level of Service		C	F		C	A	D		B			
Approach Delay (s)		63.1			21.6			36.3			0.0	
Approach LOS		E			C			D			A	

Intersection Summary				
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	73.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	137	26	112	32	34	74
Future Volume (Veh/h)	137	26	112	32	34	74
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	149	28	122	35	37	80
Pedestrians	28		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	334	116			185	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	334	116			185	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	75	97			97	
cM capacity (veh/h)	597	885			1355	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	149	28	81	76	117
Volume Left	149	0	0	0	37
Volume Right	0	28	0	35	0
cSH	597	885	1700	1700	1355
Volume to Capacity	0.25	0.03	0.05	0.04	0.03
Queue Length 95th (ft)	25	2	0	0	2
Control Delay (s)	13.0	9.2	0.0	0.0	2.6
Lane LOS	B	A			A
Approach Delay (s)	12.4		0.0		2.6
Approach LOS	B				

Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	34.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	42	47	103	63	36	85
Future Volume (Veh/h)	42	47	103	63	36	85
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	48	54	118	72	41	98
Pedestrians	10		12			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	307	115			200	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	307	115			200	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	94			97	
cM capacity (veh/h)	629	900			1358	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	102	79	111	74	65
Volume Left	48	0	0	41	0
Volume Right	54	0	72	0	0
cSH	748	1700	1700	1358	1700
Volume to Capacity	0.14	0.05	0.07	0.03	0.04
Queue Length 95th (ft)	12	0	0	2	0
Control Delay (s)	10.6	0.0	0.0	4.4	0.0
Lane LOS	B			A	
Approach Delay (s)	10.6	0.0		2.3	
Approach LOS	B				

Intersection Summary				
Average Delay		3.3		
Intersection Capacity Utilization		28.8%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	43	159	54	23	86	69	1840	145	99	390	109
Future Volume (veh/h)	187	43	159	54	23	86	69	1840	145	99	390	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.91	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	0	175	59	78	60	76	2022	159	109	429	120
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	0	127	580	305	236	95	2692	210	141	2169	581
Arrive On Green	0.09	0.00	0.09	0.16	0.16	0.16	0.11	1.00	1.00	0.08	1.00	1.00
Sat Flow, veh/h	3563	0	1361	3563	1870	1447	1781	4820	376	3456	3972	1064
Grp Volume(v), veh/h	239	0	175	59	78	60	76	1424	757	109	365	184
Grp Sat Flow(s),veh/h/ln	1781	0	1361	1781	1870	1447	1781	1702	1792	1728	1702	1632
Q Serve(g_s), s	9.1	0.0	13.1	2.0	5.1	5.1	5.8	0.0	0.0	4.3	0.0	0.0
Cycle Q Clear(g_c), s	9.1	0.0	13.1	2.0	5.1	5.1	5.8	0.0	0.0	4.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.65
Lane Grp Cap(c), veh/h	333	0	127	580	305	236	95	1901	1001	141	1859	891
V/C Ratio(X)	0.72	0.00	1.37	0.10	0.26	0.25	0.80	0.75	0.76	0.77	0.20	0.21
Avail Cap(c_a), veh/h	333	0	127	970	509	394	160	1901	1001	141	1859	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	61.6	0.0	63.4	49.9	51.2	51.2	61.8	0.0	0.0	63.7	0.0	0.0
Incr Delay (d2), s/veh	6.2	0.0	209.9	0.0	0.2	0.2	5.8	2.8	5.3	19.6	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	12.0	0.9	2.4	1.9	2.7	0.7	1.5	2.2	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	0.0	273.4	49.9	51.3	51.4	67.6	2.8	5.3	83.3	0.2	0.5
LnGrp LOS	E	A	F	D	D	D	E	A	A	F	A	A
Approach Vol, veh/h		414			197			2257			658	
Approach Delay, s/veh		154.8			50.9			5.8			14.1	
Approach LOS		F			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	84.2		18.0	11.9	82.4		27.7				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	5.7	62.9		13.1	12.6	* 56		38.1				
Max Q Clear Time (g_c+I1), s	6.3	2.0		15.1	7.8	2.0		7.1				
Green Ext Time (p_c), s	0.0	41.0		0.0	0.0	6.3		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		27.4	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	57	0	2000	416	48
Future Volume (Veh/h)	0	57	0	2000	416	48
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	60	0	2105	438	51
Pedestrians	14			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.52					
vC, conflicting volume	1189	196	503			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	196	503			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	100			
cM capacity (veh/h)	523	797	1045			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	60	702	702	702	175	175	139
Volume Left	0	0	0	0	0	0	0
Volume Right	60	0	0	0	0	0	51
cSH	797	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.08	0.41	0.41	0.41	0.10	0.10	0.08
Queue Length 95th (ft)	6	0	0	0	0	0	0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.9	0.0			0.0		
Approach LOS	A						

Intersection Summary				
Average Delay		0.2		
Intersection Capacity Utilization		51.5%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	324	113	276	789	0	0
Future Volume (veh/h)	324	113	276	789	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	341	119	291	831		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2343	802	364	3756		
Arrive On Green	0.91	0.91	0.21	1.00		
Sat Flow, veh/h	2669	881	3456	3647		
Grp Volume(v), veh/h	233	227	291	831		
Grp Sat Flow(s),veh/h/ln	1777	1680	1728	1777		
Q Serve(g_s), s	1.4	1.4	8.0	0.0		
Cycle Q Clear(g_c), s	1.4	1.4	8.0	0.0		
Prop In Lane		0.52	1.00			
Lane Grp Cap(c), veh/h	1616	1528	364	3756		
V/C Ratio(X)	0.14	0.15	0.80	0.22		
Avail Cap(c_a), veh/h	1616	1528	1410	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.96	0.96		
Uniform Delay (d), s/veh	0.5	0.5	38.5	0.0		
Incr Delay (d2), s/veh	0.2	0.2	1.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.1	0.1	3.1	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.7	0.7	40.0	0.1		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	460			1122		
Approach Delay, s/veh	0.7			10.5		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	14.7	95.8				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 41	50.5				* 96
Max Q Clear Time (g_c+I1), s	10.0	3.4				2.0
Green Ext Time (p_c), s	0.5	8.4				4.5

Intersection Summary		
HCM 6th Ctrl Delay	7.6	
HCM 6th LOS	A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	331	0	0	610	44	289	219	518	0	0	62
Future Volume (vph)	0	331	0	0	610	44	289	219	518	0	0	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			0.98		1.00	1.00	0.95			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			0.99		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (prot)		3539			6230		1681	1756	1503			1611
Flt Permitted		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (perm)		3539			6230		1681	1756	1503			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	368	0	0	678	49	321	243	576	0	0	69
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	223	0	0	66
Lane Group Flow (vph)	0	368	0	0	719	0	276	288	353	0	0	3
Confl. Peds. (#/hr)	72		27	27		72	38		30	30		38
Confl. Bikes (#/hr)			10			66			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		61.0			52.5		30.0	30.0	30.0			4.0
Effective Green, g (s)		61.0			52.5		30.0	30.0	30.0			4.0
Actuated g/C Ratio		0.61			0.52		0.30	0.30	0.30			0.04
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2158			3270		504	526	450			64
v/s Ratio Prot		c0.10			c0.12		0.16	0.16				0.00
v/s Ratio Perm									c0.23			
v/c Ratio		0.17			0.22		0.55	0.55	0.78			0.04
Uniform Delay, d1		8.5			12.8		29.3	29.3	32.0			46.2
Progression Factor		0.99			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.2			0.2		0.7	0.6	8.0			0.1
Delay (s)		8.6			12.9		30.0	29.9	40.1			46.3
Level of Service		A			B		C	C	D			D
Approach Delay (s)		8.6			12.9			35.1			46.3	
Approach LOS		A			B			D			D	

Intersection Summary				
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.42			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	54.8%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	650	61	61	560	224	155	436	158	74	95	50
Future Volume (veh/h)	55	650	61	61	560	224	155	436	158	74	95	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.75	1.00		0.76	1.00		0.82	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	730	69	69	629	252	174	490	178	83	107	56
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	1654	153	89	1285	456	236	1160	426	298	1224	505
Arrive On Green	0.03	0.36	0.36	0.05	0.38	0.38	0.07	0.33	0.33	0.09	0.34	0.34
Sat Flow, veh/h	3456	4602	426	1781	3404	1209	3456	3554	1306	3456	3554	1321
Grp Volume(v), veh/h	62	536	263	69	629	252	174	490	178	83	107	56
Grp Sat Flow(s),veh/h/ln	1728	1702	1624	1781	1702	1209	1728	1777	1306	1728	1777	1321
Q Serve(g_s), s	1.9	12.7	13.1	4.1	15.0	17.4	5.2	11.4	11.3	2.4	2.2	2.9
Cycle Q Clear(g_c), s	1.9	12.7	13.1	4.1	15.0	17.4	5.2	11.4	11.3	2.4	2.2	2.9
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	1224	584	89	1285	456	236	1160	426	298	1224	505
V/C Ratio(X)	0.57	0.44	0.45	0.78	0.49	0.55	0.74	0.42	0.42	0.28	0.09	0.11
Avail Cap(c_a), veh/h	137	1224	584	111	1285	456	280	1160	426	326	1224	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.6	25.8	25.9	49.8	25.2	25.9	48.5	27.9	27.8	45.4	23.5	21.6
Incr Delay (d2), s/veh	1.7	1.1	2.5	17.5	1.3	4.5	6.2	1.1	3.0	0.2	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.3	5.4	2.2	6.2	5.5	2.4	5.0	3.8	1.0	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	27.0	28.4	67.3	26.5	30.4	54.6	29.0	30.8	45.5	23.6	22.0
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	C	C
Approach Vol, veh/h		861			950			842			246	
Approach Delay, s/veh		29.2			30.5			34.7			30.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	43.3	11.6	41.4	7.8	45.2	13.5	39.5
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.3	35.9	8.6	36.0	4.2	38.3	10.0	34.6
Max Q Clear Time (g_c+I1), s	3.9	15.1	7.2	4.9	3.9	19.4	4.4	13.4
Green Ext Time (p_c), s	0.0	8.3	0.0	2.0	0.0	9.2	0.0	9.6

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	543	41	110	483	170	82	356	236	99	152	101
Future Volume (veh/h)	206	543	41	110	483	170	82	356	236	99	152	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85	1.00		0.84	1.00		0.69	1.00		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	590	45	120	525	185	89	387	257	108	165	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	1755	132	178	1190	445	113	1156	371	94	1169	377
Arrive On Green	0.03	0.12	0.12	0.10	0.67	0.67	0.06	0.34	0.34	0.05	0.33	0.33
Sat Flow, veh/h	3456	4777	358	3456	3554	1328	1781	3404	1092	1781	3554	1147
Grp Volume(v), veh/h	224	418	217	120	525	185	89	387	257	108	165	110
Grp Sat Flow(s),veh/h/ln	1728	1702	1731	1728	1777	1328	1781	1702	1092	1781	1777	1147
Q Serve(g_s), s	6.8	11.9	12.2	3.5	7.3	6.8	5.2	9.0	21.5	5.6	3.5	7.5
Cycle Q Clear(g_c), s	6.8	11.9	12.2	3.5	7.3	6.8	5.2	9.0	21.5	5.6	3.5	7.5
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	1251	636	178	1190	445	113	1156	371	94	1169	377
V/C Ratio(X)	0.77	0.33	0.34	0.68	0.44	0.42	0.79	0.33	0.69	1.15	0.14	0.29
Avail Cap(c_a), veh/h	346	1251	636	319	1190	445	212	1198	384	94	1169	377
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.87	0.87	0.87	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.5	34.7	34.8	46.7	12.8	12.7	48.9	26.1	30.2	50.2	25.0	26.4
Incr Delay (d2), s/veh	6.4	0.7	1.3	1.5	1.0	2.5	4.5	0.5	8.1	135.6	0.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	5.5	5.9	1.5	2.5	1.9	2.5	3.7	6.4	6.0	1.5	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.0	35.4	36.2	48.2	13.9	15.2	53.4	26.6	38.3	185.8	25.2	28.0
LnGrp LOS	E	D	D	D	B	B	D	C	D	F	C	C
Approach Vol, veh/h		859			830			733			383	
Approach Delay, s/veh		41.2			19.1			34.0			71.3	
Approach LOS		D			B			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	41.5	9.9	44.6	11.1	40.4	13.3	41.2
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	5.6	* 37	9.8	33.6	12.6	30.0	10.6	* 33
Max Q Clear Time (g_c+I1), s	7.8	23.5	5.5	14.2	7.2	9.5	8.8	9.3
Green Ext Time (p_c), s	0.0	7.0	0.1	6.1	0.0	3.6	0.1	10.4

Intersection Summary	
HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	133	734	49	36	632	71	81	110	61	98	35	106
Future Volume (veh/h)	133	734	49	36	632	71	81	110	61	98	35	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	807	54	40	695	78	89	121	67	108	38	116
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	2168	144	51	1997	222	74	299	165	134	119	363
Arrive On Green	0.09	0.89	0.89	0.03	0.43	0.43	0.04	0.27	0.27	0.08	0.31	0.31
Sat Flow, veh/h	1781	4866	324	1781	4638	515	1781	1097	607	1781	389	1187
Grp Volume(v), veh/h	146	563	298	40	508	265	89	0	188	108	0	154
Grp Sat Flow(s),veh/h/ln	1781	1702	1785	1781	1702	1749	1781	0	1704	1781	0	1576
Q Serve(g_s), s	4.6	2.9	2.9	2.4	10.6	10.8	4.4	0.0	9.6	6.3	0.0	8.0
Cycle Q Clear(g_c), s	4.6	2.9	2.9	2.4	10.6	10.8	4.4	0.0	9.6	6.3	0.0	8.0
Prop In Lane	1.00		0.18	1.00		0.29	1.00		0.36	1.00		0.75
Lane Grp Cap(c), veh/h	77	1516	795	51	1466	753	74	0	464	134	0	483
V/C Ratio(X)	1.89	0.37	0.37	0.79	0.35	0.35	1.20	0.00	0.40	0.81	0.00	0.32
Avail Cap(c_a), veh/h	77	1516	795	94	1466	753	74	0	642	145	0	656
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	3.4	3.4	51.2	20.2	20.2	50.8	0.0	31.5	48.2	0.0	28.3
Incr Delay (d2), s/veh	441.2	0.6	1.2	9.6	0.7	1.3	169.5	0.0	0.2	23.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	0.9	1.1	1.2	4.3	4.6	5.4	0.0	3.9	3.7	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	489.6	4.0	4.6	60.7	20.8	21.5	220.3	0.0	31.8	71.6	0.0	28.4
LnGrp LOS	F	A	A	E	C	C	F	A	C	E	A	C
Approach Vol, veh/h		1007			813			277			262	
Approach Delay, s/veh		74.6			23.0			92.3			46.2	
Approach LOS		E			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	52.4	8.8	37.4	9.0	50.8	12.4	33.8
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.6	33.0	4.4	44.1	4.6	34.0	8.6	39.9
Max Q Clear Time (g_c+I1), s	4.4	4.9	6.4	10.0	6.6	12.8	8.3	11.6
Green Ext Time (p_c), s	0.0	10.3	0.0	0.7	0.0	8.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

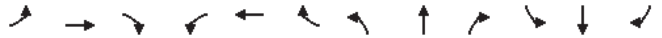
Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	900	702	120	0	31
Future Volume (Veh/h)	0	900	702	120	0	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	1011	789	135	0	35
Pedestrians		10	10		27	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.94				0.95	0.94
vC, conflicting volume	951				1230	368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	734				634	114
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	96
cM capacity (veh/h)	799				378	837

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	337	337	337	316	316	293	35
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	135	35
cSH	1700	1700	1700	1700	1700	1700	837
Volume to Capacity	0.20	0.20	0.20	0.19	0.19	0.17	0.04
Queue Length 95th (ft)	0	0	0	0	0	0	3
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.5
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.5
Approach LOS							A

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		30.2%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	524	142	101	337	60	267	1719	211	100	314	99
Future Volume (veh/h)	201	524	142	101	337	60	267	1719	211	100	314	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	216	563	153	109	362	65	287	1848	227	108	338	106
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	821	348	157	708	297	341	1951	852	114	2467	749
Arrive On Green	0.08	0.23	0.23	0.05	0.20	0.20	0.10	0.55	0.55	0.07	0.97	0.97
Sat Flow, veh/h	3456	3554	1505	3456	3554	1492	3456	3554	1551	3456	5106	1549
Grp Volume(v), veh/h	216	563	153	109	362	65	287	1848	227	108	338	106
Grp Sat Flow(s),veh/h/ln	1728	1777	1505	1728	1777	1492	1728	1777	1551	1728	1702	1549
Q Serve(g_s), s	8.6	20.3	12.2	4.4	12.7	5.1	11.4	68.4	10.8	4.4	0.4	0.4
Cycle Q Clear(g_c), s	8.6	20.3	12.2	4.4	12.7	5.1	11.4	68.4	10.8	4.4	0.4	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	821	348	157	708	297	341	1951	852	114	2467	749
V/C Ratio(X)	0.81	0.69	0.44	0.69	0.51	0.22	0.84	0.95	0.27	0.95	0.14	0.14
Avail Cap(c_a), veh/h	442	899	381	437	888	373	558	1951	852	114	2467	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.6	49.2	46.1	65.8	50.0	46.9	62.0	29.7	16.7	65.3	1.2	1.2
Incr Delay (d2), s/veh	2.2	2.3	1.2	2.0	0.6	0.4	2.9	11.2	0.8	68.4	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	9.3	4.7	2.0	5.8	2.0	5.2	31.3	4.1	2.9	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	51.4	47.3	67.9	50.6	47.3	64.9	40.9	17.4	133.7	1.3	1.6
LnGrp LOS	E	D	D	E	D	D	E	D	B	F	A	A
Approach Vol, veh/h		932			536			2362			552	
Approach Delay, s/veh		54.1			53.7			41.6			27.3	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	82.8	10.8	37.5	18.2	73.5	15.2	33.0
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	4.6	* 63	17.7	* 35	22.6	44.7	17.9	35.0
Max Q Clear Time (g_c+I1), s	6.4	70.4	6.4	22.3	13.4	2.4	10.6	14.7
Green Ext Time (p_c), s	0.0	0.0	0.1	4.8	0.4	4.2	0.2	2.6

Intersection Summary		
HCM 6th Ctrl Delay		43.9
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	424	724	11	16	283	66	21	192	88	19	49	217
Future Volume (veh/h)	424	724	11	16	283	66	21	192	88	19	49	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	437	746	11	16	292	68	22	198	91	20	51	224
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	542	1289	19	27	1114	653	39	351	165	366	384	313
Arrive On Green	0.16	0.36	0.36	0.02	0.22	0.22	0.16	0.16	0.16	0.21	0.21	0.21
Sat Flow, veh/h	3456	3581	53	1781	5106	1504	243	2203	1039	1781	1870	1527
Grp Volume(v), veh/h	437	370	387	16	292	68	169	0	142	20	51	224
Grp Sat Flow(s),veh/h/ln	1728	1777	1857	1781	1702	1504	1858	0	1627	1781	1870	1527
Q Serve(g_s), s	9.5	13.1	13.1	0.7	3.7	2.1	6.5	0.0	6.3	0.7	1.7	10.6
Cycle Q Clear(g_c), s	9.5	13.1	13.1	0.7	3.7	2.1	6.5	0.0	6.3	0.7	1.7	10.6
Prop In Lane	1.00		0.03	1.00		1.00	0.13		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	542	640	668	27	1114	653	296	0	259	366	384	313
V/C Ratio(X)	0.81	0.58	0.58	0.60	0.26	0.10	0.57	0.00	0.55	0.05	0.13	0.72
Avail Cap(c_a), veh/h	990	1141	1193	92	2075	936	839	0	735	715	750	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	20.1	20.1	37.9	25.1	13.5	30.1	0.0	30.0	24.8	25.2	28.7
Incr Delay (d2), s/veh	1.1	1.7	1.6	7.7	0.1	0.1	0.6	0.0	0.7	0.1	0.2	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	5.4	5.6	0.4	1.5	1.0	2.9	0.0	2.4	0.3	0.8	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	21.7	21.7	45.6	25.3	13.6	30.8	0.0	30.7	24.9	25.4	33.0
LnGrp LOS	C	C	C	D	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1194			376			311			295	
Approach Delay, s/veh		25.7			24.0			30.7			31.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.6	33.9		20.8	16.6	22.9		17.2
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	4.6	* 50		31.1	22.2	31.5		35.0
Max Q Clear Time (g_c+I1), s	12.3	15.1		12.6	11.5	5.7		8.5
Green Ext Time (p_c), s	0.0	10.5		1.6	0.7	2.5		1.2

Intersection Summary	
HCM 6th Ctrl Delay	26.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

NT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	787	7	6	313	55	28	5	56	131	2	31
Future Volume (veh/h)	17	787	7	6	313	55	28	5	56	131	2	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.91	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	855	8	7	340	60	30	5	61	143	0	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	1916	18	13	1560	265	37	6	75	477	0	398
Arrive On Green	0.02	0.37	0.37	0.01	0.36	0.36	0.08	0.08	0.08	0.13	0.00	0.13
Sat Flow, veh/h	1781	5214	49	1781	4367	743	484	81	985	3563	0	2971
Grp Volume(v), veh/h	18	558	305	7	262	138	96	0	0	143	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1858	1781	1702	1706	1549	0	0	1781	0	1486
Q Serve(g_s), s	0.5	6.0	6.0	0.2	2.6	2.7	3.0	0.0	0.0	1.8	0.0	0.5
Cycle Q Clear(g_c), s	0.5	6.0	6.0	0.2	2.6	2.7	3.0	0.0	0.0	1.8	0.0	0.5
Prop In Lane	1.00		0.03	1.00		0.44	0.31		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	32	1251	683	13	1216	609	118	0	0	477	0	398
V/C Ratio(X)	0.57	0.45	0.45	0.53	0.22	0.23	0.81	0.00	0.00	0.30	0.00	0.09
Avail Cap(c_a), veh/h	243	2262	1235	169	2114	1060	355	0	0	2360	0	1968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	11.6	11.6	24.0	10.8	10.9	22.0	0.0	0.0	18.9	0.0	18.4
Incr Delay (d2), s/veh	5.8	0.4	0.8	11.6	0.1	0.3	5.0	0.0	0.0	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.0	2.2	0.1	0.8	0.9	1.1	0.0	0.0	0.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	12.0	12.4	35.6	11.0	11.2	27.0	0.0	0.0	19.2	0.0	18.5
LnGrp LOS	C	B	B	D	B	B	C	A	A	B	A	B
Approach Vol, veh/h		881			407			96			177	
Approach Delay, s/veh		12.5			11.5			27.0			19.1	
Approach LOS		B			B			C			B	

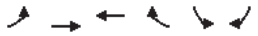
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	23.7		11.4	5.3	23.2		8.6
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	4.6	* 32		32.1	6.6	30.1		11.1
Max Q Clear Time (g_c+I1), s	2.2	8.0		3.8	2.5	4.7		5.0
Green Ext Time (p_c), s	0.0	9.8		0.5	0.0	4.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	247	749	323	1317	320	55
Future Volume (veh/h)	247	749	323	1317	320	55
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	260	788	340	1386	337	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	160	3814	2233	1006	480	220
Arrive On Green	0.05	0.75	0.66	0.66	0.14	0.14
Sat Flow, veh/h	3456	5274	3572	1533	3456	1585
Grp Volume(v), veh/h	260	788	340	1386	337	58
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1533	1728	1585
Q Serve(g_s), s	4.6	4.6	3.8	65.0	9.2	3.2
Cycle Q Clear(g_c), s	4.6	4.6	3.8	65.0	9.2	3.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	160	3814	2233	1006	480	220
V/C Ratio(X)	1.62	0.21	0.15	1.38	0.70	0.26
Avail Cap(c_a), veh/h	160	3814	2233	1006	1210	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	3.8	6.5	17.0	40.7	38.1
Incr Delay (d2), s/veh	305.9	0.1	0.1	176.5	3.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	1.3	1.3	68.6	4.1	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	353.1	3.8	6.6	193.6	43.8	39.2
LnGrp LOS	F	A	A	F	D	D
Approach Vol, veh/h		1048	1726		395	
Approach Delay, s/veh		90.5	156.7		43.1	
Approach LOS		F	F		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		80.0		19.1	9.0	71.0
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		74.0		34.7	4.6	65.0
Max Q Clear Time (g_c+I1), s		6.6		11.2	6.6	67.0
Green Ext Time (p_c), s		15.8		2.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	120.7
HCM 6th LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	372	716	174	1763	0	0
Future Volume (veh/h)	372	716	174	1763	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	392	754	183	1856		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6539	5006	218	9957		
Arrive On Green	1.00	1.00	0.13	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	392	754	183	1856		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	5.2	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	5.2	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6539	5006	218	9957		
V/C Ratio(X)	0.06	0.15	0.84	0.19		
Avail Cap(c_a), veh/h	6539	5006	218	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.96	0.96	0.70	0.70		
Uniform Delay (d), s/veh	0.0	0.0	43.2	0.0		
Incr Delay (d2), s/veh	0.0	0.1	17.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.6	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	60.6	0.0		
LnGrp LOS	A	A	E	A		
Approach Vol, veh/h	1146			2039		
Approach Delay, s/veh	0.0			5.5		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	11.0	194.0				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	6.3	82.0				* 96
Max Q Clear Time (g_c+I1), s	7.2	2.0				2.0
Green Ext Time (p_c), s	0.0	4.0				15.9

Intersection Summary	
HCM 6th Ctrl Delay	3.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	370	0	0	738	1087	733
Future Volume (vph)	370	0	0	738	1087	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2687
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2687
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	381	0	0	761	1121	756
RTOR Reduction (vph)	0	0	0	0	0	201
Lane Group Flow (vph)	381	0	0	761	1121	555
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	42.5			52.7	34.2	39.7
Effective Green, g (s)	42.5			52.7	34.2	39.7
Actuated g/C Ratio	0.42			0.53	0.34	0.40
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1504			3377	1174	1066
v/s Ratio Prot	c0.11			0.12	c0.33	c0.03
v/s Ratio Perm						0.18
v/c Ratio	0.25			0.23	0.95	0.52
Uniform Delay, d1	18.5			12.7	32.1	22.9
Progression Factor	1.01			1.00	1.00	1.00
Incremental Delay, d2	0.4			0.2	16.4	0.2
Delay (s)	19.0			12.8	48.5	23.1
Level of Service	B			B	D	C
Approach Delay (s)	19.0			12.8	38.3	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	29	187	63	35	30	157	2308	133	14	723	54
Future Volume (veh/h)	35	29	187	63	35	30	157	2308	133	14	723	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	130	135	68	38	32	169	2482	143	15	777	58
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	262	293	107	58	38	191	2340	133	22	1980	148
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.21	1.00	1.00	0.01	0.59	0.59
Sat Flow, veh/h	270	1365	1524	358	304	200	1781	3408	194	1781	3342	249
Grp Volume(v), veh/h	168	0	135	138	0	0	169	1279	1346	15	413	422
Grp Sat Flow(s),veh/h/ln	1635	0	1524	862	0	0	1781	1777	1825	1781	1777	1815
Q Serve(g_s), s	0.0	0.0	11.0	11.3	0.0	0.0	12.9	96.1	96.1	1.2	17.3	17.3
Cycle Q Clear(g_c), s	12.3	0.0	11.0	23.7	0.0	0.0	12.9	96.1	96.1	1.2	17.3	17.3
Prop In Lane	0.23		1.00	0.49		0.23	1.00		0.11	1.00		0.14
Lane Grp Cap(c), veh/h	346	0	293	204	0	0	191	1220	1253	22	1052	1075
V/C Ratio(X)	0.49	0.00	0.46	0.68	0.00	0.00	0.89	1.05	1.07	0.67	0.39	0.39
Avail Cap(c_a), veh/h	384	0	327	234	0	0	298	1220	1253	51	1052	1075
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	0.0	50.1	58.1	0.0	0.0	54.2	0.0	0.0	68.8	15.2	15.2
Incr Delay (d2), s/veh	0.4	0.0	0.4	4.4	0.0	0.0	1.3	24.2	35.1	11.9	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	4.3	5.1	0.0	0.0	5.1	8.2	12.2	0.6	6.9	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	0.0	50.6	62.5	0.0	0.0	55.5	24.2	35.1	80.7	16.3	16.2
LnGrp LOS	D	A	D	E	A	A	E	F	F	F	B	B
Approach Vol, veh/h		303			138			2794			850	
Approach Delay, s/veh		50.7			62.5			31.3			17.4	
Approach LOS		D			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	88.8		31.8	6.2	102.0		31.8				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	23.4	71.4		30.0	4.0	* 91		30.0				
Max Q Clear Time (g_c+I1), s	14.9	19.3		25.7	3.2	98.1		14.3				
Green Ext Time (p_c), s	0.1	7.6		0.2	0.0	0.0		0.8				

Intersection Summary		
HCM 6th Ctrl Delay	30.9	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	631	316	156	260	242	330	84	1596	232	240	610	349
Future Volume (veh/h)	631	316	156	260	242	330	84	1596	232	240	610	349
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	717	359	177	295	275	375	95	1814	264	273	693	397
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1156	467	138	1156	501	71	1395	613	138	1395	618
Arrive On Green	0.04	0.33	0.33	0.04	0.33	0.33	0.04	0.39	0.39	0.04	0.39	0.39
Sat Flow, veh/h	3456	3554	1436	3456	3554	1541	1781	3554	1561	3456	3554	1573
Grp Volume(v), veh/h	717	359	177	295	275	375	95	1814	264	273	693	397
Grp Sat Flow(s),veh/h/ln	1728	1777	1436	1728	1777	1541	1781	1777	1561	1728	1777	1573
Q Serve(g_s), s	4.0	7.6	9.5	4.0	5.7	21.7	4.0	39.3	12.4	4.0	14.7	20.5
Cycle Q Clear(g_c), s	4.0	7.6	9.5	4.0	5.7	21.7	4.0	39.3	12.4	4.0	14.7	20.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1156	467	138	1156	501	71	1395	613	138	1395	618
V/C Ratio(X)	5.19	0.31	0.38	2.13	0.24	0.75	1.33	1.30	0.43	1.97	0.50	0.64
Avail Cap(c_a), veh/h	138	1411	570	138	1386	601	71	1395	613	138	1395	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	25.3	26.0	48.0	24.7	30.1	48.0	30.4	22.2	48.0	22.9	24.7
Incr Delay (d2), s/veh	190	0.2	0.3	1.1	533.8	0.2	5.7	219.1	140.4	2.2	463.7	1.3	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.2	3.2	3.3	12.0	2.4	8.6	6.1	42.5	4.8	10.6	6.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1948.2	25.6	27.0	581.8	24.9	35.8	267.1	170.7	24.4	511.7	24.2	29.8
LnGrp LOS	F	C	C	F	C	D	F	F	C	F	C	C
Approach Vol, veh/h		1253			945			2173			1363	
Approach Delay, s/veh		1126.0			203.1			157.2			123.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	45.0	8.4	38.2	8.4	45.0	8.4	38.2
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7
Max Green Setting (Gmax), s	4.0	32.8	4.0	* 40	4.0	* 33	4.0	39.0
Max Q Clear Time (g_c+I1), s	10.0	41.3	6.0	11.5	6.0	22.5	6.0	23.7
Green Ext Time (p_c), s	0.0	0.0	0.0	6.3	0.0	7.1	0.0	5.1

Intersection Summary	
HCM 6th Ctrl Delay	368.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	153	0	0	891	439	1044	0	0	971	122
Future Vol, veh/h	0	0	153	0	0	891	439	1044	0	0	971	122
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	166	0	0	968	477	1135	0	0	1055	133

Major/Minor	Minor2					Major1			Major2			
Conflicting Flow All	-	-	528			1055	0	-	-	-	0	
Stage 1	-	-	-			-	-	-	-	-	-	
Stage 2	-	-	-			-	-	-	-	-	-	
Critical Hdwy	-	-	6.94			4.3	-	-	-	-	-	
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-	
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-	
Pot Cap-1 Maneuver	0	0	495			626	-	0	0	-	-	
Stage 1	0	0	-			-	-	0	0	-	-	
Stage 2	0	0	-			-	-	0	0	-	-	
Platoon blocked, %							-			-	-	
Mov Cap-1 Maneuver	-	0	495			626	-	-	-	-	-	
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-	
Stage 1	-	0	-			-	-	-	-	-	-	
Stage 2	-	0	-			-	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	15.9	7.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	626	-	495	-	-
HCM Lane V/C Ratio	0.762	-	0.336	-	-
HCM Control Delay (s)	26.8	-	15.9	-	-
HCM Lane LOS	D	-	C	-	-
HCM 95th %tile Q(veh)	7	-	1.5	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	194	1352	769	434	675
Future Volume (veh/h)	140	194	1352	769	434	675
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	211	1470	0	472	734
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	286	254	1475		378	2434
Arrive On Green	0.16	0.16	0.41	0.00	0.21	0.69
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	152	211	1470	0	472	734
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.4	10.5	33.6	0.0	17.3	6.7
Cycle Q Clear(g_c), s	6.4	10.5	33.6	0.0	17.3	6.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	286	254	1475		378	2434
V/C Ratio(X)	0.53	0.83	1.00		1.25	0.30
Avail Cap(c_a), veh/h	700	623	1475		378	2434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	33.1	23.8	0.0	32.1	5.1
Incr Delay (d2), s/veh	0.6	2.7	22.7	0.0	131.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.1	16.8	0.0	20.7	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.0	35.8	46.5	0.0	163.8	5.4
LnGrp LOS	C	D	D		F	A
Approach Vol, veh/h	363		1470	A		1206
Approach Delay, s/veh	34.2		46.5			67.4
Approach LOS	C		D			E
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	41.3		18.2		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		* 56
Max Q Clear Time (g_c+I1), s	19.3	35.6		12.5		8.7
Green Ext Time (p_c), s	0.0	0.0		0.6		3.2

Intersection Summary	
HCM 6th Ctrl Delay	53.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	321	219	0	2289	290	180	789
Future Volume (veh/h)	321	219	0	2289	290	180	789
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	349	0		2488	0	196	858
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	382	340		2161	964	243	2504
Arrive On Green	0.21	0.00		0.61	0.00	0.07	0.70
Sat Flow, veh/h	1781	1585		3647	1585	3456	3647
Grp Volume(v), veh/h	349	0		2488	0	196	858
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1585	1728	1777
Q Serve(g_s), s	26.8	0.0		85.1	0.0	7.8	13.2
Cycle Q Clear(g_c), s	26.8	0.0		85.1	0.0	7.8	13.2
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	382	340		2161	964	243	2504
V/C Ratio(X)	0.91	0.00		1.15	0.00	0.81	0.34
Avail Cap(c_a), veh/h	478	426		2161	964	249	2504
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00		1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	0.0		27.4	0.0	64.2	8.0
Incr Delay (d2), s/veh	20.7	0.0		73.9	0.0	15.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	0.0		54.4	0.0	3.9	4.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	74.4	0.0		101.4	0.0	80.1	8.4
LnGrp LOS	E	A		F	A	F	A
Approach Vol, veh/h	349			2488			1054
Approach Delay, s/veh	74.4			101.4			21.7
Approach LOS	E			F			C
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	14.2	90.8		34.9		105.1	
Change Period (Y+Rc), s	4.4	5.7		4.9		6.4	
Max Green Setting (Gmax), s	10.1	77.3		37.6		81.6	
Max Q Clear Time (g_c+I1), s	19.8	87.1		28.8		15.2	
Green Ext Time (p_c), s	0.0	0.0		1.2		3.9	

Intersection Summary	
HCM 6th Ctrl Delay	77.4
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

NT AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	105	43	74	60	78	76	1612	441	79	487	53
Future Volume (veh/h)	36	105	43	74	60	78	76	1612	441	79	487	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	113	46	80	65	84	82	1733	474	85	524	57
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	50	311	118	124	238	198	84	2547	679	97	3015	323
Arrive On Green	0.03	0.13	0.13	0.04	0.13	0.13	0.05	0.64	0.64	0.05	0.65	0.65
Sat Flow, veh/h	1781	2466	938	3456	1777	1476	1781	3993	1064	1781	4671	501
Grp Volume(v), veh/h	39	79	80	80	65	84	82	1470	737	85	380	201
Grp Sat Flow(s),veh/h/ln	1781	1777	1626	1728	1777	1476	1781	1702	1653	1781	1702	1768
Q Serve(g_s), s	2.9	5.4	6.0	3.0	4.3	6.9	6.1	36.3	38.4	6.3	5.9	6.0
Cycle Q Clear(g_c), s	2.9	5.4	6.0	3.0	4.3	6.9	6.1	36.3	38.4	6.3	5.9	6.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		0.64	1.00		0.28
Lane Grp Cap(c), veh/h	50	224	205	124	238	198	84	2172	1055	97	2197	1141
V/C Ratio(X)	0.78	0.35	0.39	0.64	0.27	0.42	0.98	0.68	0.70	0.87	0.17	0.18
Avail Cap(c_a), veh/h	103	530	485	139	499	415	84	2172	1055	97	2197	1141
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	52.8	53.0	62.8	51.4	52.5	62.8	15.2	15.6	62.0	9.3	9.4
Incr Delay (d2), s/veh	9.3	0.4	0.4	5.6	0.2	0.5	91.2	1.7	3.8	61.8	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.4	2.5	1.4	2.0	2.6	4.8	13.1	14.0	4.4	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.0	53.1	53.5	68.4	51.6	53.0	154.1	16.9	19.4	123.7	9.5	9.7
LnGrp LOS	E	D	D	E	D	D	F	B	B	F	A	A
Approach Vol, veh/h		198			229			2289			666	
Approach Delay, s/veh		57.2			58.0			22.7			24.1	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	89.7	9.2	21.5	10.6	90.7	8.1	22.6
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	7.2	60.9	5.3	39.4	6.2	* 62	7.6	37.1
Max Q Clear Time (g_c+I1), s	8.3	40.4	5.0	8.0	8.1	8.0	4.9	8.9
Green Ext Time (p_c), s	0.0	16.8	0.0	0.6	0.0	5.2	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

NT AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1081	16	8	612	39	37	3	21	54	2	67
Future Volume (veh/h)	117	1081	16	8	612	39	37	3	21	54	2	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	1175	17	9	665	0	40	3	23	59	2	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	2059	30	17	1744	0	181	27	45	332	5	172
Arrive On Green	0.09	0.57	0.57	0.01	0.49	0.00	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3586	52	1781	3647	0	521	245	410	1385	42	1549
Grp Volume(v), veh/h	127	582	610	9	665	0	66	0	0	59	0	75
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	0	1175	0	0	1385	0	1592
Q Serve(g_s), s	3.3	9.7	9.7	0.2	5.5	0.0	0.9	0.0	0.0	0.0	0.0	2.1
Cycle Q Clear(g_c), s	3.3	9.7	9.7	0.2	5.5	0.0	3.0	0.0	0.0	1.4	0.0	2.1
Prop In Lane	1.00		0.03	1.00		0.00	0.61		0.35	1.00		0.97
Lane Grp Cap(c), veh/h	165	1020	1069	17	1744	0	254	0	0	332	0	176
V/C Ratio(X)	0.77	0.57	0.57	0.54	0.38	0.00	0.26	0.00	0.00	0.18	0.00	0.43
Avail Cap(c_a), veh/h	632	2468	2585	289	4261	0	1104	0	0	1159	0	1126
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.7	6.3	6.3	23.1	7.5	0.0	19.7	0.0	0.0	19.1	0.0	19.4
Incr Delay (d2), s/veh	2.8	0.7	0.6	9.5	0.2	0.0	0.2	0.0	0.0	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.5	2.6	0.1	1.6	0.0	0.6	0.0	0.0	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	7.0	6.9	32.5	7.7	0.0	19.9	0.0	0.0	19.2	0.0	20.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	C
Approach Vol, veh/h		1319			674			66			134	
Approach Delay, s/veh		8.5			8.0			19.9			19.7	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	4.8	31.9	10.1	8.7	28.0	10.1
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	7.6	65.0	33.1	16.6	* 56	33.1
Max Q Clear Time (g_c+I1), s	2.2	11.7	4.1	5.3	7.5	5.0
Green Ext Time (p_c), s	0.0	15.2	0.4	0.1	9.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	247	74	126	259	503	49	467	88	508	832	20
Future Volume (veh/h)	27	247	74	126	259	503	49	467	88	508	832	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.91	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	266	80	135	278	541	53	502	95	546	895	22
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	819	239	160	670	556	68	1193	218	602	2126	52
Arrive On Green	0.02	0.31	0.31	0.09	0.38	0.38	0.04	0.28	0.28	0.17	0.42	0.42
Sat Flow, veh/h	1781	2662	776	1781	1777	1473	1781	4267	780	3456	5119	126
Grp Volume(v), veh/h	29	175	171	135	278	541	53	397	200	546	595	322
Grp Sat Flow(s),veh/h/ln	1781	1777	1662	1781	1777	1473	1781	1702	1643	1728	1702	1840
Q Serve(g_s), s	2.1	10.0	10.5	9.8	15.2	47.7	3.9	12.6	13.2	20.5	16.3	16.4
Cycle Q Clear(g_c), s	2.1	10.0	10.5	9.8	15.2	47.7	3.9	12.6	13.2	20.5	16.3	16.4
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.47	1.00		0.07
Lane Grp Cap(c), veh/h	37	547	511	160	670	556	68	951	459	602	1414	764
V/C Ratio(X)	0.79	0.32	0.33	0.84	0.41	0.97	0.77	0.42	0.44	0.91	0.42	0.42
Avail Cap(c_a), veh/h	89	547	511	305	672	557	211	951	459	696	1414	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	35.1	35.3	59.1	30.3	40.4	62.9	38.8	39.0	53.5	27.3	27.4
Incr Delay (d2), s/veh	13.2	0.1	0.1	4.5	0.2	31.1	6.2	1.2	2.7	13.3	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.4	4.3	4.7	6.6	21.9	1.9	5.4	5.7	10.0	6.9	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.6	35.2	35.4	63.6	30.5	71.6	69.1	40.0	41.7	66.8	28.3	29.1
LnGrp LOS	E	D	D	E	C	E	E	D	D	E	C	C
Approach Vol, veh/h		375			954			650			1463	
Approach Delay, s/veh		38.6			58.5			42.9			42.8	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.4	42.6	16.3	45.7	9.5	60.5	7.1	54.9
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	26.6	29.3	22.6	* 34	15.6	40.3	6.6	49.9
Max Q Clear Time (g_c+I1), s	22.5	15.2	11.8	12.5	5.9	18.4	4.1	49.7
Green Ext Time (p_c), s	0.5	4.6	0.1	1.3	0.0	9.3	0.0	0.1

Intersection Summary		
HCM 6th Ctrl Delay	46.7	
HCM 6th LOS	D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2115	820	0	1314	1245	0	0	0	734	0	651
Future Volume (vph)	0	2115	820	0	1314	1245	0	0	0	734	0	651
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1533				3433		2734
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1533				3433		2734
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2158	837	0	1341	1270	0	0	0	749	0	664
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	2158	837	0	1341	1270	0	0	0	749	0	656
Confl. Peds. (#/hr)	16		10	10		16	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free				Prot		custom
Protected Phases		2			6					4		5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		47.3	138.0		37.4	138.0				80.4		86.1
Effective Green, g (s)		47.3	138.0		37.4	138.0				80.4		86.1
Actuated g/C Ratio		0.34	1.00		0.27	1.00				0.58		0.62
Clearance Time (s)		5.7			5.7					4.6		4.2
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2196	1538		1378	1533				2000		1705
v/s Ratio Prot		c0.34			0.26					0.22		0.02
v/s Ratio Perm			0.54			c0.83						0.22
v/c Ratio		0.98	0.54		0.97	0.83				0.37		0.38
Uniform Delay, d1		44.9	0.0		49.8	0.0				15.4		12.8
Progression Factor		1.00	1.00		1.14	1.00				1.00		1.00
Incremental Delay, d2		15.5	1.4		8.7	1.7				0.5		0.1
Delay (s)		60.5	1.4		65.6	1.7				15.9		12.9
Level of Service		E	A		E	A				B		B
Approach Delay (s)		44.0			34.5			0.0			14.5	
Approach LOS		D			C			A			B	

Intersection Summary					
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.95				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	60.2%	ICU Level of Service		B	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: I-5 NB Off Ramp & La Jolla Village Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1586	1248	0	2271	651	289	0	419	0	0	0
Future Volume (vph)	0	1586	1248	0	2271	651	289	0	419	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.98			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2737			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2737			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1635	1287	0	2341	671	298	0	432	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	9	0	0	0
Lane Group Flow (vph)	0	1635	1287	0	2341	671	298	0	423	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		44.3	138.0		60.3	138.0	67.4		79.2			
Effective Green, g (s)		44.3	138.0		60.3	138.0	67.4		79.2			
Actuated g/C Ratio		0.32	1.00		0.44	1.00	0.49		0.57			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		1632	1538		2221	1538	1676		1570			
v/s Ratio Prot		0.32			c0.46		0.09		0.02			
v/s Ratio Perm			c0.84			0.44			0.13			
v/c Ratio		1.00	0.84		1.05	0.44	0.18		0.27			
Uniform Delay, d1		46.9	0.0		38.9	0.0	19.8		14.8			
Progression Factor		0.61	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		16.8	3.1		35.2	0.9	0.2		0.4			
Delay (s)		45.3	3.1		74.1	0.9	20.0		15.2			
Level of Service		D	A		E	A	C		B			
Approach Delay (s)		26.7			57.8			17.2			0.0	
Approach LOS		C			E			B			A	

Intersection Summary				
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	60.7%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
4: Lebon Drive & La Jolla Village Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	2043	270	276	2452	4	464	7	125	8	1	6
Future Volume (veh/h)	13	2043	270	276	2452	4	464	7	125	8	1	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	2151	284	291	2581	4	488	0	137	8	1	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	2769	1176	344	3317	5	759	0	646	20	2	15
Arrive On Green	0.01	0.54	0.54	0.03	0.21	0.21	0.21	0.00	0.21	0.01	0.01	0.01
Sat Flow, veh/h	1781	5106	1547	3456	5264	8	3563	0	3030	1592	199	1194
Grp Volume(v), veh/h	14	2151	284	291	1669	916	488	0	137	9	0	6
Grp Sat Flow(s),veh/h/ln	1781	1702	1547	1728	1702	1869	1781	0	1515	1791	0	1194
Q Serve(g_s), s	1.2	50.0	8.3	12.6	69.5	69.5	18.7	0.0	5.6	0.7	0.0	0.7
Cycle Q Clear(g_c), s	1.2	50.0	8.3	12.6	69.5	69.5	18.7	0.0	5.6	0.7	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	21	2769	1176	344	2145	1177	759	0	646	22	0	15
V/C Ratio(X)	0.67	0.78	0.24	0.84	0.78	0.78	0.64	0.00	0.21	0.41	0.00	0.41
Avail Cap(c_a), veh/h	447	2769	1176	544	2145	1177	1617	0	1376	73	0	49
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.09	0.09	0.09	0.88	0.00	0.88	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.8	27.2	5.5	71.4	49.5	49.5	53.8	0.0	48.6	73.5	0.0	73.5
Incr Delay (d2), s/veh	5.4	0.9	0.2	0.4	0.3	0.5	3.7	0.0	0.7	4.4	0.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	20.3	5.7	5.9	32.0	35.2	8.8	0.0	2.2	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.3	28.1	5.7	71.7	49.8	50.0	57.5	0.0	49.3	77.9	0.0	80.0
LnGrp LOS	E	C	A	E	D	D	E	A	D	E	A	F
Approach Vol, veh/h		2449			2876			625			15	
Approach Delay, s/veh		25.8			52.1			55.7			78.7	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	87.0		6.8	6.2	100.2		36.9				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	23.6	* 33		6.1	37.6	18.3		68.1				
Max Q Clear Time (g_c+I1), s	14.6	52.0		2.7	3.2	71.5		20.7				
Green Ext Time (p_c), s	0.4	0.0		0.0	0.0	0.0		10.0				

Intersection Summary			
HCM 6th Ctrl Delay	41.7		
HCM 6th LOS	D		

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
5: Regents Road & La Jolla Village Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	443	1625	108	446	1748	109	255	245	124	242	812	955
Future Volume (veh/h)	443	1625	108	446	1748	109	255	245	124	242	812	955
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.90	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	461	1693	112	465	1821	114	266	255	129	252	846	995
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	512	1959	129	405	1816	113	221	1094	440	274	1414	581
Arrive On Green	0.20	0.53	0.53	0.04	0.12	0.12	0.02	0.10	0.10	0.15	0.40	0.40
Sat Flow, veh/h	3456	4881	322	3456	4900	306	3456	3554	1429	1781	3554	1460
Grp Volume(v), veh/h	461	1180	625	465	1264	671	266	255	129	252	846	995
Grp Sat Flow(s),veh/h/ln	1728	1702	1799	1728	1702	1802	1728	1777	1429	1781	1777	1460
Q Serve(g_s), s	19.5	45.0	45.2	17.6	55.6	55.6	9.6	9.9	12.5	20.9	28.2	59.7
Cycle Q Clear(g_c), s	19.5	45.0	45.2	17.6	55.6	55.6	9.6	9.9	12.5	20.9	28.2	59.7
Prop In Lane	1.00		0.18	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	512	1366	722	405	1261	668	221	1094	440	274	1414	581
V/C Ratio(X)	0.90	0.86	0.87	1.15	1.00	1.01	1.20	0.23	0.29	0.92	0.60	1.71
Avail Cap(c_a), veh/h	705	1366	722	405	1261	668	221	1094	440	340	1414	581
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.36	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.1	31.4	31.5	72.1	65.8	65.8	73.4	51.1	52.3	62.5	35.7	45.2
Incr Delay (d2), s/veh	3.8	2.9	5.3	91.2	25.8	36.2	122.8	0.1	0.4	23.6	0.8	328.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	17.6	19.2	13.4	30.1	33.8	8.2	4.8	4.9	11.3	12.5	74.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	34.3	36.8	163.3	91.6	102.1	196.2	51.2	52.7	86.1	36.5	373.1
LnGrp LOS	E	C	D	F	F	F	F	D	D	F	D	F
Approach Vol, veh/h		2266			2400			650			2093	
Approach Delay, s/veh		40.8			108.4			110.8			202.5	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	66.1	14.0	65.4	26.6	61.5	27.5	51.9
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	17.6	* 44	9.6	* 60	30.6	30.6	28.6	40.3
Max Q Clear Time (g_c+I1), s	19.6	47.2	11.6	61.7	21.5	57.6	22.9	14.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.7	0.0	0.2	2.7

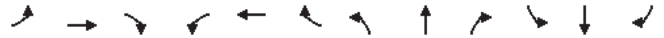
Intersection Summary		
HCM 6th Ctrl Delay		114.5
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Unsignalized Intersection Capacity Analysis
6: Costa Verde Blvd & La Jolla Village Drive

NT PM
10/03/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1723	250	0	2094	53	0	0	103	0	0	196
Future Volume (Veh/h)	0	1723	250	0	2094	53	0	0	103	0	0	196
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1873	272	0	2276	58	0	0	112	0	0	213
Pedestrians		10			10			10			18	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.73			0.72			0.85	0.85	0.72	0.85	0.85	0.73
vC, conflicting volume	2352			2155			3001	4371	780	3069	4478	816
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1565			1246			629	2232	0	709	2357	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	85	100	100	73
cM capacity (veh/h)	301			396			220	35	769	225	29	775

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	749	749	647	910	910	513	112	213
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	272	0	0	58	112	213
cSH	1700	1700	1700	1700	1700	1700	769	775
Volume to Capacity	0.44	0.44	0.38	0.54	0.54	0.30	0.15	0.27
Queue Length 95th (ft)	0	0	0	0	0	0	13	28
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.5	11.4
Lane LOS							B	B
Approach Delay (s)	0.0			0.0			10.5	11.4
Approach LOS							B	B

Intersection Summary				
Average Delay		0.7		
Intersection Capacity Utilization		61.6%	ICU Level of Service	B
Analysis Period (min)		15		

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	1307	324	545	1480	195	253	339	231	585	1191	414
Future Volume (veh/h)	186	1307	324	545	1480	195	253	339	231	585	1191	414
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	1390	345	580	1574	207	269	361	246	622	1267	440
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	1704	503	544	2152	948	316	928	267	670	1450	427
Arrive On Green	0.14	0.67	0.67	0.11	0.28	0.28	0.03	0.06	0.06	0.19	0.28	0.28
Sat Flow, veh/h	3456	5106	1509	3456	5106	1520	3456	5106	1469	3456	5106	1503
Grp Volume(v), veh/h	198	1390	345	580	1574	207	269	361	246	622	1267	440
Grp Sat Flow(s),veh/h/ln	1728	1702	1509	1728	1702	1520	1728	1702	1469	1728	1702	1503
Q Serve(g_s), s	8.4	29.8	21.0	23.6	41.8	10.7	11.6	10.2	25.0	26.5	35.4	42.6
Cycle Q Clear(g_c), s	8.4	29.8	21.0	23.6	41.8	10.7	11.6	10.2	25.0	26.5	35.4	42.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	1704	503	544	2152	948	316	928	267	670	1450	427
V/C Ratio(X)	0.82	0.82	0.69	1.07	0.73	0.22	0.85	0.39	0.92	0.93	0.87	1.03
Avail Cap(c_a), veh/h	290	1704	503	544	2152	948	359	928	267	733	1450	427
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.91	0.91	0.91	0.93	0.93	0.93
Uniform Delay (d), s/veh	63.7	21.6	20.1	67.1	46.1	16.3	71.7	62.5	69.4	59.4	51.1	53.7
Incr Delay (d2), s/veh	12.5	4.4	7.4	34.2	0.2	0.0	13.2	0.3	33.0	15.7	6.0	50.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	8.9	6.2	13.3	18.5	4.1	6.0	4.7	12.4	13.1	15.9	22.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.2	26.0	27.5	101.3	46.3	16.4	84.9	62.8	102.4	75.2	57.1	103.8
LnGrp LOS	E	C	C	F	D	B	F	E	F	E	E	F
Approach Vol, veh/h		1933			2361			876			2329	
Approach Delay, s/veh		31.4			57.2			80.7			70.8	
Approach LOS		C			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	55.6	18.1	48.3	14.8	68.7	33.5	33.0
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	23.6	* 49	15.6	* 43	12.6	59.5	31.8	26.1
Max Q Clear Time (g_c+I1), s	25.6	31.8	13.6	44.6	10.4	43.8	28.5	27.0
Green Ext Time (p_c), s	0.0	15.3	0.1	0.0	0.1	14.3	0.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	57.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1874	209	284	1984	100	171	38	269	375	91	239
Future Volume (veh/h)	69	1874	209	284	1984	100	171	38	269	375	91	239
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.91	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	2258	252	342	2390	120	239	0	324	513	25	288
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	1988	602	267	2083	104	793	0	643	644	22	257
Arrive On Green	0.10	0.78	0.78	0.08	0.42	0.42	0.22	0.00	0.22	0.18	0.18	0.18
Sat Flow, veh/h	1781	5106	1545	3456	4975	247	3563	0	2886	3563	123	1421
Grp Volume(v), veh/h	83	2258	252	342	1628	882	239	0	324	513	0	313
Grp Sat Flow(s),veh/h/ln	1781	1702	1545	1728	1702	1818	1781	0	1443	1781	0	1544
Q Serve(g_s), s	7.0	58.4	8.0	11.6	62.8	62.8	8.4	0.0	14.7	20.7	0.0	27.1
Cycle Q Clear(g_c), s	7.0	58.4	8.0	11.6	62.8	62.8	8.4	0.0	14.7	20.7	0.0	27.1
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	86	1988	602	267	1425	761	793	0	643	644	0	279
V/C Ratio(X)	0.97	1.14	0.42	1.28	1.14	1.16	0.30	0.00	0.50	0.80	0.00	1.12
Avail Cap(c_a), veh/h	86	1988	602	267	1425	761	974	0	789	644	0	279
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	0.45	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	67.7	16.6	11.0	69.2	43.6	43.6	48.6	0.0	51.1	58.8	0.0	61.5
Incr Delay (d2), s/veh	56.3	64.3	1.0	128.6	64.9	73.1	0.1	0.0	0.2	9.3	0.0	90.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	22.1	2.4	9.9	39.0	43.4	3.8	0.0	5.4	10.2	0.0	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	124.0	80.9	12.0	197.8	108.5	116.7	48.7	0.0	51.3	68.1	0.0	152.2
LnGrp LOS	F	F	B	F	F	F	D	A	D	E	A	F
Approach Vol, veh/h		2593			2852			563			826	
Approach Delay, s/veh		75.6			121.7			50.2			100.0	
Approach LOS		E			F			D			F	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	16.0	63.7	32.0	11.6	68.1	38.3
Change Period (Y+Rc), s	4.4	5.3	4.9	4.4	5.3	4.9
Max Green Setting (Gmax), s	11.6	50.8	27.1	7.2	55.2	41.0
Max Q Clear Time (g_c+I1), s	13.6	60.4	29.1	9.0	64.8	16.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	95.7
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
9: Towne Center Drive & La Jolla Village Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	2151	104	348	1710	436	186	186	499	1231	487	426
Future Volume (veh/h)	229	2151	104	348	1710	436	186	186	499	1231	487	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	269	2531	122	409	2012	513	219	219	587	1448	573	501
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	1878	567	256	1980	1034	267	854	854	636	1233	535
Arrive On Green	0.11	0.74	0.74	0.07	0.39	0.39	0.08	0.24	0.24	0.18	0.35	0.35
Sat Flow, veh/h	3456	5106	1541	3456	5106	2665	3456	3554	2697	3456	3554	1543
Grp Volume(v), veh/h	269	2531	122	409	2012	513	219	219	587	1448	573	501
Grp Sat Flow(s),veh/h/ln	1728	1702	1541	1728	1702	1333	1728	1777	1348	1728	1777	1543
Q Serve(g_s), s	8.6	55.2	3.7	11.1	58.2	21.9	9.4	7.5	28.6	27.6	18.8	47.1
Cycle Q Clear(g_c), s	8.6	55.2	3.7	11.1	58.2	21.9	9.4	7.5	28.6	27.6	18.8	47.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	1878	567	256	1980	1034	267	854	854	636	1233	535
V/C Ratio(X)	1.36	1.35	0.22	1.60	1.02	0.50	0.82	0.26	0.69	2.28	0.46	0.94
Avail Cap(c_a), veh/h	198	1878	567	256	1980	1034	426	948	926	636	1233	535
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.57	0.57	0.57	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.4	19.8	13.0	69.4	45.9	34.8	68.2	46.1	45.1	61.2	38.1	47.4
Incr Delay (d2), s/veh	164.0	156.8	0.1	280.0	19.4	1.0	2.6	0.3	2.5	579.8	0.5	24.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	39.7	1.2	14.9	28.0	7.3	4.3	3.4	9.9	63.3	8.4	21.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	230.4	176.6	13.1	349.5	65.3	35.8	70.8	46.5	47.5	641.0	38.6	71.9
LnGrp LOS	F	F	B	F	F	D	E	D	D	F	D	E
Approach Vol, veh/h		2922			2934			1025			2522	
Approach Delay, s/veh		174.8			99.8			52.3			391.1	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	60.7	16.0	57.3	13.0	63.7	32.0	41.3
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	11.1	51.5	18.5	48.8	8.6	* 55	27.6	* 40
Max Q Clear Time (g_c+I1), s	13.1	57.2	11.4	49.1	10.6	60.2	29.6	30.6
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	0.0	0.0	4.9

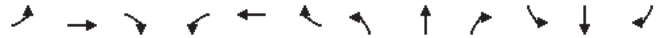
Intersection Summary	
HCM 6th Ctrl Delay	196.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
10: I-805 SB Ramps & La Jolla Village Drive/Miramar Road

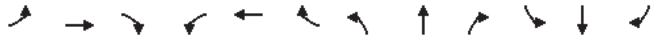
NT PM
10/03/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2537	1320	0	1902	847	0	0	0	222	0	590
Future Volume (vph)	0	2537	1320	0	1902	847	0	0	0	222	0	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1540				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1540				3433		2787
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	2916	1517	0	2186	974	0	0	0	255	0	678
RTOR Reduction (vph)	0	0	0	0	0	204	0	0	0	0	0	23
Lane Group Flow (vph)	0	2916	1517	0	2186	770	0	0	0	255	0	655
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov				Prot		custom
Protected Phases		2			6	4				4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		91.3	138.0		75.5	109.1				33.6		50.3
Effective Green, g (s)		91.3	138.0		75.5	109.1				33.6		50.3
Actuated g/C Ratio		0.66	1.00		0.55	0.79				0.24		0.36
Clearance Time (s)		7.5			7.5	5.6				5.6		
Vehicle Extension (s)		2.0			2.0	2.0				2.0		
Lane Grp Cap (vph)		3364	2707		2782	1217				835		1015
v/s Ratio Prot		c0.57			0.43	0.15				0.07		c0.24
v/s Ratio Perm			0.56			0.35						
v/c Ratio		0.87	0.56		0.79	0.63				0.31		0.65
Uniform Delay, d1		18.5	0.0		24.8	6.1				42.7		36.4
Progression Factor		1.00	1.00		0.41	87.73				1.00		1.00
Incremental Delay, d2		3.3	0.8		1.3	0.4				0.1		1.1
Delay (s)		21.8	0.8		11.4	531.6				42.7		37.5
Level of Service		C	A		B	F				D		D
Approach Delay (s)		14.6			171.7			0.0			38.9	
Approach LOS		B			F			A			D	

Intersection Summary			
HCM 2000 Control Delay	75.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1227	1542	0	2145	887	666	0	241	0	0	0
Future Volume (vph)	0	1227	1542	0	2145	887	666	0	241	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1564		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1564		6408	1538	3433		2787			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	1394	1752	0	2438	1008	757	0	274	0	0	0
RTOR Reduction (vph)	0	0	180	0	0	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	1394	1572	0	2438	1008	757	0	257	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		45.8	115.2		55.5	138.0	69.4		80.0			
Effective Green, g (s)		45.8	115.2		55.5	138.0	69.4		74.4			
Actuated g/C Ratio		0.33	0.83		0.40	1.00	0.50		0.54			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		1687	1305		2577	1538	1726		1502			
v/s Ratio Prot		0.27	c0.61		c0.38		0.22		0.09			
v/s Ratio Perm			0.40			0.66						
v/c Ratio		0.83	1.20		0.95	0.66	0.44		0.17			
Uniform Delay, d1		42.4	11.4		39.8	0.0	21.9		16.1			
Progression Factor		1.16	8.58		1.00	1.00	1.00		1.00			
Incremental Delay, d2		2.7	96.2		9.0	2.2	0.1		0.0			
Delay (s)		52.0	194.0		48.8	2.2	21.9		16.2			
Level of Service		D	F		D	A	C		B			
Approach Delay (s)		131.1			35.1			20.4			0.0	
Approach LOS		F			D			C			A	

Intersection Summary				
HCM 2000 Control Delay	72.7	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.21			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	101.2%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	73	23	69	97	59	165
Future Volume (Veh/h)	73	23	69	97	59	165
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	86	27	81	114	69	194
Pedestrians	11		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	494	118			206	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	494	118			206	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	97			95	
cM capacity (veh/h)	469	895			1350	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	86	27	54	141	263
Volume Left	86	0	0	0	69
Volume Right	0	27	0	114	0
cSH	469	895	1700	1700	1350
Volume to Capacity	0.18	0.03	0.03	0.08	0.05
Queue Length 95th (ft)	17	2	0	0	4
Control Delay (s)	14.4	9.1	0.0	0.0	2.4
Lane LOS	B	A			A
Approach Delay (s)	13.1		0.0		2.4
Approach LOS	B				

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	36.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	178	70	168	149	76	186
Future Volume (Veh/h)	178	70	168	149	76	186
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	189	74	179	159	81	198
Pedestrians	16		10			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	546	195			354	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	546	195			354	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	56	91			93	
cM capacity (veh/h)	427	796			1185	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	263	119	219	147	132
Volume Left	189	0	0	81	0
Volume Right	74	0	159	0	0
cSH	491	1700	1700	1185	1700
Volume to Capacity	0.54	0.07	0.13	0.07	0.08
Queue Length 95th (ft)	78	0	0	5	0
Control Delay (s)	20.5	0.0	0.0	4.8	0.0
Lane LOS	C			A	
Approach Delay (s)	20.5	0.0		2.5	
Approach LOS	C				

Intersection Summary				
Average Delay		6.9		
Intersection Capacity Utilization		43.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	64	136	275	96	196	208	591	241	327	1537	393
Future Volume (veh/h)	159	64	136	275	96	196	208	591	241	327	1537	393
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.77	1.00		0.87	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	117	137	143	289	180	154	219	622	254	344	1618	414
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	242	158	834	438	321	204	1378	548	394	1556	391
Arrive On Green	0.13	0.13	0.13	0.23	0.23	0.23	0.23	0.78	0.78	0.08	0.26	0.26
Sat Flow, veh/h	1781	1870	1221	3563	1870	1373	1781	3554	1415	3456	4019	1011
Grp Volume(v), veh/h	117	137	143	289	180	154	219	595	281	344	1366	666
Grp Sat Flow(s),veh/h/ln	1781	1870	1221	1781	1870	1373	1781	1702	1564	1728	1702	1626
Q Serve(g_s), s	9.2	10.3	17.3	10.1	12.2	14.5	17.2	9.1	9.4	14.8	58.1	58.1
Cycle Q Clear(g_c), s	9.2	10.3	17.3	10.1	12.2	14.5	17.2	9.1	9.4	14.8	58.1	58.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.62
Lane Grp Cap(c), veh/h	231	242	158	834	438	321	204	1320	606	394	1317	629
V/C Ratio(X)	0.51	0.57	0.90	0.35	0.41	0.48	1.07	0.45	0.46	0.87	1.04	1.06
Avail Cap(c_a), veh/h	239	251	164	929	488	358	204	1320	606	498	1317	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.37	0.37	0.37
Uniform Delay (d), s/veh	60.8	61.3	64.4	47.9	48.7	49.6	57.8	11.3	11.4	68.2	55.6	55.6
Incr Delay (d2), s/veh	0.6	1.6	41.9	0.1	0.2	0.4	83.4	1.1	2.5	4.6	25.7	39.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	5.0	7.2	4.6	5.8	5.1	11.7	2.8	2.9	7.0	30.4	31.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	62.9	106.2	48.0	48.9	50.0	141.2	12.5	13.9	72.8	81.3	94.6
LnGrp LOS	E	E	F	D	D	D	F	B	B	E	F	F
Approach Vol, veh/h		397			623			1095			2376	
Approach Delay, s/veh		78.1			48.7			38.6			83.8	
Approach LOS		E			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.5	64.1		24.3	21.6	64.1		40.0				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	21.6	49.0		20.1	17.2	* 54		39.1				
Max Q Clear Time (g_c+I1), s	16.8	11.4		19.3	19.2	60.1		16.5				
Green Ext Time (p_c), s	0.3	9.4		0.1	0.0	0.0		1.5				

Intersection Summary			
HCM 6th Ctrl Delay		67.4	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	92	0	847	1745	74
Future Volume (Veh/h)	0	92	0	847	1745	74
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	95	0	873	1799	76
Pedestrians	33			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	3			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.69	0.65	0.65			
vC, conflicting volume	2171	681	1908			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	391	0	509			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	100			
cM capacity (veh/h)	387	679	665			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	95	291	291	291	720	720	436
Volume Left	0	0	0	0	0	0	0
Volume Right	95	0	0	0	0	0	76
cSH	679	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.14	0.17	0.17	0.17	0.42	0.42	0.26
Queue Length 95th (ft)	12	0	0	0	0	0	0
Control Delay (s)	11.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.2	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay		0.4		
Intersection Capacity Utilization		50.7%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	684	318	800	1142	0	0
Future Volume (veh/h)	684	318	800	1142	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.89	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	735	342	860	1228		
Peak Hour Factor	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1691	785	923	3756		
Arrive On Green	0.75	0.75	0.53	1.00		
Sat Flow, veh/h	2354	1050	3456	3647		
Grp Volume(v), veh/h	577	500	860	1228		
Grp Sat Flow(s),veh/h/ln	1777	1534	1728	1777		
Q Serve(g_s), s	12.1	12.2	23.1	0.0		
Cycle Q Clear(g_c), s	12.1	12.2	23.1	0.0		
Prop In Lane		0.68	1.00			
Lane Grp Cap(c), veh/h	1329	1147	923	3756		
V/C Ratio(X)	0.43	0.44	0.93	0.33		
Avail Cap(c_a), veh/h	1329	1147	1306	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.83	0.83		
Uniform Delay (d), s/veh	4.7	4.7	22.4	0.0		
Incr Delay (d2), s/veh	1.0	1.2	6.7	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.9	3.4	7.0	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.7	5.9	29.2	0.2		
LnGrp LOS	A	A	C	A		
Approach Vol, veh/h	1077			2088		
Approach Delay, s/veh	5.8			12.1		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	30.9	79.6				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 38	53.5				* 96
Max Q Clear Time (g_c+I1), s	25.1	14.2				2.0
Green Ext Time (p_c), s	1.6	23.1				7.9

Intersection Summary			
HCM 6th Ctrl Delay		10.0	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	763	0	0	1177	9	281	33	380	0	0	295
Future Volume (vph)	0	763	0	0	1177	9	281	33	380	0	0	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.92			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.96	1.00			1.00
Satd. Flow (prot)		3539			6394		1681	1703	1457			1611
Flt Permitted		1.00			1.00		0.95	0.96	1.00			1.00
Satd. Flow (perm)		3539			6394		1681	1703	1457			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	848	0	0	1308	10	312	37	422	0	0	328
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	88	0	0	112
Lane Group Flow (vph)	0	848	0	0	1317	0	175	174	334	0	0	216
Confl. Peds. (#/hr)	35		85	85		35	51		57	57		51
Confl. Bikes (#/hr)			53			13			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		65.1			44.2		25.9	25.9	25.9			16.4
Effective Green, g (s)		65.1			44.2		25.9	25.9	25.9			16.4
Actuated g/C Ratio		0.65			0.44		0.26	0.26	0.26			0.16
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2303			2826		435	441	377			264
v/s Ratio Prot		0.24			c0.21		0.10	0.10				c0.13
v/s Ratio Perm									c0.23			
v/c Ratio		0.37			0.47		0.40	0.39	0.89			0.82
Uniform Delay, d1		8.0			19.6		30.6	30.6	35.6			40.4
Progression Factor		0.16			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.4			0.6		0.2	0.2	20.7			16.7
Delay (s)		1.7			20.2		30.9	30.8	56.3			57.1
Level of Service		A			C		C	C	E			E
Approach Delay (s)		1.7			20.2			44.8			57.1	
Approach LOS		A			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	71.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	840	165	152	1148	125	160	243	119	168	330	75
Future Volume (veh/h)	120	840	165	152	1148	125	160	243	119	168	330	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.83	1.00		0.86	1.00		0.86	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	903	177	163	1234	134	172	261	128	181	355	81
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1933	375	187	2392	260	219	835	322	230	847	407
Arrive On Green	0.05	0.47	0.47	0.07	0.35	0.35	0.06	0.24	0.24	0.02	0.08	0.08
Sat Flow, veh/h	3456	4137	803	1781	4587	498	3456	3554	1368	3456	3554	1370
Grp Volume(v), veh/h	129	741	339	163	916	452	172	261	128	181	355	81
Grp Sat Flow(s),veh/h/ln	1728	1702	1535	1781	1702	1681	1728	1777	1368	1728	1777	1370
Q Serve(g_s), s	5.5	22.2	22.6	13.6	32.0	32.0	7.4	9.1	11.8	7.8	14.3	7.8
Cycle Q Clear(g_c), s	5.5	22.2	22.6	13.6	32.0	32.0	7.4	9.1	11.8	7.8	14.3	7.8
Prop In Lane	1.00		0.52	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	1591	718	187	1775	877	219	835	322	230	847	407
V/C Ratio(X)	0.73	0.47	0.47	0.87	0.52	0.52	0.78	0.31	0.40	0.79	0.42	0.20
Avail Cap(c_a), veh/h	429	1591	718	304	1775	877	382	974	375	382	974	456
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.71	0.71	0.71	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	70.2	27.2	27.3	68.7	33.8	33.8	69.2	47.4	48.4	72.3	59.2	49.2
Incr Delay (d2), s/veh	2.2	1.0	2.2	6.2	0.8	1.5	2.3	1.0	3.6	2.0	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	9.4	8.8	6.7	14.2	14.3	3.3	4.2	4.4	3.7	7.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.4	28.2	29.5	75.0	34.5	35.3	71.6	48.3	52.0	74.3	60.0	49.8
LnGrp LOS	E	C	C	E	C	D	E	D	D	E	E	D
Approach Vol, veh/h		1209			1531			561			617	
Approach Delay, s/veh		33.3			39.1			56.3			62.8	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.1	75.3	13.9	40.6	12.0	83.4	14.4	40.2
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	15.6	47.8	16.6	41.1	18.6	54.8	16.6	41.1
Max Q Clear Time (g_c+I1), s	11.6	24.6	9.4	16.3	7.5	34.0	9.8	13.8
Green Ext Time (p_c), s	0.1	12.2	0.2	5.7	0.1	14.1	0.2	6.1

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
19: Regents Road & Nobel Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	709	102	289	814	133	70	156	194	355	545	352
Future Volume (veh/h)	149	709	102	289	814	133	70	156	194	355	545	352
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.78	1.00		0.81	1.00		0.73	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	771	111	314	885	145	76	170	211	386	592	383
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	1276	180	364	1202	434	95	817	279	406	1473	541
Arrive On Green	0.02	0.10	0.10	0.03	0.11	0.11	0.05	0.24	0.24	0.23	0.41	0.41
Sat Flow, veh/h	3456	4348	613	3456	3554	1284	1781	3404	1164	1781	3554	1306
Grp Volume(v), veh/h	162	600	282	314	885	145	76	170	211	386	592	383
Grp Sat Flow(s),veh/h/ln	1728	1702	1557	1728	1777	1284	1781	1702	1164	1781	1777	1306
Q Serve(g_s), s	7.0	25.4	26.1	13.6	36.2	15.6	6.3	6.0	25.2	32.0	17.6	36.4
Cycle Q Clear(g_c), s	7.0	25.4	26.1	13.6	36.2	15.6	6.3	6.0	25.2	32.0	17.6	36.4
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	999	457	364	1202	434	95	817	279	406	1473	541
V/C Ratio(X)	0.77	0.60	0.62	0.86	0.74	0.33	0.80	0.21	0.76	0.95	0.40	0.71
Avail Cap(c_a), veh/h	290	999	457	452	1202	434	162	817	279	423	1473	541
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.77	0.77	0.77	1.00	1.00	1.00	0.50	0.50	0.50
Uniform Delay (d), s/veh	72.5	59.3	59.6	71.3	60.1	51.0	70.2	45.6	52.9	57.1	30.9	36.4
Incr Delay (d2), s/veh	4.7	2.4	5.4	9.1	3.1	1.6	5.7	0.4	14.7	19.3	0.4	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	12.0	11.7	6.8	17.9	5.6	3.1	2.6	8.6	16.6	7.7	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	61.7	65.1	80.4	63.3	52.6	75.9	46.0	67.6	76.4	31.2	40.0
LnGrp LOS	E	E	E	F	E	D	E	D	E	E	C	D
Approach Vol, veh/h		1044			1344			457			1361	
Approach Delay, s/veh		65.0			66.1			60.9			46.5	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	41.5	20.2	49.7	12.4	67.7	13.5	56.4
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	35.6	* 36	19.6	39.1	13.6	57.7	12.6	* 47
Max Q Clear Time (g_c+I1), s	34.0	27.2	15.6	28.1	8.3	38.4	9.0	38.2
Green Ext Time (p_c), s	0.1	3.1	0.3	6.0	0.0	12.2	0.1	6.5

Intersection Summary	
HCM 6th Ctrl Delay	58.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
20: Cargill Drive/Costa Verde Blvd & Nobel Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	775	222	116	1130	122	61	59	45	109	118	153
Future Volume (veh/h)	227	775	222	116	1130	122	61	59	45	109	118	153
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.93	1.00		0.91	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	824	236	123	1202	130	65	63	48	116	126	163
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	1852	524	144	1921	208	82	219	167	138	186	241
Arrive On Green	0.05	0.16	0.16	0.16	0.83	0.83	0.05	0.23	0.23	0.08	0.26	0.26
Sat Flow, veh/h	1781	3839	1086	1781	4641	502	1781	941	717	1781	703	909
Grp Volume(v), veh/h	241	729	331	123	882	450	65	0	111	116	0	289
Grp Sat Flow(s),veh/h/ln	1781	1702	1521	1781	1702	1738	1781	0	1658	1781	0	1612
Q Serve(g_s), s	20.2	29.1	29.5	10.1	13.9	13.9	5.4	0.0	8.3	9.6	0.0	24.1
Cycle Q Clear(g_c), s	20.2	29.1	29.5	10.1	13.9	13.9	5.4	0.0	8.3	9.6	0.0	24.1
Prop In Lane	1.00		0.71	1.00		0.29	1.00		0.43	1.00		0.56
Lane Grp Cap(c), veh/h	266	1642	734	144	1409	720	82	0	387	138	0	427
V/C Ratio(X)	0.91	0.44	0.45	0.86	0.63	0.63	0.79	0.00	0.29	0.84	0.00	0.68
Avail Cap(c_a), veh/h	340	1642	734	268	1409	720	126	0	410	245	0	506
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.3	44.9	45.0	62.0	8.8	8.8	70.8	0.0	47.3	68.3	0.0	49.4
Incr Delay (d2), s/veh	16.1	0.6	1.5	5.5	2.1	4.1	8.3	0.0	0.2	5.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	13.5	12.4	4.5	3.4	3.9	2.7	0.0	3.5	4.6	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.4	45.5	46.5	67.5	10.9	12.8	79.1	0.0	47.4	73.4	0.0	51.3
LnGrp LOS	F	D	D	E	B	B	E	A	D	E	A	D
Approach Vol, veh/h		1301			1455			176			405	
Approach Delay, s/veh		53.3			16.3			59.1			57.6	
Approach LOS		D			B			E			E	

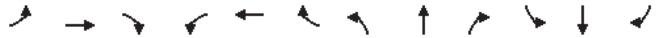
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	77.6	11.3	44.6	26.8	67.3	16.0	39.9
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	22.6	50.8	10.6	47.1	28.6	44.8	20.6	37.1
Max Q Clear Time (g_c+I1), s	12.1	31.5	7.4	26.1	22.2	15.9	11.6	10.3
Green Ext Time (p_c), s	0.1	10.7	0.0	1.2	0.2	17.1	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	997	1259	153	0	67
Future Volume (Veh/h)	0	997	1259	153	0	67
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	1028	1298	158	0	69
Pedestrians		10	10		37	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.81				0.86	0.81
vC, conflicting volume	1493				1767	559
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	779				463	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	92
cM capacity (veh/h)	653				438	842

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	343	343	343	519	519	418	69
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	158	69
cSH	1700	1700	1700	1700	1700	1700	842
Volume to Capacity	0.20	0.20	0.20	0.31	0.31	0.25	0.08
Queue Length 95th (ft)	0	0	0	0	0	0	7
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.7
Approach LOS							A

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		42.2%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	467	187	396	824	117	275	560	113	157	1438	201
Future Volume (veh/h)	212	467	187	396	824	117	275	560	113	157	1438	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	216	477	191	404	841	119	281	571	115	160	1467	205
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	769	327	454	964	413	329	1640	712	203	2170	655
Arrive On Green	0.03	0.07	0.07	0.13	0.27	0.27	0.10	0.46	0.46	0.12	0.85	0.85
Sat Flow, veh/h	3456	3554	1512	3456	3554	1523	3456	3554	1543	3456	5106	1541
Grp Volume(v), veh/h	216	477	191	404	841	119	281	571	115	160	1467	205
Grp Sat Flow(s),veh/h/ln	1728	1777	1512	1728	1777	1523	1728	1777	1543	1728	1702	1541
Q Serve(g_s), s	9.3	19.6	18.4	17.3	33.9	9.3	12.0	15.5	6.5	6.8	15.2	4.1
Cycle Q Clear(g_c), s	9.3	19.6	18.4	17.3	33.9	9.3	12.0	15.5	6.5	6.8	15.2	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	769	327	454	964	413	329	1640	712	203	2170	655
V/C Ratio(X)	0.82	0.62	0.58	0.89	0.87	0.29	0.85	0.35	0.16	0.79	0.68	0.31
Avail Cap(c_a), veh/h	336	879	374	567	1111	476	452	1640	712	244	2170	655
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.1	63.6	63.1	64.1	52.2	43.2	66.8	25.9	23.5	65.3	7.6	6.8
Incr Delay (d2), s/veh	9.4	1.4	2.5	12.2	7.1	0.4	8.6	0.6	0.5	10.9	1.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	9.6	7.7	8.4	16.1	3.6	5.7	6.8	2.5	3.2	3.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.5	65.0	65.5	76.3	59.2	43.6	75.4	26.5	24.0	76.2	9.3	8.0
LnGrp LOS	F	E	E	E	E	D	E	C	C	E	A	A
Approach Vol, veh/h		884			1364			967			1832	
Approach Delay, s/veh		69.2			62.9			40.4			15.0	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	75.1	24.1	37.6	18.7	69.6	15.9	45.8
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	10.6	* 58	24.6	* 37	19.6	49.1	14.6	46.9
Max Q Clear Time (g_c+I1), s	8.8	17.5	19.3	21.6	14.0	17.2	11.3	35.9
Green Ext Time (p_c), s	0.0	7.9	0.4	4.8	0.3	20.1	0.1	4.8

Intersection Summary		
HCM 6th Ctrl Delay		42.3
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	372	528	18	90	903	46	10	28	26	45	205	525
Future Volume (veh/h)	372	528	18	90	903	46	10	28	26	45	205	525
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	384	544	19	93	931	47	10	29	27	46	211	541
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	1126	39	118	1333	952	40	114	99	630	662	546
Arrive On Green	0.13	0.32	0.32	0.07	0.26	0.26	0.08	0.08	0.08	0.35	0.35	0.35
Sat Flow, veh/h	3456	3491	122	1781	5106	1498	526	1510	1310	1781	1870	1543
Grp Volume(v), veh/h	384	276	287	93	931	47	35	0	31	46	211	541
Grp Sat Flow(s),veh/h/ln	1728	1777	1836	1781	1702	1498	1844	0	1502	1781	1870	1543
Q Serve(g_s), s	12.1	13.8	13.9	5.7	18.3	1.4	2.0	0.0	2.2	1.9	9.1	38.6
Cycle Q Clear(g_c), s	12.1	13.8	13.9	5.7	18.3	1.4	2.0	0.0	2.2	1.9	9.1	38.6
Prop In Lane	1.00		0.07	1.00		1.00	0.29		0.87	1.00		1.00
Lane Grp Cap(c), veh/h	441	573	592	118	1333	952	139	0	113	630	662	546
V/C Ratio(X)	0.87	0.48	0.48	0.79	0.70	0.05	0.25	0.00	0.27	0.07	0.32	0.99
Avail Cap(c_a), veh/h	455	573	592	315	1429	980	583	0	475	630	662	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	30.1	30.1	51.0	37.0	8.5	48.3	0.0	48.4	23.7	26.1	35.6
Incr Delay (d2), s/veh	15.5	1.3	1.3	4.4	1.5	0.0	0.4	0.0	0.5	0.1	0.4	36.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	6.1	6.3	2.7	7.7	1.0	0.9	0.0	0.8	0.8	4.1	19.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	31.4	31.4	55.3	38.5	8.5	48.6	0.0	48.8	23.8	26.5	71.7
LnGrp LOS	E	C	C	E	D	A	D	A	D	C	C	E
Approach Vol, veh/h		947			1071			66			798	
Approach Delay, s/veh		44.2			38.6			48.7			57.0	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.7	41.7		44.1	18.5	34.9		13.2
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	19.6	* 26		39.2	14.6	31.0		35.0
Max Q Clear Time (g_c+I1), s	17.7	15.9		40.6	14.1	20.3		4.2
Green Ext Time (p_c), s	0.1	4.0		0.0	0.1	5.2		0.2

Intersection Summary	
HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

NT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	509	26	55	965	172	10	3	16	61	7	32
Future Volume (veh/h)	48	509	26	55	965	172	10	3	16	61	7	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.93	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	519	27	56	985	176	10	3	16	67	0	33
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	2118	109	77	1860	331	15	4	23	342	0	285
Arrive On Green	0.04	0.43	0.43	0.04	0.43	0.43	0.03	0.03	0.03	0.10	0.00	0.10
Sat Flow, veh/h	1781	4954	255	1781	4313	768	552	166	883	3563	0	2965
Grp Volume(v), veh/h	49	355	191	56	777	384	29	0	0	67	0	33
Grp Sat Flow(s),veh/h/ln	1781	1702	1806	1781	1702	1676	1600	0	0	1781	0	1483
Q Serve(g_s), s	1.3	3.3	3.3	1.5	8.3	8.4	0.9	0.0	0.0	0.9	0.0	0.5
Cycle Q Clear(g_c), s	1.3	3.3	3.3	1.5	8.3	8.4	0.9	0.0	0.0	0.9	0.0	0.5
Prop In Lane	1.00		0.14	1.00		0.46	0.34		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	71	1456	772	77	1468	723	43	0	0	342	0	285
V/C Ratio(X)	0.69	0.24	0.25	0.72	0.53	0.53	0.68	0.00	0.00	0.20	0.00	0.12
Avail Cap(c_a), veh/h	778	1456	772	1138	1728	851	133	0	0	2096	0	1745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	9.0	9.1	23.4	10.4	10.4	23.9	0.0	0.0	20.6	0.0	20.4
Incr Delay (d2), s/veh	4.5	0.2	0.3	4.7	0.5	1.0	6.9	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.0	1.1	0.7	2.6	2.7	0.4	0.0	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	9.2	9.4	28.1	10.8	11.4	30.8	0.0	0.0	20.8	0.0	20.6
LnGrp LOS	C	A	A	C	B	B	C	A	A	C	A	C
Approach Vol, veh/h		595			1217			29			100	
Approach Delay, s/veh		10.8			11.8			30.8			20.8	
Approach LOS		B			B			C			C	

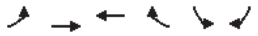
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.5	27.0		9.6	6.4	27.2		6.2
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	21.6	* 15		29.1	21.6	25.1		4.1
Max Q Clear Time (g_c+I1), s	3.5	5.3		2.9	3.3	10.4		2.9
Green Ext Time (p_c), s	0.1	3.6		0.3	0.0	9.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	91	512	896	334	816	312
Future Volume (veh/h)	91	512	896	334	816	312
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	517	905	337	824	315
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	155	2644	1510	560	1168	536
Arrive On Green	0.04	0.52	0.42	0.42	0.34	0.34
Sat Flow, veh/h	3456	5274	3790	1344	3456	1585
Grp Volume(v), veh/h	92	517	850	392	824	315
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1561	1728	1585
Q Serve(g_s), s	2.0	4.3	15.2	15.3	16.3	12.9
Cycle Q Clear(g_c), s	2.0	4.3	15.2	15.3	16.3	12.9
Prop In Lane	1.00			0.86	1.00	1.00
Lane Grp Cap(c), veh/h	155	2644	1419	651	1168	536
V/C Ratio(X)	0.59	0.20	0.60	0.60	0.71	0.59
Avail Cap(c_a), veh/h	247	3192	1693	777	1750	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	10.1	17.8	17.8	22.6	21.4
Incr Delay (d2), s/veh	1.3	0.1	1.1	2.3	1.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.5	5.8	5.6	6.5	11.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.1	10.2	18.8	20.1	23.9	23.1
LnGrp LOS	D	B	B	C	C	C
Approach Vol, veh/h		609	1242		1139	
Approach Delay, s/veh		14.4	19.2		23.7	
Approach LOS		B	B		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		46.6		31.8	7.9	38.7
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		49.0		39.7	5.6	39.0
Max Q Clear Time (g_c+I1), s		6.3		18.3	4.0	17.3
Green Ext Time (p_c), s		8.5		8.2	0.0	15.4
Intersection Summary						
HCM 6th Ctrl Delay			19.9			
HCM 6th LOS			B			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	591	806	287	1301	0	0
Future Volume (veh/h)	591	806	287	1301	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	629	857	305	1384		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6389	4891	364	9957		
Arrive On Green	1.00	1.00	0.21	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	629	857	305	1384		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	8.5	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	8.5	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6389	4891	364	9957		
V/C Ratio(X)	0.10	0.18	0.84	0.14		
Avail Cap(c_a), veh/h	6389	4891	390	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.86	0.86	0.82	0.82		
Uniform Delay (d), s/veh	0.0	0.0	38.7	0.0		
Incr Delay (d2), s/veh	0.0	0.1	11.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.8	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	49.6	0.0		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	1486			1689		
Approach Delay, s/veh	0.0			9.0		
Approach LOS	A			A		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	15.2	189.8				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	11.5	77.0				* 96
Max Q Clear Time (g_c+I1), s	10.5	2.0				2.0
Green Ext Time (p_c), s	0.1	6.1				9.2
Intersection Summary						
HCM 6th Ctrl Delay			4.8			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	576	0	0	726	756	607
Future Volume (vph)	576	0	0	726	756	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2681
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2681
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	633	0	0	798	831	667
RTOR Reduction (vph)	0	0	0	0	0	99
Lane Group Flow (vph)	633	0	0	798	831	568
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	48.4			58.7	28.2	33.8
Effective Green, g (s)	48.4			58.7	28.2	33.8
Actuated g/C Ratio	0.48			0.59	0.28	0.34
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1712			3761	968	906
v/s Ratio Prot	c0.18			0.12	c0.24	c0.04
v/s Ratio Perm						0.18
v/c Ratio	0.37			0.21	0.86	0.63
Uniform Delay, d1	16.2			9.7	34.0	27.8
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.6			0.1	7.4	1.0
Delay (s)	16.8			9.9	41.4	28.8
Level of Service	B			A	D	C
Approach Delay (s)	16.8			9.9	35.8	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	29	219	251	38	26	186	999	37	22	2521	67
Future Volume (veh/h)	33	29	219	251	38	26	186	999	37	22	2521	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	152	145	259	39	27	192	1030	38	23	2599	69
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	634	649	374	50	34	162	1577	58	48	1370	36
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.18	0.90	0.90	0.03	0.39	0.39
Sat Flow, veh/h	278	1509	1545	788	119	82	1781	3489	129	1781	3532	93
Grp Volume(v), veh/h	186	0	145	325	0	0	192	524	544	23	1300	1368
Grp Sat Flow(s),veh/h/ln	1788	0	1545	989	0	0	1781	1777	1841	1781	1777	1848
Q Serve(g_s), s	0.0	0.0	9.0	37.3	0.0	0.0	13.6	10.4	10.4	1.9	58.2	58.2
Cycle Q Clear(g_c), s	9.6	0.0	9.0	46.9	0.0	0.0	13.6	10.4	10.4	1.9	58.2	58.2
Prop In Lane	0.18		1.00	0.80		0.08	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	779	0	649	458	0	0	162	803	832	48	689	717
V/C Ratio(X)	0.24	0.00	0.22	0.71	0.00	0.00	1.19	0.65	0.65	0.48	1.89	1.91
Avail Cap(c_a), veh/h	779	0	649	458	0	0	162	803	832	68	689	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	27.8	43.1	0.0	0.0	61.4	4.4	4.4	72.0	45.9	45.9
Incr Delay (d2), s/veh	0.7	0.0	0.8	9.0	0.0	0.0	126.8	3.7	3.5	2.8	403.9	413.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	3.5	11.9	0.0	0.0	11.1	2.7	2.8	0.9	102.0	108.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	0.0	28.6	52.1	0.0	0.0	188.2	8.1	8.0	74.8	449.8	459.8
LnGrp LOS	C	A	C	D	A	A	F	A	A	E	F	F
Approach Vol, veh/h		331			325			1260			2691	
Approach Delay, s/veh		28.7			52.1			35.5			451.7	
Approach LOS		C			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	64.1		67.9	8.4	73.7		67.9				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	13.6	58.2		63.0	5.7	* 66		63.0				
Max Q Clear Time (g_c+I1), s	15.6	60.2		48.9	3.9	12.4		11.6				
Green Ext Time (p_c), s	0.0	0.0		1.4	0.0	14.1		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	279.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	293	120	328	361	152	191	624	260	501	1640	640
Future Volume (veh/h)	278	293	120	328	361	152	191	624	260	501	1640	640
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	296	312	128	349	384	162	203	664	277	533	1745	681
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	514	217	344	550	234	184	1281	567	975	1941	861
Arrive On Green	0.09	0.14	0.14	0.10	0.15	0.15	0.10	0.36	0.36	0.28	0.55	0.55
Sat Flow, veh/h	3456	3554	1498	3456	3554	1514	1781	3554	1572	3456	3554	1576
Grp Volume(v), veh/h	296	312	128	349	384	162	203	664	277	533	1745	681
Grp Sat Flow(s),veh/h/ln	1728	1777	1498	1728	1777	1514	1781	1777	1572	1728	1777	1576
Q Serve(g_s), s	16.2	15.6	12.5	18.9	19.5	11.5	19.6	27.9	26.0	24.9	83.2	65.6
Cycle Q Clear(g_c), s	16.2	15.6	12.5	18.9	19.5	11.5	19.6	27.9	26.0	24.9	83.2	65.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	514	217	344	550	234	184	1281	567	975	1941	861
V/C Ratio(X)	0.92	0.61	0.59	1.01	0.70	0.69	1.10	0.52	0.49	0.55	0.90	0.79
Avail Cap(c_a), veh/h	320	733	309	344	729	311	184	1281	567	975	1941	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	85.5	76.2	51.3	85.5	76.1	27.3	85.2	47.8	47.2	57.9	38.4	34.4
Incr Delay (d2), s/veh	31.0	2.5	5.4	52.2	3.3	7.3	97.2	1.5	3.0	0.4	7.1	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	7.4	5.1	11.0	9.2	4.8	13.9	12.6	10.8	10.9	36.9	27.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	116.6	78.7	56.7	137.7	79.4	34.6	182.4	49.3	50.2	58.3	45.5	41.8
LnGrp LOS	F	E	E	F	E	C	F	D	D	E	D	D
Approach Vol, veh/h		736			895			1144			2959	
Approach Delay, s/veh		90.1			94.0			73.1			47.0	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	74.2	24.6	32.5	24.0	108.9	22.0	35.1
Change Period (Y+Rc), s	5.1	* 5.7	5.7	* 5	4.4	5.1	4.4	5.7
Max Green Setting (Gmax), s	4.1	* 69	18.1	* 39	19.6	94.2	17.6	39.0
Max Q Clear Time (g_c+I1), s	20.9	29.9	20.9	17.6	21.6	85.2	18.2	21.5
Green Ext Time (p_c), s	0.9	11.3	0.0	4.6	0.0	8.8	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	65.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	68.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	443	0	0	384	334	506	0	0	1730	342
Future Vol, veh/h	0	0	443	0	0	384	334	506	0	0	1730	342
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	482	0	0	417	363	550	0	0	1880	372

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	-	-	940			1880	0	-	-	-	0
Stage 1	-	-	-			-	-	-	-	-	-
Stage 2	-	-	-			-	-	-	-	-	-
Critical Hdwy	-	-	6.94			4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 265			~ 315	-	0	0	-	-
Stage 1	0	0	-			-	-	0	0	-	-
Stage 2	0	0	-			-	-	0	0	-	-
Platoon blocked, %							-			-	-
Mov Cap-1 Maneuver	-	0	~ 265			~ 315	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-
Stage 1	-	0	-			-	-	-	-	-	-
Stage 2	-	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 414.3	53.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 315	-	265	-	-
HCM Lane V/C Ratio	1.153	-	1.817	-	-
HCM Control Delay (s)	135	-	$ 414.3	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	15.1	-	32.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	368	252	645	321	771	1407
Future Volume (veh/h)	368	252	645	321	771	1407
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	274	701	0	838	1529
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	461	410	1218		374	2147
Arrive On Green	0.26	0.26	0.34	0.00	0.21	0.60
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	400	274	701	0	838	1529
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	19.7	14.2	14.8	0.0	19.3	27.5
Cycle Q Clear(g_c), s	19.7	14.2	14.8	0.0	19.3	27.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	461	410	1218		374	2147
V/C Ratio(X)	0.87	0.67	0.58		2.24	0.71
Avail Cap(c_a), veh/h	715	637	1218		374	2147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	30.5	24.7	0.0	36.3	12.6
Incr Delay (d2), s/veh	7.1	1.9	2.0	0.0	566.4	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	5.5	6.1	0.0	66.7	9.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.6	32.4	26.7	0.0	602.7	14.7
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	674		701	A		2367
Approach Delay, s/veh	36.7		26.7			222.9
Approach LOS	D		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.0	39.0		28.9		63.0
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 19	31.5		36.9		55.5
Max Q Clear Time (g_c+I1), s	21.3	16.8		21.7		29.5
Green Ext Time (p_c), s	0.0	3.8		2.1		12.6

Intersection Summary	
HCM 6th Ctrl Delay	152.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	87	23	0	1153	46	44	2893
Future Volume (veh/h)	87	23	0	1153	46	44	2893
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	91	24		1201	48	46	3014
Peak Hour Factor	0.96	0.96		0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	114	102		2364	1047	543	3058
Arrive On Green	0.06	0.06		0.67	0.67	0.16	0.86
Sat Flow, veh/h	1781	1585		3647	1573	3456	3647
Grp Volume(v), veh/h	91	24		1201	48	46	3014
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1573	1728	1777
Q Serve(g_s), s	7.6	2.2		25.6	1.6	1.7	116.8
Cycle Q Clear(g_c), s	7.6	2.2		25.6	1.6	1.7	116.8
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	114	102		2364	1047	543	3058
V/C Ratio(X)	0.80	0.24		0.51	0.05	0.08	0.99
Avail Cap(c_a), veh/h	356	317		2364	1047	543	3058
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	66.7		12.7	8.7	54.0	9.6
Incr Delay (d2), s/veh	4.7	0.4		0.8	0.1	0.3	13.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	1.9		9.6	0.5	0.8	28.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	74.0	67.1		13.5	8.7	54.3	22.8
LnGrp LOS	E	E		B	A	D	C
Approach Vol, veh/h	115			1249			3060
Approach Delay, s/veh	72.5			13.3			23.3
Approach LOS	E			B			C
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		135.5		14.5	30.0	105.5	
Change Period (Y+Rc), s		6.4		4.9	6.4	* 5.7	
Max Green Setting (Gmax), s		100.3		30.0	5.2	* 1E2	
Max Q Clear Time (g_c+I1), s		118.8		9.6	3.7	27.6	
Green Ext Time (p_c), s		0.0		0.1	0.0	19.7	

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

NT PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	85	83	233	178	80	74	451	128	99	1681	74
Future Volume (veh/h)	28	85	83	233	178	80	74	451	128	99	1681	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	90	88	248	189	64	79	480	136	105	1788	79
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	184	154	294	434	141	67	2378	651	150	3236	143
Arrive On Green	0.02	0.10	0.10	0.09	0.17	0.17	0.04	0.60	0.60	0.08	0.65	0.65
Sat Flow, veh/h	1781	1777	1489	3456	2603	847	1781	3967	1086	1781	5007	221
Grp Volume(v), veh/h	30	90	88	248	127	126	79	410	206	105	1215	652
Grp Sat Flow(s),veh/h/ln	1781	1777	1489	1728	1777	1674	1781	1702	1648	1781	1702	1824
Q Serve(g_s), s	2.5	7.2	8.5	10.6	9.6	10.2	5.6	8.2	8.6	8.6	29.4	29.5
Cycle Q Clear(g_c), s	2.5	7.2	8.5	10.6	9.6	10.2	5.6	8.2	8.6	8.6	29.4	29.5
Prop In Lane	1.00		1.00	1.00		0.51	1.00		0.66	1.00		0.12
Lane Grp Cap(c), veh/h	38	184	154	294	297	279	67	2041	988	150	2200	1179
V/C Ratio(X)	0.78	0.49	0.57	0.84	0.43	0.45	1.19	0.20	0.21	0.70	0.55	0.55
Avail Cap(c_a), veh/h	139	428	358	359	474	446	67	2041	988	150	2200	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.0	63.5	64.1	67.6	56.0	56.3	72.2	13.7	13.7	66.9	14.6	14.6
Incr Delay (d2), s/veh	12.1	0.8	1.2	12.1	0.4	0.4	169.8	0.2	0.5	24.0	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.3	3.3	5.2	4.4	4.4	5.7	3.1	3.2	4.9	10.9	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.1	64.3	65.3	79.8	56.4	56.7	242.0	13.9	14.2	90.9	15.6	16.5
LnGrp LOS	F	E	E	E	E	E	F	B	B	F	B	B
Approach Vol, veh/h		208			501			695			1972	
Approach Delay, s/veh		67.7			68.1			39.9			19.9	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	95.4	17.2	20.4	10.0	102.4	7.6	29.9
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	12.6	66.5	15.6	36.1	5.6	* 74	11.7	40.0
Max Q Clear Time (g_c+I1), s	10.6	10.6	12.6	10.5	7.6	31.5	4.5	12.2
Green Ext Time (p_c), s	0.0	5.3	0.1	0.7	0.0	24.6	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

NT PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	708	29	21	1395	110	21	13	7	71	8	378
Future Volume (veh/h)	375	708	29	21	1395	110	21	13	7	71	8	378
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	408	770	32	23	1516	120	23	14	8	77	9	411
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	2181	91	32	1526	120	45	24	5	286	8	367
Arrive On Green	0.19	0.63	0.63	0.02	0.46	0.46	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	3477	144	1781	3337	263	0	101	22	1390	34	1556
Grp Volume(v), veh/h	408	393	409	23	803	833	45	0	0	77	0	420
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1823	123	0	0	1390	0	1590
Q Serve(g_s), s	22.6	12.7	12.7	1.5	53.7	54.9	0.0	0.0	0.0	0.0	0.0	28.3
Cycle Q Clear(g_c), s	22.6	12.7	12.7	1.5	53.7	54.9	28.3	0.0	0.0	8.0	0.0	28.3
Prop In Lane	1.00		0.08	1.00		0.14	0.51		0.18	1.00		0.98
Lane Grp Cap(c), veh/h	335	1115	1157	32	812	833	74	0	0	286	0	375
V/C Ratio(X)	1.22	0.35	0.35	0.72	0.99	1.00	0.61	0.00	0.00	0.27	0.00	1.12
Avail Cap(c_a), veh/h	335	1115	1157	88	812	833	74	0	0	286	0	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	10.7	10.7	58.7	32.3	32.6	42.5	0.0	0.0	38.1	0.0	45.9
Incr Delay (d2), s/veh	121.9	0.9	0.8	10.9	28.9	31.2	9.8	0.0	0.0	0.2	0.0	83.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.3	5.1	5.3	0.8	28.8	30.6	1.6	0.0	0.0	1.9	0.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.6	11.6	11.6	69.6	61.1	63.8	52.3	0.0	0.0	38.3	0.0	129.3
LnGrp LOS	F	B	B	E	E	E	D	A	A	D	A	F
Approach Vol, veh/h		1210			1659			45			497	
Approach Delay, s/veh		65.2			62.6			52.3			115.2	
Approach LOS		E			E			D			F	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	6.5	80.4	33.2	27.0	59.9	33.2
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	5.9	71.5	28.3	22.6	* 55	28.3
Max Q Clear Time (g_c+I1), s	3.5	14.7	30.3	24.6	56.9	30.3
Green Ext Time (p_c), s	0.0	8.3	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	71.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	241	31	83	286	597	150	820	139	420	465	114
Future Volume (veh/h)	39	241	31	83	286	597	150	820	139	420	465	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.87	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	301	39	104	358	746	188	1025	174	525	581	142
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	1237	158	128	765	632	213	953	161	565	1074	254
Arrive On Green	0.04	0.39	0.39	0.07	0.43	0.43	0.12	0.22	0.22	0.16	0.27	0.27
Sat Flow, veh/h	1781	3140	401	1781	1777	1469	1781	4289	726	3456	4038	955
Grp Volume(v), veh/h	49	169	171	104	358	746	188	813	386	525	487	236
Grp Sat Flow(s),veh/h/ln	1781	1777	1765	1781	1777	1469	1781	1702	1610	1728	1702	1588
Q Serve(g_s), s	3.6	8.4	8.6	7.6	19.0	56.8	13.7	29.3	29.3	19.8	16.2	16.9
Cycle Q Clear(g_c), s	3.6	8.4	8.6	7.6	19.0	56.8	13.7	29.3	29.3	19.8	16.2	16.9
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.45	1.00		0.60
Lane Grp Cap(c), veh/h	63	700	695	128	765	632	213	756	358	565	906	423
V/C Ratio(X)	0.78	0.24	0.25	0.81	0.47	1.18	0.88	1.07	1.08	0.93	0.54	0.56
Avail Cap(c_a), veh/h	104	700	695	413	765	632	278	756	358	565	906	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.1	26.8	26.9	60.4	26.8	37.6	57.2	51.3	51.3	54.4	41.5	41.8
Incr Delay (d2), s/veh	7.4	0.1	0.1	4.6	0.2	96.8	2.2	36.5	41.2	21.5	2.3	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	3.6	3.7	3.6	8.1	37.0	6.3	16.3	15.9	10.3	7.1	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	26.9	26.9	65.0	27.0	134.4	59.4	87.9	92.5	75.9	43.8	47.0
LnGrp LOS	E	C	C	E	C	F	E	F	F	E	D	D
Approach Vol, veh/h		389			1208			1387			1248	
Approach Delay, s/veh		32.4			96.6			85.3			57.9	
Approach LOS		C			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.0	35.0	13.9	57.1	20.2	40.8	9.1	61.9
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	21.6	26.3	30.6	* 34	20.6	27.3	7.7	56.8
Max Q Clear Time (g_c+I1), s	21.8	31.3	9.6	10.6	15.7	18.9	5.6	58.8
Green Ext Time (p_c), s	0.0	0.0	0.1	1.3	0.1	4.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay	75.6	
HCM 6th LOS	E	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1589	221	0	1379	439	0	0	0	678	0	1219
Future Volume (vph)	0	1589	221	0	1379	439	0	0	0	678	0	1219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.99
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1529				3433		2760
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1529				3433		2760
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	1709	238	0	1483	472	0	0	0	729	0	1311
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	1709	238	0	1483	472	0	0	0	729	0	1299
Confl. Peds. (#/hr)	22		10	10		22	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free					Prot	custom
Protected Phases		2			6						4	5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		81.5	120.0		41.2	120.0					28.2	64.3
Effective Green, g (s)		81.5	120.0		41.2	120.0					28.2	64.3
Actuated g/C Ratio		0.68	1.00		0.34	1.00					0.23	0.54
Clearance Time (s)		5.7			5.7						4.6	4.2
Vehicle Extension (s)		2.0			2.0						2.0	2.0
Lane Grp Cap (vph)		4352	1538		1745	1529					806	1478
v/s Ratio Prot		0.27			c0.29						c0.21	c0.26
v/s Ratio Perm			0.15			0.31						0.21
v/c Ratio		0.39	0.15		0.85	0.31					0.90	0.88
Uniform Delay, d1		8.4	0.0		36.5	0.0					44.6	24.4
Progression Factor		1.00	1.00		0.78	1.00					1.00	1.00
Incremental Delay, d2		0.3	0.2		4.7	0.5					13.3	6.1
Delay (s)		8.7	0.2		33.1	0.5					57.8	30.5
Level of Service		A	A		C	A					E	C
Approach Delay (s)		7.7			25.2			0.0			40.3	
Approach LOS		A			C			A			D	

Intersection Summary					
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.87				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	78.6%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: I-5 NB Off Ramp & La Jolla Village Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1485	782	0	1367	496	451	0	750	0	0	0
Future Volume (vph)	0	1485	782	0	1367	496	451	0	750	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.97			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2713			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2713			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1650	869	0	1519	551	501	0	833	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	52	0	0	0
Lane Group Flow (vph)	0	1650	869	0	1519	551	501	0	781	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		80.3	120.0		91.3	120.0	18.4		25.2			
Effective Green, g (s)		80.3	120.0		91.3	120.0	18.4		25.2			
Actuated g/C Ratio		0.67	1.00		0.76	1.00	0.15		0.21			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3402	1538		3868	1538	526		569			
v/s Ratio Prot		0.32			0.30		0.15		c0.08			
v/s Ratio Perm			c0.56			0.36			0.21			
v/c Ratio		0.49	0.57		0.39	0.36	0.95		1.37			
Uniform Delay, d1		9.7	0.0		4.9	0.0	50.4		47.4			
Progression Factor		1.44	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.4	1.3		0.3	0.7	27.4		178.5			
Delay (s)		14.5	1.3		5.2	0.7	77.7		225.9			
Level of Service		B	A		A	A	E		F			
Approach Delay (s)		9.9			4.0			170.3			0.0	
Approach LOS		A			A			F			A	

Intersection Summary				
HCM 2000 Control Delay	44.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	64.2%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
4: Lebon Drive & La Jolla Village Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1991	161	120	1373	3	476	2	178	4	3	14
Future Volume (veh/h)	13	1991	161	120	1373	3	476	2	178	4	3	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.79
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	15	2262	183	136	1560	3	541	0	203	5	3	16
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	22	2908	1223	185	3211	6	775	0	662	20	12	22
Arrive On Green	0.01	0.57	0.57	0.04	0.41	0.41	0.22	0.00	0.22	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1541	3456	5262	10	3563	0	3041	1134	680	1245
Grp Volume(v), veh/h	15	2262	183	136	1009	554	541	0	203	8	0	16
Grp Sat Flow(s),veh/h/ln	1781	1702	1541	1728	1702	1868	1781	0	1520	1814	0	1245
Q Serve(g_s), s	1.2	47.9	4.0	5.5	30.6	30.6	19.6	0.0	7.8	0.6	0.0	1.8
Cycle Q Clear(g_c), s	1.2	47.9	4.0	5.5	30.6	30.6	19.6	0.0	7.8	0.6	0.0	1.8
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.62		1.00
Lane Grp Cap(c), veh/h	22	2908	1223	185	2077	1140	775	0	662	31	0	22
V/C Ratio(X)	0.67	0.78	0.15	0.74	0.49	0.49	0.70	0.00	0.31	0.25	0.00	0.74
Avail Cap(c_a), veh/h	71	2908	1223	262	2077	1140	944	0	806	53	0	36
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.55	0.55	0.55	0.40	0.40	0.40	0.91	0.00	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.8	23.3	3.6	66.5	25.2	25.2	50.5	0.0	45.9	67.9	0.0	68.5
Incr Delay (d2), s/veh	6.8	1.2	0.1	1.3	0.3	0.6	4.7	0.0	1.1	1.6	0.0	16.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	19.1	2.9	2.5	13.4	14.7	9.3	0.0	3.1	0.3	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.6	24.5	3.7	67.8	25.5	25.8	55.2	0.0	47.0	69.5	0.0	85.3
LnGrp LOS	E	C	A	E	C	C	E	A	D	E	A	F
Approach Vol, veh/h		2460			1699			744			24	
Approach Delay, s/veh		23.2			29.0			53.0			80.0	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	85.4		7.3	6.2	91.1		35.4				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	10.6	* 69		4.1	5.6	73.3		37.1				
Max Q Clear Time (g_c+I1), s	7.5	49.9		3.8	3.2	32.6		21.6				
Green Ext Time (p_c), s	0.1	18.5		0.0	0.0	30.4		7.4				

Intersection Summary		
HCM 6th Ctrl Delay	30.0	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
5: Regents Road & La Jolla Village Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	922	1738	85	83	720	127	271	430	271	164	157	313
Future Volume (veh/h)	922	1738	85	83	720	127	271	430	271	164	157	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.89	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1085	2045	100	98	847	149	319	506	319	193	185	368
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	842	2591	126	131	1367	239	286	1065	424	159	1088	434
Arrive On Green	0.16	0.35	0.35	0.01	0.10	0.10	0.08	0.30	0.30	0.09	0.31	0.31
Sat Flow, veh/h	3456	4981	243	3456	4347	759	3456	3554	1415	1781	3554	1418
Grp Volume(v), veh/h	1085	1395	750	98	662	334	319	506	319	193	185	368
Grp Sat Flow(s),veh/h/ln	1728	1702	1819	1728	1702	1702	1728	1777	1415	1781	1777	1418
Q Serve(g_s), s	34.1	51.5	52.0	4.0	26.1	26.3	11.6	16.3	28.5	12.5	5.3	34.1
Cycle Q Clear(g_c), s	34.1	51.5	52.0	4.0	26.1	26.3	11.6	16.3	28.5	12.5	5.3	34.1
Prop In Lane	1.00		0.13	1.00		0.45	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	842	1771	946	131	1070	535	286	1065	424	159	1088	434
V/C Ratio(X)	1.29	0.79	0.79	0.75	0.62	0.62	1.11	0.47	0.75	1.21	0.17	0.85
Avail Cap(c_a), veh/h	842	1771	946	131	1070	535	286	1065	424	159	1091	435
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.6	38.7	38.8	68.5	54.7	54.8	64.2	40.0	44.3	63.8	35.5	45.5
Incr Delay (d2), s/veh	134.7	1.9	3.5	18.9	2.7	5.4	83.2	0.3	6.5	140.2	0.1	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.1	23.0	25.2	2.1	12.4	12.9	8.4	7.2	10.8	11.9	2.4	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	193.2	40.5	42.3	87.4	57.4	60.2	147.4	40.4	50.8	203.9	35.6	60.3
LnGrp LOS	F	D	D	F	E	E	F	D	D	F	D	E
Approach Vol, veh/h		3230			1094			1144			746	
Approach Delay, s/veh		92.2			60.9			73.1			91.3	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	78.6	16.0	48.6	38.5	49.8	16.9	47.7
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	5.3	* 61	11.6	* 43	34.1	31.8	12.5	41.7
Max Q Clear Time (g_c+I1), s	13.6	54.0	13.6	36.1	36.1	28.3	14.5	30.5
Green Ext Time (p_c), s	0.0	6.7	0.0	2.0	0.0	2.9	0.0	4.3

Intersection Summary	
HCM 6th Ctrl Delay	83.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Unsignalized Intersection Capacity Analysis
6: Costa Verde Blvd & La Jolla Village Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2105	86	0	1265	124	0	0	178	0	0	35
Future Volume (Veh/h)	0	2105	86	0	1265	124	0	0	178	0	0	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	2536	104	0	1524	149	0	0	214	0	0	42
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.72			0.62			0.76	0.76	0.62	0.76	0.76	0.72
vC, conflicting volume	1683			2650			3158	4281	917	2678	4258	602
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	573			1522			238	1711	0	0	1681	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	68	100	100	95
cM capacity (veh/h)	709			267			487	67	663	513	70	765

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1014	1014	611	610	610	454	214	42
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	104	0	0	149	214	42
cSH	1700	1700	1700	1700	1700	1700	663	765
Volume to Capacity	0.60	0.60	0.36	0.36	0.36	0.27	0.32	0.05
Queue Length 95th (ft)	0	0	0	0	0	0	35	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	13.0	10.0
Lane LOS							B	A
Approach Delay (s)	0.0			0.0			13.0	10.0
Approach LOS							B	A

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	61.7%	ICU Level of Service	B	
Analysis Period (min)	15			

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	473	1677	112	244	1494	484	210	1505	319	290	349	90
Future Volume (veh/h)	473	1677	112	244	1494	484	210	1505	319	290	349	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	556	1973	132	287	1758	569	247	1771	375	341	411	106
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	2053	621	286	1798	697	296	1652	499	336	1710	516
Arrive On Green	0.27	0.80	0.80	0.03	0.12	0.12	0.11	0.43	0.43	0.10	0.33	0.33
Sat Flow, veh/h	3456	5106	1545	3456	5106	1542	3456	5106	1541	3456	5106	1542
Grp Volume(v), veh/h	556	1973	132	287	1758	569	247	1771	375	341	411	106
Grp Sat Flow(s),veh/h/ln	1728	1702	1545	1728	1702	1542	1728	1702	1541	1728	1702	1542
Q Serve(g_s), s	18.6	46.6	2.8	11.6	48.1	44.2	9.8	45.3	28.7	13.6	8.2	6.9
Cycle Q Clear(g_c), s	18.6	46.6	2.8	11.6	48.1	44.2	9.8	45.3	28.7	13.6	8.2	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	2053	621	286	1798	697	296	1652	499	336	1710	516
V/C Ratio(X)	1.21	0.96	0.21	1.00	0.98	0.82	0.83	1.07	0.75	1.02	0.24	0.21
Avail Cap(c_a), veh/h	459	2053	621	286	1798	697	415	1652	499	336	1710	516
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.55	0.55	0.55	0.90	0.90	0.90
Uniform Delay (d), s/veh	51.4	12.8	8.5	68.1	61.3	45.6	61.0	39.9	35.1	63.2	33.7	33.2
Incr Delay (d2), s/veh	113.7	12.6	0.8	16.5	3.0	1.0	4.1	39.7	3.7	50.7	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.4	7.7	1.0	6.1	22.6	18.5	4.4	23.8	10.7	8.3	3.4	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.1	25.3	9.2	84.6	64.4	46.6	65.1	79.5	38.8	113.9	33.8	33.5
LnGrp LOS	F	C	A	F	E	D	E	F	D	F	C	C
Approach Vol, veh/h		2661			2614			2393			858	
Approach Delay, s/veh		53.7			62.7			71.7			65.6	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	62.0	16.4	52.6	23.0	55.0	18.0	51.0
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	11.6	* 50	16.8	* 42	18.6	42.5	13.6	45.3
Max Q Clear Time (g_c+I1), s	13.6	48.6	11.8	10.2	20.6	50.1	15.6	47.3
Green Ext Time (p_c), s	0.0	1.1	0.2	5.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	2150	41	81	2349	466	24	25	62	57	21	41
Future Volume (veh/h)	104	2150	41	81	2349	466	24	25	62	57	21	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.93	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	121	2500	48	94	2731	542	28	29	72	46	52	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	3607	1098	139	3027	560	151	159	250	52	55	38
Arrive On Green	0.03	0.47	0.47	0.08	1.00	1.00	0.08	0.08	0.08	0.03	0.03	0.03
Sat Flow, veh/h	1781	5106	1554	3456	4315	798	1781	1870	2944	1781	1870	1307
Grp Volume(v), veh/h	121	2500	48	94	2112	1161	28	29	72	46	52	48
Grp Sat Flow(s),veh/h/ln	1781	1702	1554	1728	1702	1708	1781	1870	1472	1781	1870	1307
Q Serve(g_s), s	6.3	53.7	2.3	3.7	0.0	0.0	2.0	2.0	3.2	3.6	3.9	4.1
Cycle Q Clear(g_c), s	6.3	53.7	2.3	3.7	0.0	0.0	2.0	2.0	3.2	3.6	3.9	4.1
Prop In Lane	1.00		1.00	1.00		0.47	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	80	3607	1098	139	2388	1199	151	159	250	52	55	38
V/C Ratio(X)	1.51	0.69	0.04	0.68	0.88	0.97	0.19	0.18	0.29	0.88	0.95	1.25
Avail Cap(c_a), veh/h	80	3607	1098	311	2388	1199	570	599	942	52	55	38
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.9	25.0	11.4	63.5	0.0	0.0	59.6	59.6	60.1	67.7	67.8	68.0
Incr Delay (d2), s/veh	235.1	0.1	0.0	0.2	0.5	3.3	0.2	0.2	0.2	91.1	106.6	229.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	23.0	0.8	1.6	0.2	1.1	0.9	1.0	1.2	3.0	3.5	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	303.0	25.1	11.4	63.7	0.5	3.3	59.8	59.8	60.3	158.8	174.5	297.7
LnGrp LOS	F	C	B	E	A	A	E	E	E	F	F	F
Approach Vol, veh/h		2669			3367			129			146	
Approach Delay, s/veh		37.4			3.3			60.1			210.0	
Approach LOS		D			A			E			F	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	10.0	104.2	9.0	10.7	103.5	16.8
Change Period (Y+Rc), s	4.4	5.3	4.9	4.4	5.3	4.9
Max Green Setting (Gmax), s	12.6	59.0	4.1	6.3	65.3	44.8
Max Q Clear Time (g_c+I1), s	15.3	55.7	6.1	8.3	2.0	5.2
Green Ext Time (p_c), s	0.1	3.3	0.0	0.0	63.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
9: Towne Center Drive & La Jolla Village Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	632	1503	123	257	2674	1636	114	328	232	246	59	115
Future Volume (veh/h)	632	1503	123	257	2674	1636	114	328	232	246	59	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	702	1670	137	286	2971	1818	127	364	258	273	66	128
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	2663	808	333	2816	1481	168	680	782	163	675	289
Arrive On Green	0.14	1.00	1.00	0.10	0.55	0.55	0.05	0.19	0.19	0.05	0.19	0.19
Sat Flow, veh/h	3456	5106	1549	3456	5106	2686	3456	3554	2682	3456	3554	1523
Grp Volume(v), veh/h	702	1670	137	286	2971	1818	127	364	258	273	66	128
Grp Sat Flow(s),veh/h/ln	1728	1702	1549	1728	1702	1343	1728	1777	1341	1728	1777	1523
Q Serve(g_s), s	9.8	0.0	0.0	11.4	77.2	77.2	5.1	12.9	10.6	6.6	2.1	10.4
Cycle Q Clear(g_c), s	9.8	0.0	0.0	11.4	77.2	77.2	5.1	12.9	10.6	6.6	2.1	10.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	242	2663	808	333	2816	1481	168	680	782	163	675	289
V/C Ratio(X)	2.90	0.63	0.17	0.86	1.06	1.23	0.76	0.54	0.33	1.68	0.10	0.44
Avail Cap(c_a), veh/h	242	2663	808	358	2816	1481	168	939	978	163	926	397
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.49	0.49	0.49	0.09	0.09	0.09	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.2	0.0	0.0	62.3	31.4	31.4	65.8	51.0	39.3	66.7	46.8	50.1
Incr Delay (d2), s/veh	861.4	0.6	0.2	1.8	25.9	103.0	13.4	1.3	0.5	329.4	0.1	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.9	0.1	0.1	5.1	37.2	45.2	2.6	5.9	3.6	10.4	1.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	921.6	0.6	0.2	64.1	57.3	134.4	79.2	52.3	39.8	396.1	46.9	52.0
LnGrp LOS	F	A	A	E	F	F	E	D	D	F	D	D
Approach Vol, veh/h		2509			5075			749			467	
Approach Delay, s/veh		258.2			85.3			52.5			252.4	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.4	78.5	11.2	31.9	14.2	82.7	11.0	32.1
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	14.5	62.1	6.8	36.5	9.8	* 68	6.6	* 37
Max Q Clear Time (g_c+I1), s	13.4	2.0	7.1	12.4	11.8	79.2	8.6	14.9
Green Ext Time (p_c), s	0.1	37.6	0.0	1.5	0.0	0.0	0.0	6.9

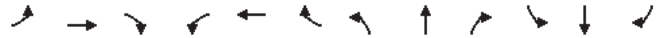
Intersection Summary			
HCM 6th Ctrl Delay	140.7		
HCM 6th LOS	F		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
10: I-805 SB Ramps & La Jolla Village Drive/Miramar Road

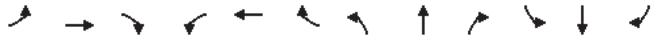
NT + P AM
10/03/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1513	464	0	2480	482	0	0	0	758	0	2052
Future Volume (vph)	0	1513	464	0	2480	482	0	0	0	758	0	2052
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1552				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1552				3433		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1681	516	0	2756	536	0	0	0	842	0	2280
RTOR Reduction (vph)	0	0	0	0	0	102	0	0	0	0	0	22
Lane Group Flow (vph)	0	1681	516	0	2756	434	0	0	0	842	0	2258
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov					Prot		custom
Protected Phases		2			6	4					4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		61.2	120.0		51.5	97.2					45.7		56.3
Effective Green, g (s)		61.2	120.0		51.5	97.2					45.7		56.3
Actuated g/C Ratio		0.51	1.00		0.43	0.81					0.38		0.47
Clearance Time (s)		7.5			7.5	5.6					5.6		
Vehicle Extension (s)		2.0			2.0	2.0					2.0		
Lane Grp Cap (vph)		2593	2707		2182	1257					1307		1307
v/s Ratio Prot		0.33			c0.54	0.13					0.25		c0.81
v/s Ratio Perm			0.19			0.15						
v/c Ratio		0.65	0.19		1.26	0.35					0.64		1.73
Uniform Delay, d1		21.5	0.0		34.2	3.0					30.5		31.9
Progression Factor		1.00	1.00		0.76	1.83					1.00		1.00
Incremental Delay, d2		1.3	0.2		120.7	0.0					0.8		330.7
Delay (s)		22.8	0.2		146.6	5.5					31.3		362.6
Level of Service		C	A		F	A					C		F
Approach Delay (s)		17.5			123.6			0.0			273.2	
Approach LOS		B			F			A			F	

Intersection Summary					
HCM 2000 Control Delay	150.8	HCM 2000 Level of Service		F	
HCM 2000 Volume to Capacity ratio	1.59				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		17.8	
Intersection Capacity Utilization	131.7%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1389	877	0	1776	468	1255	0	468	0	0	0
Future Volume (vph)	0	1389	877	0	1776	468	1255	0	468	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1561		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1561		6408	1538	3433		2787			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1561	985	0	1996	526	1410	0	526	0	0	0
RTOR Reduction (vph)	0	0	191	0	0	0	0	0	21	0	0	0
Lane Group Flow (vph)	0	1561	794	0	1996	526	1410	0	505	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		44.1	96.7		54.3	120.0	52.6		63.7			
Effective Green, g (s)		44.1	96.7		54.3	120.0	52.6		58.1			
Actuated g/C Ratio		0.37	0.81		0.45	1.00	0.44		0.48			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		1868	1257		2899	1538	1504		1349			
v/s Ratio Prot		c0.31	0.28		c0.31		c0.41		0.18			
v/s Ratio Perm			0.23			0.34						
v/c Ratio		0.84	0.63		0.69	0.34	0.94		0.37			
Uniform Delay, d1		34.6	4.6		26.1	0.0	32.1		19.5			
Progression Factor		0.78	27.82		1.00	1.00	1.00		1.00			
Incremental Delay, d2		3.6	0.6		1.4	0.6	11.2		0.1			
Delay (s)		30.6	128.7		27.5	0.6	43.3		19.6			
Level of Service		C	F		C	A	D		B			
Approach Delay (s)		68.5			21.9			36.9			0.0	
Approach LOS		E			C			D			A	

Intersection Summary				
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	73.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	137	28	112	32	45	74
Future Volume (Veh/h)	137	28	112	32	45	74
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	149	30	122	35	49	80
Pedestrians	28		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	358	116			185	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	358	116			185	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	74	97			96	
cM capacity (veh/h)	571	885			1355	

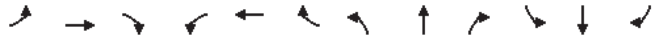
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	149	30	81	76	129
Volume Left	149	0	0	0	49
Volume Right	0	30	0	35	0
cSH	571	885	1700	1700	1355
Volume to Capacity	0.26	0.03	0.05	0.04	0.04
Queue Length 95th (ft)	26	3	0	0	3
Control Delay (s)	13.5	9.2	0.0	0.0	3.1
Lane LOS	B	A			A
Approach Delay (s)	12.8		0.0		3.1
Approach LOS	B				

Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	35.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	52	47	103	121	36	85
Future Volume (Veh/h)	52	47	103	121	36	85
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	60	54	118	139	41	98
Pedestrians	10		12			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	340	148			267	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	340	148			267	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	94			97	
cM capacity (veh/h)	598	857			1283	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	114	79	178	74	65
Volume Left	60	0	0	41	0
Volume Right	54	0	139	0	0
cSH	698	1700	1700	1283	1700
Volume to Capacity	0.16	0.05	0.10	0.03	0.04
Queue Length 95th (ft)	15	0	0	2	0
Control Delay (s)	11.2	0.0	0.0	4.5	0.0
Lane LOS	B			A	
Approach Delay (s)	11.2	0.0		2.4	
Approach LOS	B				

Intersection Summary				
Average Delay		3.1		
Intersection Capacity Utilization		30.7%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	49	175	54	55	86	243	1840	145	99	422	241
Future Volume (veh/h)	216	49	175	54	55	86	243	1840	145	99	422	241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.92	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	276	0	192	59	86	78	267	2022	159	109	464	265
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	0	127	600	315	244	160	2665	208	141	1714	769
Arrive On Green	0.09	0.00	0.09	0.17	0.17	0.17	0.18	1.00	1.00	0.08	1.00	1.00
Sat Flow, veh/h	3563	0	1361	3563	1870	1451	1781	4820	376	3456	3404	1526
Grp Volume(v), veh/h	276	0	192	59	86	78	267	1424	757	109	464	265
Grp Sat Flow(s),veh/h/ln	1781	0	1361	1781	1870	1451	1781	1702	1792	1728	1702	1526
Q Serve(g_s), s	10.7	0.0	13.1	2.0	5.6	6.6	12.6	0.0	0.0	4.3	0.0	0.0
Cycle Q Clear(g_c), s	10.7	0.0	13.1	2.0	5.6	6.6	12.6	0.0	0.0	4.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	333	0	127	600	315	244	160	1882	991	141	1714	769
V/C Ratio(X)	0.83	0.00	1.51	0.10	0.27	0.32	1.67	0.76	0.76	0.77	0.27	0.34
Avail Cap(c_a), veh/h	333	0	127	970	509	395	160	1882	991	141	1714	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	62.3	0.0	63.4	49.2	50.7	51.1	57.4	0.0	0.0	63.7	0.0	0.0
Incr Delay (d2), s/veh	14.9	0.0	264.6	0.0	0.2	0.3	325.3	2.9	5.6	18.5	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.0	13.9	0.9	2.7	2.4	19.6	0.8	1.5	2.2	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	0.0	328.1	49.2	50.9	51.4	382.7	2.9	5.6	82.2	0.3	1.0
LnGrp LOS	E	A	F	D	D	D	F	A	A	F	A	A
Approach Vol, veh/h		468			223			2448			838	
Approach Delay, s/veh		180.1			50.6			45.2			11.2	
Approach LOS		F			D			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	83.4		18.0	17.0	76.5		28.5				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	5.7	62.9		13.1	12.6	* 56		38.1				
Max Q Clear Time (g_c+I1), s	6.3	2.0		15.1	14.6	2.0		8.6				
Green Ext Time (p_c), s	0.0	41.0		0.0	0.0	9.1		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		54.2	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	81	0	2174	432	80
Future Volume (Veh/h)	0	81	0	2174	432	80
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	85	0	2288	455	84
Pedestrians	14			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.52					
vC, conflicting volume	1284	218	553			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	218	553			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	89	100			
cM capacity (veh/h)	521	771	1001			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	85	763	763	763	182	182	175
Volume Left	0	0	0	0	0	0	0
Volume Right	85	0	0	0	0	0	84
cSH	771	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.11	0.45	0.45	0.45	0.11	0.11	0.10
Queue Length 95th (ft)	9	0	0	0	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.2	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization		54.8%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	345	113	284	793	0	0
Future Volume (veh/h)	345	113	284	793	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	363	119	299	835		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2382	768	366	3756		
Arrive On Green	0.91	0.91	0.21	1.00		
Sat Flow, veh/h	2714	845	3456	3647		
Grp Volume(v), veh/h	244	238	299	835		
Grp Sat Flow(s),veh/h/ln	1777	1688	1728	1777		
Q Serve(g_s), s	1.5	1.5	8.2	0.0		
Cycle Q Clear(g_c), s	1.5	1.5	8.2	0.0		
Prop In Lane		0.50	1.00			
Lane Grp Cap(c), veh/h	1615	1534	366	3756		
V/C Ratio(X)	0.15	0.16	0.82	0.22		
Avail Cap(c_a), veh/h	1615	1534	615	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.96	0.96		
Uniform Delay (d), s/veh	0.5	0.5	38.5	0.0		
Incr Delay (d2), s/veh	0.2	0.2	1.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.1	0.1	3.2	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.7	0.7	40.1	0.1		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	482			1134		
Approach Delay, s/veh	0.7			10.7		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	14.8	95.7				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 18	73.5				* 96
Max Q Clear Time (g_c+I1), s	10.2	3.5				2.0
Green Ext Time (p_c), s	0.4	9.4				4.5

Intersection Summary			
HCM 6th Ctrl Delay		7.7	
HCM 6th LOS		A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	352	0	0	622	44	289	219	565	0	0	62
Future Volume (vph)	0	352	0	0	622	44	289	219	565	0	0	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			0.98		1.00	1.00	0.95			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			0.99		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (prot)		3539			6232		1681	1756	1505			1611
Flt Permitted		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (perm)		3539			6232		1681	1756	1505			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	391	0	0	691	49	321	243	628	0	0	69
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	195	0	0	66
Lane Group Flow (vph)	0	391	0	0	732	0	276	288	433	0	0	3
Confl. Peds. (#/hr)	72		27	27		72	38		30	30		38
Confl. Bikes (#/hr)			10			66			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		56.8			48.3		34.2	34.2	34.2			4.0
Effective Green, g (s)		56.8			48.3		34.2	34.2	34.2			4.0
Actuated g/C Ratio		0.57			0.48		0.34	0.34	0.34			0.04
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2010			3010		574	600	514			64
v/s Ratio Prot		c0.11			c0.12		0.16	0.16				0.00
v/s Ratio Perm									c0.29			
v/c Ratio		0.19			0.24		0.48	0.48	0.84			0.04
Uniform Delay, d1		10.5			15.1		25.9	25.9	30.4			46.2
Progression Factor		0.99			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.2			0.2		0.2	0.2	11.4			0.1
Delay (s)		10.6			15.3		26.1	26.1	41.8			46.3
Level of Service		B			B		C	C	D			D
Approach Delay (s)		10.6			15.3			34.4			46.3	
Approach LOS		B			B			C			D	

Intersection Summary				
HCM 2000 Control Delay	25.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	57.7%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	719	61	62	572	227	155	436	163	90	95	50
Future Volume (veh/h)	55	719	61	62	572	227	155	436	163	90	95	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.75	1.00		0.76	1.00		0.82	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	808	69	70	643	255	174	490	183	101	107	56
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	1654	139	90	1273	451	236	1160	426	309	1236	510
Arrive On Green	0.03	0.36	0.36	0.05	0.37	0.37	0.07	0.33	0.33	0.09	0.35	0.35
Sat Flow, veh/h	3456	4654	392	1781	3404	1206	3456	3554	1306	3456	3554	1323
Grp Volume(v), veh/h	62	588	289	70	643	255	174	490	183	101	107	56
Grp Sat Flow(s),veh/h/ln	1728	1702	1642	1781	1702	1206	1728	1777	1306	1728	1777	1323
Q Serve(g_s), s	1.9	14.3	14.6	4.1	15.5	17.8	5.2	11.4	11.6	2.9	2.1	2.9
Cycle Q Clear(g_c), s	1.9	14.3	14.6	4.1	15.5	17.8	5.2	11.4	11.6	2.9	2.1	2.9
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	1210	583	90	1273	451	236	1160	426	309	1236	510
V/C Ratio(X)	0.57	0.49	0.50	0.78	0.50	0.57	0.74	0.42	0.43	0.33	0.09	0.11
Avail Cap(c_a), veh/h	137	1210	583	111	1273	451	280	1160	426	326	1236	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.6	26.6	26.7	49.7	25.6	26.3	48.5	27.9	28.0	45.3	23.3	21.3
Incr Delay (d2), s/veh	1.7	1.4	3.0	18.0	1.3	4.7	6.2	1.1	3.1	0.2	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.0	6.1	2.3	6.4	5.6	2.4	5.0	4.0	1.3	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	28.0	29.7	67.7	26.9	31.0	54.6	29.0	31.1	45.5	23.4	21.7
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	C	C
Approach Vol, veh/h		939			968			847			264	
Approach Delay, s/veh		30.1			31.0			34.7			31.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	42.9	11.6	41.8	7.8	44.9	13.9	39.5
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.3	35.9	8.6	36.0	4.2	38.3	10.0	34.6
Max Q Clear Time (g_c+I1), s	3.9	16.6	7.2	4.9	3.9	19.8	4.9	13.6
Green Ext Time (p_c), s	0.0	8.8	0.0	2.0	0.0	9.2	0.1	9.6

Intersection Summary		
HCM 6th Ctrl Delay	31.8	
HCM 6th LOS	C	

HCM 6th Signalized Intersection Summary
19: Regents Road & Nobel Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	638	41	114	500	175	82	356	257	125	152	101
Future Volume (veh/h)	206	638	41	114	500	175	82	356	257	125	152	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85	1.00		0.84	1.00		0.69	1.00		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	224	693	45	124	543	190	89	387	279	136	165	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	1773	114	182	1190	445	113	1156	371	94	1169	377
Arrive On Green	0.03	0.12	0.12	0.11	0.67	0.67	0.06	0.34	0.34	0.05	0.33	0.33
Sat Flow, veh/h	3456	4842	311	3456	3554	1328	1781	3404	1092	1781	3554	1147
Grp Volume(v), veh/h	224	485	253	124	543	190	89	387	279	136	165	110
Grp Sat Flow(s),veh/h/ln	1728	1702	1749	1728	1777	1328	1781	1702	1092	1781	1777	1147
Q Serve(g_s), s	6.8	13.9	14.2	3.7	7.7	7.0	5.2	9.0	24.0	5.6	3.5	7.5
Cycle Q Clear(g_c), s	6.8	13.9	14.2	3.7	7.7	7.0	5.2	9.0	24.0	5.6	3.5	7.5
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	1247	640	182	1190	445	113	1156	371	94	1169	377
V/C Ratio(X)	0.77	0.39	0.40	0.68	0.46	0.43	0.79	0.33	0.75	1.45	0.14	0.29
Avail Cap(c_a), veh/h	346	1247	640	319	1190	445	212	1198	384	94	1169	377
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.85	0.85	0.85	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.5	35.7	35.8	46.6	12.9	12.8	48.9	26.1	31.0	50.2	25.0	26.4
Incr Delay (d2), s/veh	6.2	0.8	1.6	1.4	1.1	2.5	4.5	0.5	11.0	248.0	0.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	6.5	6.9	1.6	2.6	2.0	2.5	3.7	7.3	9.0	1.5	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	36.5	37.4	48.0	14.0	15.3	53.4	26.6	42.0	298.2	25.2	28.0
LnGrp LOS	E	D	D	D	B	B	D	C	D	F	C	C
Approach Vol, veh/h		962			857			755			411	
Approach Delay, s/veh		41.4			19.2			35.5			116.3	
Approach LOS		D			B			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	41.5	10.0	44.5	11.1	40.4	13.3	41.2
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	5.6	* 37	9.8	33.6	12.6	30.0	10.6	* 33
Max Q Clear Time (g_c+I1), s	7.8	26.0	5.7	16.2	7.2	9.5	8.8	9.7
Green Ext Time (p_c), s	0.0	6.2	0.1	6.7	0.0	3.6	0.1	10.7

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
20: Cargill Drive/Costa Verde Blvd & Nobel Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	829	49	36	649	71	81	121	61	98	37	114
Future Volume (veh/h)	180	829	49	36	649	71	81	121	61	98	37	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	911	54	40	713	78	89	133	67	108	41	125
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	2177	129	51	1906	206	77	313	157	134	119	363
Arrive On Green	0.12	0.89	0.89	0.03	0.41	0.41	0.04	0.27	0.27	0.08	0.31	0.31
Sat Flow, veh/h	1781	4908	290	1781	4650	504	1781	1140	574	1781	389	1187
Grp Volume(v), veh/h	198	631	334	40	520	271	89	0	200	108	0	166
Grp Sat Flow(s),veh/h/ln	1781	1702	1794	1781	1702	1750	1781	0	1714	1781	0	1576
Q Serve(g_s), s	6.6	3.5	3.6	2.4	11.3	11.5	4.6	0.0	10.2	6.3	0.0	8.7
Cycle Q Clear(g_c), s	6.6	3.5	3.6	2.4	11.3	11.5	4.6	0.0	10.2	6.3	0.0	8.7
Prop In Lane	1.00		0.16	1.00		0.29	1.00		0.34	1.00		0.75
Lane Grp Cap(c), veh/h	111	1510	796	51	1395	717	77	0	470	134	0	483
V/C Ratio(X)	1.79	0.42	0.42	0.79	0.37	0.38	1.15	0.00	0.43	0.81	0.00	0.34
Avail Cap(c_a), veh/h	111	1510	796	111	1395	717	77	0	600	145	0	611
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	3.5	3.5	51.2	21.8	21.8	50.7	0.0	31.6	48.2	0.0	28.5
Incr Delay (d2), s/veh	382.3	0.7	1.4	9.5	0.8	1.5	149.0	0.0	0.2	23.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	1.0	1.3	1.2	4.6	4.9	5.2	0.0	4.2	3.7	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	428.7	4.3	4.9	60.7	22.6	23.4	199.7	0.0	31.8	71.6	0.0	28.7
LnGrp LOS	F	A	A	E	C	C	F	A	C	E	A	C
Approach Vol, veh/h		1163			831			289			274	
Approach Delay, s/veh		76.7			24.7			83.5			45.6	
Approach LOS		E			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	52.2	9.0	37.4	11.0	48.6	12.4	34.0
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.6	34.8	4.6	41.1	6.6	34.8	8.6	37.1
Max Q Clear Time (g_c+I1), s	14.4	5.6	6.6	10.7	8.6	13.5	8.3	12.2
Green Ext Time (p_c), s	0.0	11.9	0.0	0.7	0.0	8.3	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	57.2
HCM 6th LOS	E

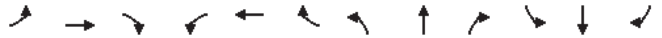
Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	995	710	215	0	39
Future Volume (Veh/h)	0	995	710	215	0	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	1118	798	242	0	44
Pedestrians		10	10		27	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.93				0.93	0.93
vC, conflicting volume	1067				1329	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	811				608	120
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	95
cM capacity (veh/h)	738				388	820

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	373	373	373	319	319	402	44
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	242	44
cSH	1700	1700	1700	1700	1700	1700	820
Volume to Capacity	0.22	0.22	0.22	0.19	0.19	0.24	0.05
Queue Length 95th (ft)	0	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.6
Approach LOS							A

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		32.1%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	296	524	142	101	374	81	325	1777	211	110	335	107
Future Volume (veh/h)	296	524	142	101	374	81	325	1777	211	110	335	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	318	563	153	109	402	87	349	1892	227	118	360	115
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	886	377	156	727	306	408	1887	824	114	2277	690
Arrive On Green	0.09	0.25	0.25	0.05	0.20	0.20	0.12	0.53	0.53	0.07	0.89	0.89
Sat Flow, veh/h	3456	3554	1510	3456	3554	1494	3456	3554	1551	3456	5106	1548
Grp Volume(v), veh/h	318	563	153	109	402	87	349	1892	227	118	360	115
Grp Sat Flow(s),veh/h/ln	1728	1777	1510	1728	1777	1494	1728	1777	1551	1728	1702	1548
Q Serve(g_s), s	12.6	19.8	11.9	4.4	14.2	6.9	13.9	74.4	11.3	4.6	1.2	1.3
Cycle Q Clear(g_c), s	12.6	19.8	11.9	4.4	14.2	6.9	13.9	74.4	11.3	4.6	1.2	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	311	886	377	156	727	306	408	1887	824	114	2277	690
V/C Ratio(X)	1.02	0.64	0.41	0.70	0.55	0.28	0.86	1.00	0.28	1.04	0.16	0.17
Avail Cap(c_a), veh/h	311	965	410	264	911	383	953	1887	824	114	2277	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	46.9	43.9	65.9	49.9	47.0	60.6	32.8	18.0	65.4	4.3	4.3
Incr Delay (d2), s/veh	56.9	1.5	1.0	2.1	0.7	0.5	2.0	21.3	0.8	95.4	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	9.0	4.6	2.0	6.4	2.6	6.2	36.5	4.3	3.5	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.6	48.3	44.9	68.0	50.6	47.6	62.6	54.1	18.9	160.8	4.4	4.8
LnGrp LOS	F	D	D	E	D	D	E	F	B	F	A	A
Approach Vol, veh/h		1034			598			2468			593	
Approach Delay, s/veh		70.1			53.3			52.1			35.6	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	80.3	10.7	40.0	20.9	68.3	17.0	33.7
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	4.6	* 67	10.7	* 38	38.6	33.1	12.6	35.9
Max Q Clear Time (g_c+I1), s	6.6	76.4	6.4	21.8	15.9	3.3	14.6	16.2
Green Ext Time (p_c), s	0.0	0.0	0.1	5.4	0.6	4.3	0.0	3.0

Intersection Summary		
HCM 6th Ctrl Delay		54.1
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	426	732	11	16	330	66	21	192	88	19	49	228
Future Volume (veh/h)	426	732	11	16	330	66	21	192	88	19	49	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	439	755	11	16	340	68	22	198	91	20	51	235
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	540	1305	19	27	1138	668	38	348	164	374	393	321
Arrive On Green	0.16	0.36	0.36	0.01	0.22	0.22	0.16	0.16	0.16	0.21	0.21	0.21
Sat Flow, veh/h	3456	3582	52	1781	5106	1505	243	2203	1039	1781	1870	1527
Grp Volume(v), veh/h	439	374	392	16	340	68	169	0	142	20	51	235
Grp Sat Flow(s),veh/h/ln	1728	1777	1857	1781	1702	1505	1858	0	1627	1781	1870	1527
Q Serve(g_s), s	9.8	13.6	13.6	0.7	4.4	2.1	6.7	0.0	6.5	0.7	1.8	11.5
Cycle Q Clear(g_c), s	9.8	13.6	13.6	0.7	4.4	2.1	6.7	0.0	6.5	0.7	1.8	11.5
Prop In Lane	1.00		0.03	1.00		1.00	0.13		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	540	647	677	27	1138	668	293	0	257	374	393	321
V/C Ratio(X)	0.81	0.58	0.58	0.60	0.30	0.10	0.57	0.00	0.55	0.05	0.13	0.73
Avail Cap(c_a), veh/h	960	1107	1157	89	2013	926	814	0	713	693	728	595
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	20.5	20.5	39.1	25.8	13.5	31.2	0.0	31.1	25.2	25.6	29.5
Incr Delay (d2), s/veh	1.1	1.7	1.6	7.8	0.2	0.1	0.7	0.0	0.7	0.1	0.2	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.6	5.9	0.4	1.8	1.0	3.0	0.0	2.5	0.3	0.8	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	22.1	22.1	46.9	26.0	13.5	31.8	0.0	31.8	25.3	25.8	34.0
LnGrp LOS	C	C	C	D	C	B	C	A	C	C	C	C
Approach Vol, veh/h		1205			424			311			306	
Approach Delay, s/veh		26.3			24.8			31.8			32.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.6	35.1		21.7	16.9	23.8		17.5
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	4.6	* 50		31.1	22.2	31.5		35.0
Max Q Clear Time (g_c+I1), s	12.5	15.6		13.5	11.8	6.4		8.7
Green Ext Time (p_c), s	0.0	10.6		1.6	0.7	2.9		1.2

Intersection Summary	
HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

NT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	795	7	6	355	55	28	5	56	131	2	36
Future Volume (veh/h)	18	795	7	6	355	55	28	5	56	131	2	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.91	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	864	8	7	386	60	30	5	61	143	0	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1834	17	13	1513	228	37	6	75	484	0	404
Arrive On Green	0.02	0.35	0.35	0.01	0.34	0.34	0.08	0.08	0.08	0.14	0.00	0.14
Sat Flow, veh/h	1781	5214	48	1781	4453	672	485	81	986	3563	0	2974
Grp Volume(v), veh/h	20	564	308	7	292	154	96	0	0	143	0	39
Grp Sat Flow(s),veh/h/ln	1781	1702	1858	1781	1702	1721	1552	0	0	1781	0	1487
Q Serve(g_s), s	0.5	6.0	6.0	0.2	2.9	3.0	2.9	0.0	0.0	1.7	0.0	0.5
Cycle Q Clear(g_c), s	0.5	6.0	6.0	0.2	2.9	3.0	2.9	0.0	0.0	1.7	0.0	0.5
Prop In Lane	1.00		0.03	1.00		0.39	0.31		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	35	1198	654	13	1156	585	119	0	0	484	0	404
V/C Ratio(X)	0.57	0.47	0.47	0.53	0.25	0.26	0.81	0.00	0.00	0.30	0.00	0.10
Avail Cap(c_a), veh/h	175	1901	1038	326	2184	1104	433	0	0	2437	0	2034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	11.8	11.8	23.2	11.2	11.2	21.3	0.0	0.0	18.3	0.0	17.8
Incr Delay (d2), s/veh	5.4	0.5	0.9	11.6	0.2	0.4	4.8	0.0	0.0	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.0	2.2	0.1	0.9	1.0	1.1	0.0	0.0	0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	12.3	12.8	34.8	11.4	11.6	26.2	0.0	0.0	18.5	0.0	17.8
LnGrp LOS	C	B	B	C	B	B	C	A	A	B	A	B
Approach Vol, veh/h		892			453			96			182	
Approach Delay, s/veh		12.8			11.8			26.2			18.4	
Approach LOS		B			B			C			B	

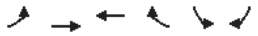
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	22.4		11.3	5.3	21.8		8.5
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	3.6	* 26		32.1	4.6	30.1		13.1
Max Q Clear Time (g_c+I1), s	2.5	8.0		3.7	2.5	5.0		4.9
Green Ext Time (p_c), s	0.0	8.5		0.5	0.0	4.6		0.2

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	247	757	365	1317	320	55
Future Volume (veh/h)	247	757	365	1317	320	55
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	260	797	384	1386	337	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	170	3762	2181	982	493	226
Arrive On Green	0.05	0.74	0.64	0.64	0.14	0.14
Sat Flow, veh/h	3456	5274	3572	1532	3456	1585
Grp Volume(v), veh/h	260	797	384	1386	337	58
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1532	1728	1585
Q Serve(g_s), s	4.6	4.6	4.3	60.0	8.7	3.0
Cycle Q Clear(g_c), s	4.6	4.6	4.3	60.0	8.7	3.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	170	3762	2181	982	493	226
V/C Ratio(X)	1.53	0.21	0.18	1.41	0.68	0.26
Avail Cap(c_a), veh/h	170	3762	2181	982	1465	672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	3.8	6.8	16.8	38.1	35.7
Incr Delay (d2), s/veh	266.7	0.1	0.1	191.5	2.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	1.3	1.4	69.9	3.8	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	311.3	3.9	6.9	208.3	40.9	36.7
LnGrp LOS	F	A	A	F	D	D
Approach Vol, veh/h		1057	1770		395	
Approach Delay, s/veh		79.5	164.6		40.3	
Approach LOS		E	F		D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		75.0		18.7	9.0	66.0
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		69.0		39.7	4.6	60.0
Max Q Clear Time (g_c+I1), s		6.6		10.7	6.6	62.0
Green Ext Time (p_c), s		15.8		2.7	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			121.5			
HCM 6th LOS			F			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	373	723	174	1805	0	0
Future Volume (veh/h)	373	723	174	1805	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	393	761	183	1900		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6546	5012	211	9957		
Arrive On Green	1.00	1.00	0.12	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	393	761	183	1900		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	5.2	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	5.2	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6546	5012	211	9957		
V/C Ratio(X)	0.06	0.15	0.87	0.19		
Avail Cap(c_a), veh/h	6546	5012	211	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.96	0.96	0.68	0.68		
Uniform Delay (d), s/veh	0.0	0.0	43.5	0.0		
Incr Delay (d2), s/veh	0.0	0.1	21.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.7	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	64.8	0.0		
LnGrp LOS	A	A	E	A		
Approach Vol, veh/h	1154			2083		
Approach Delay, s/veh	0.0			5.7		
Approach LOS	A			A		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	10.8	194.2				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	6.1	82.2				* 96
Max Q Clear Time (g_c+I1), s	7.2	2.0				2.0
Green Ext Time (p_c), s	0.0	4.1				16.8
Intersection Summary						
HCM 6th Ctrl Delay			3.7			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	371	0	0	743	1124	733
Future Volume (vph)	371	0	0	743	1124	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2687
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2687
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	382	0	0	766	1159	756
RTOR Reduction (vph)	0	0	0	0	0	199
Lane Group Flow (vph)	382	0	0	766	1159	557
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	42.0			52.2	34.7	40.2
Effective Green, g (s)	42.0			52.2	34.7	40.2
Actuated g/C Ratio	0.42			0.52	0.35	0.40
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1486			3344	1191	1080
v/s Ratio Prot	c0.11			0.12	c0.34	c0.03
v/s Ratio Perm						0.18
v/c Ratio	0.26			0.23	0.97	0.52
Uniform Delay, d1	18.9			13.0	32.2	22.6
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.4			0.2	19.7	0.2
Delay (s)	19.3			13.1	51.9	22.7
Level of Service	B			B	D	C
Approach Delay (s)	19.3			13.1	40.4	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	29	187	63	35	30	157	2424	133	14	744	54
Future Volume (veh/h)	35	29	187	63	35	30	157	2424	133	14	744	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.96	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	130	135	68	38	32	169	2606	143	15	800	58
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	262	293	107	58	38	191	2348	127	22	1984	144
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.21	1.00	1.00	0.01	0.59	0.59
Sat Flow, veh/h	270	1365	1524	358	304	200	1781	3419	185	1781	3350	243
Grp Volume(v), veh/h	168	0	135	138	0	0	169	1339	1410	15	424	434
Grp Sat Flow(s),veh/h/ln	1635	0	1524	862	0	0	1781	1777	1827	1781	1777	1816
Q Serve(g_s), s	0.0	0.0	11.0	11.3	0.0	0.0	12.9	96.1	96.1	1.2	17.9	17.9
Cycle Q Clear(g_c), s	12.3	0.0	11.0	23.7	0.0	0.0	12.9	96.1	96.1	1.2	17.9	17.9
Prop In Lane	0.23		1.00	0.49		0.23	1.00		0.10	1.00		0.13
Lane Grp Cap(c), veh/h	346	0	293	204	0	0	191	1220	1255	22	1052	1076
V/C Ratio(X)	0.49	0.00	0.46	0.68	0.00	0.00	0.89	1.10	1.12	0.67	0.40	0.40
Avail Cap(c_a), veh/h	384	0	327	234	0	0	298	1220	1255	51	1052	1076
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	0.0	50.1	58.1	0.0	0.0	54.2	0.0	0.0	68.8	15.3	15.3
Incr Delay (d2), s/veh	0.4	0.0	0.4	4.4	0.0	0.0	1.3	45.4	56.7	11.9	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	4.3	5.1	0.0	0.0	5.1	15.4	19.8	0.6	7.2	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	0.0	50.6	62.5	0.0	0.0	55.5	45.4	56.7	80.7	16.4	16.4
LnGrp LOS	D	A	D	E	A	A	E	F	F	F	B	B
Approach Vol, veh/h		303			138			2918			873	
Approach Delay, s/veh		50.7			62.5			51.4			17.5	
Approach LOS		D			E			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	88.8		31.8	6.2	102.0		31.8				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	23.4	71.4		30.0	4.0	* 91		30.0				
Max Q Clear Time (g_c+I1), s	14.9	19.9		25.7	3.2	98.1		14.3				
Green Ext Time (p_c), s	0.1	7.9		0.2	0.0	0.0		0.8				

Intersection Summary		
HCM 6th Ctrl Delay	44.7	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	647	316	156	260	242	341	84	1686	232	242	626	352
Future Volume (veh/h)	647	316	156	260	242	341	84	1686	232	242	626	352
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	735	359	177	295	275	388	95	1916	264	275	711	400
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1156	467	138	1156	501	71	1395	613	138	1395	618
Arrive On Green	0.04	0.33	0.33	0.04	0.33	0.33	0.04	0.39	0.39	0.04	0.39	0.39
Sat Flow, veh/h	3456	3554	1436	3456	3554	1541	1781	3554	1561	3456	3554	1573
Grp Volume(v), veh/h	735	359	177	295	275	388	95	1916	264	275	711	400
Grp Sat Flow(s),veh/h/ln	1728	1777	1436	1728	1777	1541	1781	1777	1561	1728	1777	1573
Q Serve(g_s), s	4.0	7.6	9.5	4.0	5.7	22.7	4.0	39.3	12.4	4.0	15.2	20.7
Cycle Q Clear(g_c), s	4.0	7.6	9.5	4.0	5.7	22.7	4.0	39.3	12.4	4.0	15.2	20.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1156	467	138	1156	501	71	1395	613	138	1395	618
V/C Ratio(X)	5.32	0.31	0.38	2.13	0.24	0.77	1.33	1.37	0.43	1.99	0.51	0.65
Avail Cap(c_a), veh/h	138	1411	570	138	1386	601	71	1395	613	138	1395	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	25.3	26.0	48.0	24.7	30.4	48.0	30.4	22.2	48.0	23.1	24.7
Incr Delay (d2), s/veh	1958.7	0.3	1.1	533.8	0.2	6.8	219.1	172.5	2.2	470.1	1.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	89.3	3.2	3.3	12.0	2.4	9.2	6.1	48.7	4.8	10.7	6.2	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2006.7	25.6	27.0	581.8	24.9	37.2	267.1	202.9	24.4	518.1	24.4	29.9
LnGrp LOS	F	C	C	F	C	D	F	F	C	F	C	C
Approach Vol, veh/h		1271			958			2275			1386	
Approach Delay, s/veh		1171.4			201.4			184.8			123.9	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	45.0	8.4	38.2	8.4	45.0	8.4	38.2
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7
Max Green Setting (Gmax), s	4.0	32.8	4.0	* 40	4.0	* 33	4.0	39.0
Max Q Clear Time (g_c+I1), s	10.0	41.3	6.0	11.5	6.0	22.7	6.0	24.7
Green Ext Time (p_c), s	0.0	0.0	0.0	6.3	0.0	7.1	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	386.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	153	0	0	949	439	1076	0	0	985	124
Future Vol, veh/h	0	0	153	0	0	949	439	1076	0	0	985	124
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	166	0	0	1032	477	1170	0	0	1071	135

Major/Minor	Minor2					Major1			Major2			
Conflicting Flow All	-	-	536			1071	0	-	-	-	0	
Stage 1	-	-	-			-	-	-	-	-	-	
Stage 2	-	-	-			-	-	-	-	-	-	
Critical Hdwy	-	-	6.94			4.3	-	-	-	-	-	
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-	
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-	
Pot Cap-1 Maneuver	0	0	489			616	-	0	0	-	-	
Stage 1	0	0	-			-	-	0	0	-	-	
Stage 2	0	0	-			-	-	0	0	-	-	
Platoon blocked, %							-			-	-	
Mov Cap-1 Maneuver	-	0	489			616	-	-	-	-	-	
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-	
Stage 1	-	0	-			-	-	-	-	-	-	
Stage 2	-	0	-			-	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	16.1	8.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	616	-	489	-	-
HCM Lane V/C Ratio	0.775	-	0.34	-	-
HCM Control Delay (s)	28	-	16.1	-	-
HCM Lane LOS	D	-	C	-	-
HCM 95th %tile Q(veh)	7.3	-	1.5	-	-

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

NT + P AM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	205	1373	769	444	679
Future Volume (veh/h)	140	205	1373	769	444	679
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	223	1492	0	483	738
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	299	266	1462		375	2413
Arrive On Green	0.17	0.17	0.41	0.00	0.21	0.68
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	152	223	1492	0	483	738
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.4	11.2	33.8	0.0	17.3	6.9
Cycle Q Clear(g_c), s	6.4	11.2	33.8	0.0	17.3	6.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	299	266	1462		375	2413
V/C Ratio(X)	0.51	0.84	1.02		1.29	0.31
Avail Cap(c_a), veh/h	694	617	1462		375	2413
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	33.1	24.2	0.0	32.4	5.3
Incr Delay (d2), s/veh	0.5	2.7	28.9	0.0	148.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.4	18.1	0.0	22.3	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.6	35.9	53.1	0.0	180.8	5.7
LnGrp LOS	C	D	F		F	A
Approach Vol, veh/h	375		1492	A		1221
Approach Delay, s/veh	34.1		53.1			74.9
Approach LOS	C		D			E
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	41.3		18.9		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		* 56
Max Q Clear Time (g_c+I1), s	19.3	35.8		13.2		8.9
Green Ext Time (p_c), s	0.0	0.0		0.6		3.2

Intersection Summary	
HCM 6th Ctrl Delay	59.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
32: Genesee Avenue & Centurion Square

NT + P AM
10/10/2019

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	321	219	0	2405	290	180	810
Future Volume (veh/h)	321	219	0	2405	290	180	810
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	349	238		2614	315	196	880
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	378	336		2252	997	163	2513
Arrive On Green	0.21	0.21		0.63	0.63	0.05	0.71
Sat Flow, veh/h	1781	1585		3647	1573	3456	3647
Grp Volume(v), veh/h	349	238		2614	315	196	880
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1573	1728	1777
Q Serve(g_s), s	26.9	19.5		88.7	12.8	6.6	13.5
Cycle Q Clear(g_c), s	26.9	19.5		88.7	12.8	6.6	13.5
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	378	336		2252	997	163	2513
V/C Ratio(X)	0.92	0.71		1.16	0.32	1.20	0.35
Avail Cap(c_a), veh/h	397	353		2252	997	163	2513
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	51.1		25.6	11.7	66.7	8.0
Incr Delay (d2), s/veh	27.1	7.0		77.7	0.8	135.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	17.2		57.1	4.4	5.9	4.7
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	81.2	58.1		103.4	12.6	202.2	8.4
LnGrp LOS	F	E		F	B	F	A
Approach Vol, veh/h	587			2929			1076
Approach Delay, s/veh	71.8			93.6			43.7
Approach LOS	E			F			D
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	11.0	94.4		34.6		105.4	
Change Period (Y+Rc), s	4.4	5.7		4.9		6.4	
Max Green Setting (Gmax), s	6.6	87.2		31.2		89.1	
Max Q Clear Time (g_c+I1), s	8.6	90.7		28.9		15.5	
Green Ext Time (p_c), s	0.0	0.0		0.8		4.0	

Intersection Summary	
HCM 6th Ctrl Delay	79.1
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

NT + P AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	105	43	85	60	78	76	1619	443	79	524	53
Future Volume (veh/h)	36	105	43	85	60	78	76	1619	443	79	524	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	113	46	91	65	84	82	1741	476	85	563	57
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	50	302	115	137	238	198	84	2551	679	96	3039	304
Arrive On Green	0.03	0.12	0.12	0.04	0.13	0.13	0.05	0.64	0.64	0.05	0.65	0.65
Sat Flow, veh/h	1781	2465	937	3456	1777	1476	1781	3994	1063	1781	4708	471
Grp Volume(v), veh/h	39	79	80	91	65	84	82	1477	740	85	405	215
Grp Sat Flow(s),veh/h/ln	1781	1777	1625	1728	1777	1476	1781	1702	1653	1781	1702	1774
Q Serve(g_s), s	2.9	5.4	6.0	3.4	4.3	6.9	6.1	36.5	38.7	6.3	6.3	6.4
Cycle Q Clear(g_c), s	2.9	5.4	6.0	3.4	4.3	6.9	6.1	36.5	38.7	6.3	6.3	6.4
Prop In Lane	1.00		0.58	1.00		1.00	1.00		0.64	1.00		0.27
Lane Grp Cap(c), veh/h	50	217	199	137	238	198	84	2174	1056	96	2197	1145
V/C Ratio(X)	0.78	0.36	0.40	0.66	0.27	0.42	0.98	0.68	0.70	0.89	0.18	0.19
Avail Cap(c_a), veh/h	103	530	485	139	499	415	84	2174	1056	96	2197	1145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	53.2	53.5	62.5	51.4	52.5	62.8	15.2	15.6	62.1	9.4	9.4
Incr Delay (d2), s/veh	9.3	0.4	0.5	9.0	0.2	0.5	91.2	1.7	3.9	64.9	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.5	2.5	1.7	2.0	2.6	4.8	13.2	14.1	4.5	2.2	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.0	53.6	53.9	71.5	51.6	53.0	154.1	16.9	19.5	126.9	9.6	9.8
LnGrp LOS	E	D	D	E	D	D	F	B	B	F	A	A
Approach Vol, veh/h		198			240			2299			705	
Approach Delay, s/veh		57.6			59.6			22.7			23.8	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	89.8	9.6	21.1	10.6	90.7	8.1	22.6
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	7.1	61.0	5.3	39.4	6.2	* 62	7.6	37.1
Max Q Clear Time (g_c+I1), s	13.3	40.7	5.4	8.0	8.1	8.4	4.9	8.9
Green Ext Time (p_c), s	0.0	16.7	0.0	0.6	0.0	5.6	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

NT + P AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	117	1091	16	8	670	39	37	3	21	54	2	67
Future Volume (veh/h)	117	1091	16	8	670	39	37	3	21	54	2	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	1186	17	9	728	42	40	3	23	59	2	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	2070	30	17	1687	97	180	27	45	331	5	171
Arrive On Green	0.09	0.58	0.58	0.01	0.49	0.49	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1781	3587	51	1781	3415	197	519	245	409	1385	42	1549
Grp Volume(v), veh/h	127	587	616	9	379	391	66	0	0	59	0	75
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	1835	1174	0	0	1385	0	1592
Q Serve(g_s), s	3.3	9.9	9.9	0.2	6.5	6.5	0.9	0.0	0.0	0.0	0.0	2.1
Cycle Q Clear(g_c), s	3.3	9.9	9.9	0.2	6.5	6.5	3.0	0.0	0.0	1.4	0.0	2.1
Prop In Lane	1.00		0.03	1.00		0.11	0.61		0.35	1.00		0.97
Lane Grp Cap(c), veh/h	165	1026	1074	17	878	906	252	0	0	331	0	176
V/C Ratio(X)	0.77	0.57	0.57	0.54	0.43	0.43	0.26	0.00	0.00	0.18	0.00	0.43
Avail Cap(c_a), veh/h	626	2447	2563	287	2112	2181	1094	0	0	1149	0	1116
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.9	6.3	6.3	23.3	7.7	7.7	19.9	0.0	0.0	19.3	0.0	19.6
Incr Delay (d2), s/veh	2.8	0.7	0.6	9.5	0.6	0.5	0.2	0.0	0.0	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	2.5	2.6	0.1	1.9	2.0	0.6	0.0	0.0	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	7.0	6.9	32.8	8.2	8.2	20.1	0.0	0.0	19.4	0.0	20.2
LnGrp LOS	C	A	A	C	A	A	C	A	A	B	A	C
Approach Vol, veh/h		1330			779			66			134	
Approach Delay, s/veh		8.5			8.5			20.1			19.9	
Approach LOS		A			A			C			B	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	4.8	32.3	10.1	8.8	28.3	10.1
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	7.6	65.0	33.1	16.6	* 56	33.1
Max Q Clear Time (g_c+I1), s	2.2	11.9	4.1	5.3	8.5	5.0
Green Ext Time (p_c), s	0.0	15.4	0.4	0.1	10.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	247	74	127	259	503	49	494	93	508	840	20
Future Volume (veh/h)	27	247	74	127	259	503	49	494	93	508	840	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	266	80	137	278	541	53	531	100	546	903	22
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	37	802	234	162	661	548	68	1216	222	602	2153	52
Arrive On Green	0.02	0.30	0.30	0.09	0.37	0.37	0.04	0.28	0.28	0.17	0.42	0.42
Sat Flow, veh/h	1781	2662	776	1781	1777	1472	1781	4270	779	3456	5120	125
Grp Volume(v), veh/h	29	175	171	137	278	541	53	420	211	546	600	325
Grp Sat Flow(s),veh/h/ln	1781	1777	1660	1781	1777	1472	1781	1702	1645	1728	1702	1841
Q Serve(g_s), s	2.1	10.1	10.6	10.0	15.4	48.2	3.9	13.3	13.9	20.5	16.4	16.4
Cycle Q Clear(g_c), s	2.1	10.1	10.6	10.0	15.4	48.2	3.9	13.3	13.9	20.5	16.4	16.4
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.47	1.00		0.07
Lane Grp Cap(c), veh/h	37	535	500	162	661	548	68	969	469	602	1432	774
V/C Ratio(X)	0.79	0.33	0.34	0.84	0.42	0.99	0.77	0.43	0.45	0.91	0.42	0.42
Avail Cap(c_a), veh/h	100	535	500	305	661	548	211	969	469	696	1432	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	35.7	35.9	59.1	30.9	41.2	62.9	38.5	38.7	53.5	26.9	26.9
Incr Delay (d2), s/veh	13.2	0.1	0.2	4.5	0.2	35.2	6.3	1.3	2.9	13.3	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	4.4	4.4	4.7	6.7	22.6	1.9	5.8	6.0	10.0	6.9	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	35.9	36.1	63.6	31.0	76.4	69.2	39.8	41.6	66.8	27.8	28.6
LnGrp LOS	E	D	D	E	C	E	E	D	D	E	C	C
Approach Vol, veh/h		375			956			684			1471	
Approach Delay, s/veh		39.2			61.3			42.7			42.4	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.4	43.3	16.4	44.9	9.5	61.2	7.1	54.2
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	26.6	29.3	22.6	* 34	15.6	40.3	7.4	49.1
Max Q Clear Time (g_c+I1), s	22.5	15.9	12.0	12.6	5.9	18.4	4.1	50.2
Green Ext Time (p_c), s	0.5	4.8	0.1	1.3	0.0	9.4	0.0	0.0

Intersection Summary				
HCM 6th Ctrl Delay	47.3			
HCM 6th LOS	D			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2121	820	0	1332	1245	0	0	0	742	0	651
Future Volume (vph)	0	2121	820	0	1332	1245	0	0	0	742	0	651
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1533				3433		2734
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1533				3433		2734
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2164	837	0	1359	1270	0	0	0	757	0	664
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	8
Lane Group Flow (vph)	0	2164	837	0	1359	1270	0	0	0	757	0	656
Confl. Peds. (#/hr)	16		10	10		16	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free				Prot		custom
Protected Phases		2			6					4		5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		47.3	138.0		37.4	138.0				80.4		86.1
Effective Green, g (s)		47.3	138.0		37.4	138.0				80.4		86.1
Actuated g/C Ratio		0.34	1.00		0.27	1.00				0.58		0.62
Clearance Time (s)		5.7			5.7					4.6		4.2
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		2196	1538		1378	1533				2000		1705
v/s Ratio Prot		c0.34			0.27					0.22		0.02
v/s Ratio Perm			0.54			c0.83						0.22
v/c Ratio		0.99	0.54		0.99	0.83				0.38		0.38
Uniform Delay, d1		45.0	0.0		50.0	0.0				15.4		12.8
Progression Factor		1.00	1.00		1.14	1.00				1.00		1.00
Incremental Delay, d2		16.1	1.4		10.4	1.7				0.5		0.1
Delay (s)		61.1	1.4		67.6	1.7				16.0		12.9
Level of Service		E	A		E	A				B		B
Approach Delay (s)		44.4			35.7			0.0			14.5	
Approach LOS		D			D			A			B	

Intersection Summary					
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.95				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	60.5%	ICU Level of Service		B	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1600	1248	0	2289	678	289	0	419	0	0	0
Future Volume (vph)	0	1600	1248	0	2289	678	289	0	419	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.98			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2737			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2737			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1649	1287	0	2360	699	298	0	432	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	9	0	0	0
Lane Group Flow (vph)	0	1649	1287	0	2360	699	298	0	423	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		44.3	138.0		60.3	138.0	67.4		79.2			
Effective Green, g (s)		44.3	138.0		60.3	138.0	67.4		79.2			
Actuated g/C Ratio		0.32	1.00		0.44	1.00	0.49		0.57			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		1632	1538		2221	1538	1676		1570			
v/s Ratio Prot		0.32			c0.46		0.09		0.02			
v/s Ratio Perm			c0.84			0.45			0.13			
v/c Ratio		1.01	0.84		1.06	0.45	0.18		0.27			
Uniform Delay, d1		46.9	0.0		38.9	0.0	19.8		14.8			
Progression Factor		0.61	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		18.9	3.1		38.3	1.0	0.2		0.4			
Delay (s)		47.6	3.1		77.1	1.0	20.0		15.2			
Level of Service		D	A		E	A	C		B			
Approach Delay (s)		28.1			59.7			17.2			0.0	
Approach LOS		C			E			B			A	

Intersection Summary				
HCM 2000 Control Delay	41.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.01			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	61.1%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	2054	273	276	2488	4	473	7	125	8	1	6
Future Volume (veh/h)	13	2054	273	276	2488	4	473	7	125	8	1	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	2162	287	291	2619	4	498	0	137	8	1	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	2755	1176	344	3303	5	768	0	654	20	2	15
Arrive On Green	0.01	0.54	0.54	0.03	0.21	0.21	0.22	0.00	0.22	0.01	0.01	0.01
Sat Flow, veh/h	1781	5106	1547	3456	5265	8	3563	0	3031	1592	199	1194
Grp Volume(v), veh/h	14	2162	287	291	1693	930	498	0	137	9	0	6
Grp Sat Flow(s),veh/h/ln	1781	1702	1547	1728	1702	1869	1781	0	1516	1791	0	1194
Q Serve(g_s), s	1.2	50.7	8.4	12.6	70.8	70.8	19.1	0.0	5.6	0.7	0.0	0.7
Cycle Q Clear(g_c), s	1.2	50.7	8.4	12.6	70.8	70.8	19.1	0.0	5.6	0.7	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	0.89		1.00
Lane Grp Cap(c), veh/h	21	2755	1176	344	2136	1172	768	0	654	22	0	15
V/C Ratio(X)	0.67	0.78	0.24	0.84	0.79	0.79	0.65	0.00	0.21	0.41	0.00	0.41
Avail Cap(c_a), veh/h	447	2755	1176	544	2136	1172	1617	0	1376	73	0	49
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.40	0.40	0.40	0.09	0.09	0.09	0.88	0.00	0.88	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.8	27.6	5.5	71.4	50.2	50.2	53.6	0.0	48.3	73.5	0.0	73.5
Incr Delay (d2), s/veh	5.3	0.9	0.2	0.4	0.3	0.5	3.7	0.0	0.6	4.4	0.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	20.6	5.8	5.9	32.6	35.9	9.0	0.0	2.2	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.1	28.5	5.7	71.7	50.5	50.8	57.3	0.0	49.0	77.9	0.0	80.0
LnGrp LOS	E	C	A	E	D	D	E	A	D	E	A	F
Approach Vol, veh/h		2463			2914			635			15	
Approach Delay, s/veh		26.2			52.7			55.5			78.7	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	86.6		6.8	6.2	99.8		37.3				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	23.6	* 33		6.1	37.6	18.3		68.1				
Max Q Clear Time (g_c+I1), s	14.6	52.7		2.7	3.2	72.8		21.1				
Green Ext Time (p_c), s	0.4	0.0		0.0	0.0	0.0		10.2				

Intersection Summary			
HCM 6th Ctrl Delay	42.2		
HCM 6th LOS	D		

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
5: Regents Road & La Jolla Village Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	443	1631	114	446	1766	123	273	245	124	246	812	955
Future Volume (veh/h)	443	1631	114	446	1766	123	273	245	124	246	812	955
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.90	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	461	1699	119	465	1840	128	284	255	129	256	846	995
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	501	1885	132	452	1816	126	198	1087	437	278	1438	591
Arrive On Green	0.19	0.52	0.52	0.04	0.12	0.12	0.02	0.10	0.10	0.16	0.40	0.40
Sat Flow, veh/h	3456	4859	340	3456	4862	337	3456	3554	1428	1781	3554	1461
Grp Volume(v), veh/h	461	1189	629	465	1286	682	284	255	129	256	846	995
Grp Sat Flow(s),veh/h/ln	1728	1702	1795	1728	1702	1795	1728	1777	1428	1781	1777	1461
Q Serve(g_s), s	19.6	47.4	47.6	19.6	56.0	56.0	8.6	9.9	12.6	21.2	27.9	60.7
Cycle Q Clear(g_c), s	19.6	47.4	47.6	19.6	56.0	56.0	8.6	9.9	12.6	21.2	27.9	60.7
Prop In Lane	1.00		0.19	1.00		0.19	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	501	1321	696	452	1272	671	198	1087	437	278	1438	591
V/C Ratio(X)	0.92	0.90	0.90	1.03	1.01	1.02	1.43	0.23	0.30	0.92	0.59	1.68
Avail Cap(c_a), veh/h	521	1321	696	452	1272	671	198	1087	437	340	1438	591
HCM Platoon Ratio	1.33	1.33	1.33	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.7	33.7	33.7	71.8	65.8	65.8	73.6	51.3	52.5	62.4	34.9	44.7
Incr Delay (d2), s/veh	8.6	3.8	6.8	50.2	28.1	38.9	218.6	0.1	0.4	24.3	0.7	314.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	18.8	20.5	12.3	30.8	34.5	10.0	4.8	4.9	11.5	12.3	73.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	37.4	40.6	122.0	93.8	104.7	292.2	51.4	52.9	86.7	35.6	359.1
LnGrp LOS	E	D	D	F	F	F	F	D	D	F	D	F
Approach Vol, veh/h		2279			2433			668			2097	
Approach Delay, s/veh		44.5			102.3			154.1			195.3	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	64.1	13.0	66.4	26.2	61.9	27.8	51.6
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	19.6	* 42	8.6	* 61	22.6	38.6	28.6	40.3
Max Q Clear Time (g_c+I1), s	21.6	49.6	10.6	62.7	21.6	58.0	23.2	14.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.1	0.0	0.2	2.7

Intersection Summary	
HCM 6th Ctrl Delay	115.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Unsignalized Intersection Capacity Analysis
6: Costa Verde Blvd & La Jolla Village Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1730	253	0	2126	53	0	0	112	0	0	196
Future Volume (Veh/h)	0	1730	253	0	2126	53	0	0	112	0	0	196
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1880	275	0	2311	58	0	0	122	0	0	213
Pedestrians		10			10			10			18	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.71			0.73			0.85	0.85	0.73	0.85	0.85	0.71
vC, conflicting volume	2387			2165			3021	4414	784	3117	4523	827
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1533			1319			626	2276	0	740	2404	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	84	100	100	72
cM capacity (veh/h)	302			378			216	33	783	209	27	754

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	752	752	651	924	924	520	122	213
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	275	0	0	58	122	213
cSH	1700	1700	1700	1700	1700	1700	783	754
Volume to Capacity	0.44	0.44	0.38	0.54	0.54	0.31	0.16	0.28
Queue Length 95th (ft)	0	0	0	0	0	0	14	29
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.4	11.6
Lane LOS							B	B
Approach Delay (s)	0.0			0.0			10.4	11.6
Approach LOS							B	B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	1307	331	566	1480	195	276	389	299	585	1206	414
Future Volume (veh/h)	195	1307	331	566	1480	195	276	389	299	585	1206	414
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.94	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	207	1390	352	602	1574	207	294	414	318	622	1283	440
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1406	412	640	1970	856	346	1202	351	590	1563	462
Arrive On Green	0.07	0.28	0.28	0.37	0.77	0.77	0.03	0.08	0.08	0.17	0.31	0.31
Sat Flow, veh/h	3456	5106	1496	3456	5106	1516	3456	5106	1491	3456	5106	1508
Grp Volume(v), veh/h	207	1390	352	602	1574	207	294	414	318	622	1283	440
Grp Sat Flow(s),veh/h/ln	1728	1702	1496	1728	1702	1516	1728	1702	1491	1728	1702	1508
Q Serve(g_s), s	8.8	40.7	33.4	25.3	27.5	4.6	12.7	11.5	31.7	25.6	34.9	42.9
Cycle Q Clear(g_c), s	8.8	40.7	33.4	25.3	27.5	4.6	12.7	11.5	31.7	25.6	34.9	42.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	1406	412	640	1970	856	346	1202	351	590	1563	462
V/C Ratio(X)	0.80	0.99	0.85	0.94	0.80	0.24	0.85	0.34	0.91	1.05	0.82	0.95
Avail Cap(c_a), veh/h	843	1406	412	705	1970	856	475	1270	371	590	1563	462
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.85	0.85	0.85	0.92	0.92	0.92
Uniform Delay (d), s/veh	68.3	54.1	51.5	46.4	13.7	5.9	71.4	58.2	67.5	62.2	48.2	51.0
Incr Delay (d2), s/veh	2.2	21.4	19.7	2.7	0.3	0.1	6.9	0.2	21.9	50.8	3.5	28.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	20.2	14.8	9.7	5.2	1.3	6.3	5.3	15.0	15.4	15.4	19.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	75.5	71.2	49.1	14.0	5.9	78.3	58.4	89.4	113.0	51.8	79.9
LnGrp LOS	E	E	E	D	B	A	E	E	F	F	D	E
Approach Vol, veh/h		1949			2383			1026			2345	
Approach Delay, s/veh		74.2			22.2			73.7			73.3	
Approach LOS		E			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.2	46.8	19.4	51.6	15.6	63.4	30.0	41.0				
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7				
Max Green Setting (Gmax), s	30.6	* 37	20.6	* 43	36.6	30.5	25.6	37.3				
Max Q Clear Time (g_c+I1), s	27.3	42.7	14.7	44.9	10.8	29.5	27.6	33.7				
Green Ext Time (p_c), s	0.5	0.0	0.3	0.0	0.4	0.9	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay			57.8									
HCM 6th LOS			E									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	1942	209	284	2005	100	171	38	269	375	91	239
Future Volume (veh/h)	69	1942	209	284	2005	100	171	38	269	375	91	239
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.91	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	2340	252	342	2416	120	239	0	324	513	25	288
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	2080	630	267	2174	107	793	0	643	580	20	230
Arrive On Green	0.06	0.54	0.54	0.08	0.44	0.44	0.22	0.00	0.22	0.16	0.16	0.16
Sat Flow, veh/h	1781	5106	1546	3456	4978	245	3563	0	2886	3563	123	1417
Grp Volume(v), veh/h	83	2340	252	342	1644	892	239	0	324	513	0	313
Grp Sat Flow(s),veh/h/ln	1781	1702	1546	1728	1702	1818	1781	0	1443	1781	0	1540
Q Serve(g_s), s	7.0	61.1	14.3	11.6	65.5	65.5	8.4	0.0	14.7	21.1	0.0	24.4
Cycle Q Clear(g_c), s	7.0	61.1	14.3	11.6	65.5	65.5	8.4	0.0	14.7	21.1	0.0	24.4
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	86	2080	630	267	1487	794	793	0	643	580	0	250
V/C Ratio(X)	0.97	1.12	0.40	1.28	1.11	1.12	0.30	0.00	0.50	0.89	0.00	1.25
Avail Cap(c_a), veh/h	86	2080	630	267	1487	794	974	0	789	580	0	250
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.12	0.12	0.12	0.09	0.09	0.09	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.1	34.4	23.6	69.2	42.2	42.2	48.6	0.0	51.1	61.4	0.0	62.8
Incr Delay (d2), s/veh	26.4	57.2	0.2	128.6	48.8	57.1	0.1	0.0	0.2	17.3	0.0	141.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	34.1	4.9	9.9	37.2	41.6	3.8	0.0	5.4	11.0	0.0	19.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.5	91.5	23.9	197.8	91.1	99.4	48.7	0.0	51.3	78.7	0.0	203.8
LnGrp LOS	F	F	C	F	F	F	D	A	D	E	A	F
Approach Vol, veh/h		2675			2878			563			826	
Approach Delay, s/veh		85.3			106.3			50.2			126.1	
Approach LOS		F			F			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.0	66.4		29.3	11.6	70.8		38.3				
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9				
Max Green Setting (Gmax), s	11.6	53.5		24.4	7.2	57.9		41.0				
Max Q Clear Time (g_c+I1), s	13.6	63.1		26.4	9.0	67.5		16.7				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		1.3				
Intersection Summary												
HCM 6th Ctrl Delay			96.0									
HCM 6th LOS			F									

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
9: Towne Center Drive & La Jolla Village Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	2214	104	348	1729	436	186	186	499	1231	487	427
Future Volume (veh/h)	234	2214	104	348	1729	436	186	186	499	1231	487	427
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	275	2605	122	409	2034	513	219	219	587	1448	573	502
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	1836	554	256	1904	993	268	836	840	682	1262	548
Arrive On Green	0.13	0.72	0.72	0.07	0.37	0.37	0.08	0.24	0.24	0.20	0.36	0.36
Sat Flow, veh/h	3456	5106	1541	3456	5106	2663	3456	3554	2696	3456	3554	1543
Grp Volume(v), veh/h	275	2605	122	409	2034	513	219	219	587	1448	573	502
Grp Sat Flow(s),veh/h/ln	1728	1702	1541	1728	1702	1331	1728	1777	1348	1728	1777	1543
Q Serve(g_s), s	9.6	53.9	4.0	11.1	55.9	22.4	9.4	7.5	28.9	29.6	18.6	46.6
Cycle Q Clear(g_c), s	9.6	53.9	4.0	11.1	55.9	22.4	9.4	7.5	28.9	29.6	18.6	46.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	221	1836	554	256	1904	993	268	836	840	682	1262	548
V/C Ratio(X)	1.24	1.42	0.22	1.60	1.07	0.52	0.82	0.26	0.70	2.12	0.45	0.92
Avail Cap(c_a), veh/h	221	1836	554	256	1904	993	452	877	871	682	1262	548
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.56	0.56	0.56	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.4	21.1	14.0	69.4	47.0	36.5	68.2	46.8	45.8	60.2	37.2	46.2
Incr Delay (d2), s/veh	113.2	188.8	0.1	279.9	37.5	1.1	1.9	0.3	2.7	510.5	0.5	20.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	45.0	1.3	14.9	30.1	7.5	4.2	3.4	10.0	61.3	8.3	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	178.6	209.9	14.1	349.3	84.6	37.6	70.1	47.1	48.5	570.7	37.7	67.0
LnGrp LOS	F	F	B	F	F	D	E	D	D	F	D	E
Approach Vol, veh/h		3002			2956			1025			2523	
Approach Delay, s/veh		199.1			113.0			52.8			349.4	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	59.4	16.0	58.6	14.0	61.4	34.0	40.6
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	11.1	52.5	19.6	46.7	9.6	* 55	29.6	* 37
Max Q Clear Time (g_c+I1), s	13.1	55.9	11.4	48.6	11.6	57.9	31.6	30.9
Green Ext Time (p_c), s	0.0	0.0	0.3	0.0	0.0	0.0	0.0	3.5

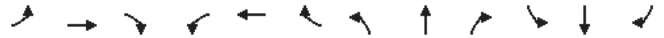
Intersection Summary			
HCM 6th Ctrl Delay	196.4		
HCM 6th LOS	F		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
10: I-805 SB Ramps & La Jolla Village Drive/Miramar Road

NT + P PM
10/03/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2591	1329	0	1910	847	0	0	0	222	0	601
Future Volume (vph)	0	2591	1329	0	1910	847	0	0	0	222	0	601
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1540				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1540				3433		2787
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	2978	1528	0	2195	974	0	0	0	255	0	691
RTOR Reduction (vph)	0	0	0	0	0	203	0	0	0	0	0	23
Lane Group Flow (vph)	0	2978	1528	0	2195	771	0	0	0	255	0	668
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov					Prot		custom
Protected Phases		2			6	4					4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		90.8	138.0		75.2	109.3					34.1		50.6
Effective Green, g (s)		90.8	138.0		75.2	109.3					34.1		50.6
Actuated g/C Ratio		0.66	1.00		0.54	0.79					0.25		0.37
Clearance Time (s)		7.5			7.5	5.6					5.6		
Vehicle Extension (s)		2.0			2.0	2.0					2.0		
Lane Grp Cap (vph)		3345	2707		2770	1219					848		1021
v/s Ratio Prot		c0.59			0.43	0.16					0.07		c0.24
v/s Ratio Perm			0.56			0.34						
v/c Ratio		0.89	0.56		0.79	0.63					0.30		0.65
Uniform Delay, d1		19.5	0.0		25.1	6.0					42.3		36.4
Progression Factor		1.00	1.00		0.47	90.80					1.00		1.00
Incremental Delay, d2		4.0	0.9		1.4	0.5					0.1		1.2
Delay (s)		23.5	0.9		13.3	543.7					42.3		37.6
Level of Service		C	A		B	F					D		D
Approach Delay (s)		15.8			176.3			0.0			38.9	
Approach LOS		B			F			A			D	

Intersection Summary					
HCM 2000 Control Delay	77.4	HCM 2000 Level of Service		E	
HCM 2000 Volume to Capacity ratio	0.87				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		17.8	
Intersection Capacity Utilization	69.9%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: I-805 NB Ramps & Miramar Road

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1245	1578	0	2151	887	669	0	241	0	0	0
Future Volume (vph)	0	1245	1578	0	2151	887	669	0	241	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1563		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1563		6408	1538	3433		2787			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	1415	1793	0	2444	1008	760	0	274	0	0	0
RTOR Reduction (vph)	0	0	180	0	0	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	1415	1613	0	2444	1008	760	0	257	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		47.8	115.2		57.5	138.0	67.4		78.0			
Effective Green, g (s)		47.8	115.2		57.5	138.0	67.4		72.4			
Actuated g/C Ratio		0.35	0.83		0.42	1.00	0.49		0.52			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		1761	1304		2670	1538	1676		1462			
v/s Ratio Prot		0.28	c0.60		c0.38		0.22		0.09			
v/s Ratio Perm			0.43			0.66						
v/c Ratio		0.80	1.24		0.92	0.66	0.45		0.18			
Uniform Delay, d1		40.8	11.4		38.0	0.0	23.2		17.2			
Progression Factor		1.19	8.29		1.00	1.00	1.00		1.00			
Incremental Delay, d2		2.1	110.1		6.3	2.2	0.1		0.0			
Delay (s)		50.7	204.7		44.2	2.2	23.3		17.2			
Level of Service		D	F		D	A	C		B			
Approach Delay (s)		136.8			31.9			21.7			0.0	
Approach LOS		F			C			C			A	

Intersection Summary				
HCM 2000 Control Delay	74.3	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.24			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	103.4%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
12: Costa Verde Blvd & Costa Verde Shopping Center Entrance (North)

NT + P PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	73	32	69	97	62	165
Future Volume (Veh/h)	73	32	69	97	62	165
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	86	38	81	114	73	194
Pedestrians	11		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	502	118			206	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	502	118			206	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	96			95	
cM capacity (veh/h)	462	895			1350	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	86	38	54	141	267
Volume Left	86	0	0	0	73
Volume Right	0	38	0	114	0
cSH	462	895	1700	1700	1350
Volume to Capacity	0.19	0.04	0.03	0.08	0.05
Queue Length 95th (ft)	17	3	0	0	4
Control Delay (s)	14.6	9.2	0.0	0.0	2.5
Lane LOS	B	A			A
Approach Delay (s)	12.9		0.0		2.5
Approach LOS	B				

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	36.8%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	228	70	168	164	76	186
Future Volume (Veh/h)	228	70	168	164	76	186
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	243	74	179	174	81	198
Pedestrians	16		10			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	553	202			369	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	553	202			369	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	42	91			93	
cM capacity (veh/h)	422	787			1170	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	317	119	234	147	132
Volume Left	243	0	0	81	0
Volume Right	74	0	174	0	0
cSH	473	1700	1700	1170	1700
Volume to Capacity	0.67	0.07	0.14	0.07	0.08
Queue Length 95th (ft)	122	0	0	6	0
Control Delay (s)	26.7	0.0	0.0	4.8	0.0
Lane LOS	D			A	
Approach Delay (s)	26.7	0.0		2.6	
Approach LOS	D				

Intersection Summary				
Average Delay		9.7		
Intersection Capacity Utilization		46.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	91	213	275	104	196	254	591	241	327	1545	428
Future Volume (veh/h)	299	91	213	275	104	196	254	591	241	327	1545	428
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.73	1.00		0.87	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	206	249	224	289	182	158	267	622	254	344	1626	451
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	201	124	835	439	322	197	1455	580	394	1629	442
Arrive On Green	0.11	0.11	0.11	0.23	0.23	0.23	0.22	0.82	0.82	0.08	0.28	0.28
Sat Flow, veh/h	1781	1870	1152	3563	1870	1373	1781	3555	1415	3456	3947	1071
Grp Volume(v), veh/h	206	249	224	289	182	158	267	595	281	344	1398	679
Grp Sat Flow(s),veh/h/ln	1781	1870	1152	1781	1870	1373	1781	1702	1566	1728	1702	1614
Q Serve(g_s), s	16.1	16.1	16.1	10.1	12.4	14.9	16.6	7.3	7.6	14.8	61.5	61.9
Cycle Q Clear(g_c), s	16.1	16.1	16.1	10.1	12.4	14.9	16.6	7.3	7.6	14.8	61.5	61.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.66
Lane Grp Cap(c), veh/h	191	201	124	835	439	322	197	1394	641	394	1405	666
V/C Ratio(X)	1.08	1.24	1.81	0.35	0.41	0.49	1.35	0.43	0.44	0.87	0.99	1.02
Avail Cap(c_a), veh/h	191	201	124	929	488	358	197	1394	641	498	1405	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.45	0.45	0.45
Uniform Delay (d), s/veh	66.9	67.0	66.9	47.8	48.7	49.7	58.4	8.7	8.7	68.2	54.1	54.3
Incr Delay (d2), s/veh	87.2	143.1	395.2	0.1	0.2	0.4	188.9	1.0	2.2	5.6	14.9	28.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	15.7	18.3	4.6	5.9	5.2	17.1	2.3	2.4	7.0	30.1	31.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	154.1	210.1	462.2	47.9	48.9	50.1	247.3	9.6	10.9	73.8	69.0	82.7
LnGrp LOS	F	F	F	D	D	D	F	A	B	E	E	F
Approach Vol, veh/h		679			629			1143			2421	
Approach Delay, s/veh		276.3			48.8			65.5			73.5	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.5	67.4		21.0	21.0	67.9		40.1				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	21.6	53.0		16.1	16.6	* 58		39.1				
Max Q Clear Time (g_c+I1), s	16.8	9.6		18.1	18.6	63.9		16.9				
Green Ext Time (p_c), s	0.3	9.6		0.0	0.0	0.0		1.6				

Intersection Summary			
HCM 6th Ctrl Delay		96.7	
HCM 6th LOS		F	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	205	0	893	1822	82
Future Volume (Veh/h)	0	205	0	893	1822	82
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	211	0	921	1878	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.69	0.65	0.65			
vC, conflicting volume	2228	668	1963			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	412	0	579			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	70	100			
cM capacity (veh/h)	394	706	641			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	211	307	307	307	751	751	461
Volume Left	0	0	0	0	0	0	0
Volume Right	211	0	0	0	0	0	85
cSH	706	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.30	0.18	0.18	0.18	0.44	0.44	0.27
Queue Length 95th (ft)	31	0	0	0	0	0	0
Control Delay (s)	12.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	12.3	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		56.4%	ICU Level of Service	B
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	690	318	841	1160	0	0
Future Volume (veh/h)	690	318	841	1160	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.89	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	742	342	904	1247		
Peak Hour Factor	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1669	768	964	3756		
Arrive On Green	0.74	0.74	0.56	1.00		
Sat Flow, veh/h	2361	1043	3456	3647		
Grp Volume(v), veh/h	581	503	904	1247		
Grp Sat Flow(s),veh/h/ln	1777	1534	1728	1777		
Q Serve(g_s), s	12.8	12.9	24.3	0.0		
Cycle Q Clear(g_c), s	12.8	12.9	24.3	0.0		
Prop In Lane		0.68	1.00			
Lane Grp Cap(c), veh/h	1308	1129	964	3756		
V/C Ratio(X)	0.44	0.45	0.94	0.33		
Avail Cap(c_a), veh/h	1308	1129	1272	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.81	0.81		
Uniform Delay (d), s/veh	5.2	5.2	21.3	0.0		
Incr Delay (d2), s/veh	1.1	1.3	8.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.2	3.7	7.3	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.3	6.5	29.5	0.2		
LnGrp LOS	A	A	C	A		
Approach Vol, veh/h	1084			2151		
Approach Delay, s/veh	6.4			12.5		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	32.1	78.4				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 37	54.5				* 96
Max Q Clear Time (g_c+I1), s	26.3	14.9				2.0
Green Ext Time (p_c), s	1.6	23.4				8.1

Intersection Summary			
HCM 6th Ctrl Delay		10.5	
HCM 6th LOS		B	

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	769	0	0	1236	9	281	33	393	0	0	295
Future Volume (vph)	0	769	0	0	1236	9	281	33	393	0	0	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.92			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.96	1.00			1.00
Satd. Flow (prot)		3539			6395		1681	1703	1458			1611
Flt Permitted		1.00			1.00		0.95	0.96	1.00			1.00
Satd. Flow (perm)		3539			6395		1681	1703	1458			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	854	0	0	1373	10	312	37	437	0	0	328
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	86	0	0	112
Lane Group Flow (vph)	0	854	0	0	1382	0	175	174	351	0	0	216
Confl. Peds. (#/hr)	35		85	85		35	51		57	57		51
Confl. Bikes (#/hr)			53			13			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		64.2			43.3		26.8	26.8	26.8			16.4
Effective Green, g (s)		64.2			43.3		26.8	26.8	26.8			16.4
Actuated g/C Ratio		0.64			0.43		0.27	0.27	0.27			0.16
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2272			2769		450	456	390			264
v/s Ratio Prot		0.24			c0.22		0.10	0.10				c0.13
v/s Ratio Perm									c0.24			
v/c Ratio		0.38			0.50		0.39	0.38	0.90			0.82
Uniform Delay, d1		8.4			20.5		29.9	29.8	35.3			40.4
Progression Factor		0.18			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.4			0.6		0.2	0.2	22.8			16.7
Delay (s)		1.9			21.2		30.1	30.0	58.1			57.1
Level of Service		A			C		C	C	E			E
Approach Delay (s)		1.9			21.2			45.7			57.1	
Approach LOS		A			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	72.8%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	858	165	157	1207	139	160	243	120	172	330	75
Future Volume (veh/h)	120	858	165	157	1207	139	160	243	120	172	330	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.83	1.00		0.86	1.00		0.86	1.00		0.86
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	923	177	169	1298	149	172	261	129	185	355	81
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1926	366	193	2373	272	220	831	320	235	847	407
Arrive On Green	0.05	0.46	0.46	0.07	0.35	0.35	0.06	0.23	0.23	0.02	0.08	0.08
Sat Flow, veh/h	3456	4154	790	1781	4553	523	3456	3554	1367	3456	3554	1370
Grp Volume(v), veh/h	129	755	345	169	970	477	172	261	129	185	355	81
Grp Sat Flow(s),veh/h/ln	1728	1702	1539	1781	1702	1672	1728	1777	1367	1728	1777	1370
Q Serve(g_s), s	5.5	22.9	23.2	14.1	34.4	34.4	7.4	9.1	12.0	8.0	14.3	7.8
Cycle Q Clear(g_c), s	5.5	22.9	23.2	14.1	34.4	34.4	7.4	9.1	12.0	8.0	14.3	7.8
Prop In Lane	1.00		0.51	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	1579	714	193	1774	871	220	831	320	235	847	407
V/C Ratio(X)	0.73	0.48	0.48	0.88	0.55	0.55	0.78	0.31	0.40	0.79	0.42	0.20
Avail Cap(c_a), veh/h	429	1579	714	304	1774	871	452	974	374	452	974	456
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.66	0.66	0.66	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	70.2	27.7	27.8	68.6	34.6	34.6	69.2	47.5	48.6	72.2	59.2	49.2
Incr Delay (d2), s/veh	2.2	1.0	2.3	7.1	0.8	1.6	2.3	1.0	3.7	1.9	0.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	9.7	9.1	7.0	15.3	15.2	3.3	4.2	4.5	3.8	7.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.4	28.8	30.1	75.7	35.4	36.2	71.5	48.5	52.3	74.2	60.0	49.8
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	E	D
Approach Vol, veh/h		1229			1616			562			621	
Approach Delay, s/veh		33.7			39.8			56.4			62.9	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	74.8	14.0	40.6	12.0	83.4	14.6	40.0
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	25.6	44.8	19.6	41.1	18.6	51.8	19.6	41.1
Max Q Clear Time (g_c+I1), s	16.1	25.2	9.4	16.3	7.5	36.4	10.0	14.0
Green Ext Time (p_c), s	0.2	11.2	0.2	5.7	0.1	11.6	0.2	6.1

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	734	102	307	896	156	70	156	200	362	545	352
Future Volume (veh/h)	149	734	102	307	896	156	70	156	200	362	545	352
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.77	1.00		0.81	1.00		0.73	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	162	798	111	334	974	170	76	170	217	393	592	383
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	1241	169	384	1189	429	95	817	279	412	1486	547
Arrive On Green	0.02	0.09	0.09	0.04	0.11	0.11	0.05	0.24	0.24	0.23	0.42	0.42
Sat Flow, veh/h	3456	4366	596	3456	3554	1281	1781	3404	1164	1781	3554	1308
Grp Volume(v), veh/h	162	619	290	334	974	170	76	170	217	393	592	383
Grp Sat Flow(s),veh/h/ln	1728	1702	1558	1728	1777	1281	1781	1702	1164	1781	1777	1308
Q Serve(g_s), s	7.0	26.3	27.0	14.4	40.2	18.5	6.3	6.0	26.1	32.6	17.4	36.1
Cycle Q Clear(g_c), s	7.0	26.3	27.0	14.4	40.2	18.5	6.3	6.0	26.1	32.6	17.4	36.1
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	967	443	384	1189	429	95	817	279	412	1486	547
V/C Ratio(X)	0.77	0.64	0.66	0.87	0.82	0.40	0.80	0.21	0.78	0.95	0.40	0.70
Avail Cap(c_a), veh/h	290	967	443	452	1189	429	162	817	279	423	1486	547
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.70	0.70	0.70	1.00	1.00	1.00	0.58	0.58	0.58
Uniform Delay (d), s/veh	72.5	60.6	60.9	71.2	62.3	52.6	70.2	45.6	53.2	56.8	30.5	35.9
Incr Delay (d2), s/veh	4.6	2.8	6.5	9.8	4.5	1.9	5.7	0.4	16.4	22.0	0.4	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	12.5	12.2	7.3	20.1	6.6	3.1	2.6	9.0	17.2	7.7	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	63.4	67.3	81.0	66.8	54.5	75.9	46.0	69.6	78.8	30.9	39.9
LnGrp LOS	E	E	E	F	E	D	E	D	E	E	C	D
Approach Vol, veh/h		1071			1478			463			1368	
Approach Delay, s/veh		66.5			68.6			62.0			47.2	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	41.5	21.1	48.3	12.4	68.2	13.5	55.9
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	35.6	* 36	19.6	39.1	13.6	57.7	12.6	* 47
Max Q Clear Time (g_c+I1), s	34.6	28.1	16.4	29.0	8.3	38.1	9.0	42.2
Green Ext Time (p_c), s	0.1	2.9	0.2	5.8	0.0	12.3	0.1	3.7

Intersection Summary	
HCM 6th Ctrl Delay	60.7
HCM 6th LOS	E

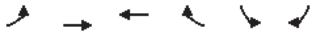
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	800	222	116	1212	122	61	62	45	109	127	194
Future Volume (veh/h)	240	800	222	116	1212	122	61	62	45	109	127	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.93	1.00		0.91	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	255	851	236	123	1289	130	65	66	48	116	135	206
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	1853	508	144	1882	190	82	228	166	138	170	259
Arrive On Green	0.05	0.16	0.16	0.16	0.80	0.80	0.05	0.24	0.24	0.08	0.27	0.27
Sat Flow, veh/h	1781	3870	1062	1781	4678	472	1781	963	701	1781	633	965
Grp Volume(v), veh/h	255	747	340	123	938	481	65	0	114	116	0	341
Grp Sat Flow(s),veh/h/ln	1781	1702	1528	1781	1702	1745	1781	0	1664	1781	0	1598
Q Serve(g_s), s	21.4	29.9	30.3	10.1	18.0	18.0	5.4	0.0	8.4	9.6	0.0	29.8
Cycle Q Clear(g_c), s	21.4	29.9	30.3	10.1	18.0	18.0	5.4	0.0	8.4	9.6	0.0	29.8
Prop In Lane	1.00		0.70	1.00		0.27	1.00		0.42	1.00		0.60
Lane Grp Cap(c), veh/h	280	1630	731	144	1370	702	82	0	394	138	0	429
V/C Ratio(X)	0.91	0.46	0.46	0.86	0.68	0.68	0.79	0.00	0.29	0.84	0.00	0.80
Avail Cap(c_a), veh/h	340	1630	731	268	1370	702	126	0	412	245	0	502
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.71	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	70.1	45.5	45.7	62.0	10.5	10.5	70.8	0.0	46.9	68.3	0.0	51.1
Incr Delay (d2), s/veh	17.7	0.7	1.5	5.5	2.8	5.4	8.3	0.0	0.1	5.1	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	13.9	12.8	4.5	4.2	4.8	2.7	0.0	3.6	4.6	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.7	46.2	47.2	67.5	13.3	15.9	79.1	0.0	47.0	73.4	0.0	57.3
LnGrp LOS	F	D	D	E	B	B	E	A	D	E	A	E
Approach Vol, veh/h		1342			1542			179			457	
Approach Delay, s/veh		54.3			18.4			58.7			61.4	
Approach LOS		D			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	77.0	11.3	45.1	28.0	65.6	16.0	40.4
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	22.6	50.8	10.6	47.1	28.6	44.8	20.6	37.1
Max Q Clear Time (g_c+I1), s	12.1	32.3	7.4	31.8	23.4	20.0	11.6	10.4
Green Ext Time (p_c), s	0.1	10.7	0.0	1.3	0.2	16.4	0.1	0.4

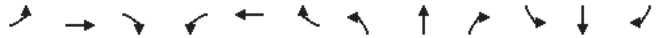
Intersection Summary	
HCM 6th Ctrl Delay	39.7
HCM 6th LOS	D



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1022	1300	178	0	108
Future Volume (Veh/h)	0	1022	1300	178	0	108
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	1054	1340	184	0	111
Pedestrians		10	10		37	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.81				0.87	0.81
vC, conflicting volume	1561				1830	586
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	850				472	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	87
cM capacity (veh/h)	612				434	839

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	351	351	351	536	536	452	111
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	184	111
cSH	1700	1700	1700	1700	1700	1700	839
Volume to Capacity	0.21	0.21	0.21	0.32	0.32	0.27	0.13
Queue Length 95th (ft)	0	0	0	0	0	0	11
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.9
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.9
Approach LOS							A

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		45.4%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	467	187	396	834	123	290	575	113	207	1538	242
Future Volume (veh/h)	237	467	187	396	834	123	290	575	113	207	1538	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	242	477	191	404	851	126	296	587	115	211	1569	247
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	804	343	454	973	417	344	1563	678	244	2098	633
Arrive On Green	0.03	0.07	0.07	0.13	0.27	0.27	0.10	0.44	0.44	0.14	0.82	0.82
Sat Flow, veh/h	3456	3554	1514	3456	3554	1523	3456	3554	1542	3456	5106	1541
Grp Volume(v), veh/h	242	477	191	404	851	126	296	587	115	211	1569	247
Grp Sat Flow(s),veh/h/ln	1728	1777	1514	1728	1777	1523	1728	1777	1542	1728	1702	1541
Q Serve(g_s), s	10.5	19.5	18.3	17.3	34.3	9.8	12.7	16.6	6.8	9.0	21.3	6.3
Cycle Q Clear(g_c), s	10.5	19.5	18.3	17.3	34.3	9.8	12.7	16.6	6.8	9.0	21.3	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	289	804	343	454	973	417	344	1563	678	244	2098	633
V/C Ratio(X)	0.84	0.59	0.56	0.89	0.87	0.30	0.86	0.38	0.17	0.86	0.75	0.39
Avail Cap(c_a), veh/h	336	879	374	567	1111	476	452	1563	678	244	2098	633
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.9	62.7	62.1	64.1	52.0	43.1	66.5	28.2	25.4	63.7	9.8	8.4
Incr Delay (d2), s/veh	13.1	1.2	2.1	12.2	7.3	0.4	10.2	0.7	0.5	25.0	2.5	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	9.5	7.7	8.4	16.3	3.8	6.1	7.3	2.6	4.5	4.3	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.0	63.9	64.3	76.3	59.3	43.5	76.7	28.9	26.0	88.6	12.3	10.2
LnGrp LOS	F	E	E	E	E	D	E	C	C	F	B	B
Approach Vol, veh/h		910			1381			998			2027	
Approach Delay, s/veh		69.6			62.8			42.7			20.0	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	71.9	24.1	39.0	19.3	67.5	17.0	46.2
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	10.6	* 58	24.6	* 37	19.6	49.1	14.6	46.9
Max Q Clear Time (g_c+I1), s	11.0	18.6	19.3	21.5	14.7	23.3	12.5	36.3
Green Ext Time (p_c), s	0.0	8.1	0.4	4.8	0.3	18.6	0.1	4.8

Intersection Summary		
HCM 6th Ctrl Delay		43.9
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	381	569	18	90	916	46	10	28	26	45	205	528
Future Volume (veh/h)	381	569	18	90	916	46	10	28	26	45	205	528
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.95	1.00		0.92	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	393	587	19	93	944	47	10	29	27	46	211	544
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	1137	37	118	1333	950	40	113	98	628	659	544
Arrive On Green	0.13	0.32	0.32	0.07	0.26	0.26	0.08	0.08	0.08	0.35	0.35	0.35
Sat Flow, veh/h	3456	3502	113	1781	5106	1498	526	1510	1310	1781	1870	1543
Grp Volume(v), veh/h	393	297	309	93	944	47	35	0	31	46	211	544
Grp Sat Flow(s),veh/h/ln	1728	1777	1839	1781	1702	1498	1844	0	1502	1781	1870	1543
Q Serve(g_s), s	12.4	15.1	15.1	5.7	18.6	1.4	2.0	0.0	2.2	1.9	9.2	39.2
Cycle Q Clear(g_c), s	12.4	15.1	15.1	5.7	18.6	1.4	2.0	0.0	2.2	1.9	9.2	39.2
Prop In Lane	1.00		0.06	1.00		1.00	0.29		0.87	1.00		1.00
Lane Grp Cap(c), veh/h	449	577	597	118	1333	950	139	0	113	628	659	544
V/C Ratio(X)	0.88	0.52	0.52	0.79	0.71	0.05	0.25	0.00	0.27	0.07	0.32	1.00
Avail Cap(c_a), veh/h	454	577	597	314	1423	976	580	0	473	628	659	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	30.5	30.5	51.2	37.3	8.6	48.5	0.0	48.6	23.9	26.3	36.0
Incr Delay (d2), s/veh	16.5	1.5	1.5	4.4	1.6	0.0	0.4	0.0	0.5	0.1	0.4	38.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	6.7	6.9	2.7	7.9	1.0	0.9	0.0	0.8	0.8	4.1	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	32.0	31.9	55.6	38.8	8.6	48.8	0.0	49.1	24.0	26.7	74.7
LnGrp LOS	E	C	C	E	D	A	D	A	D	C	C	F
Approach Vol, veh/h		999			1084			66			801	
Approach Delay, s/veh		44.6			39.0			48.9			59.2	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	42.1		44.1	18.8	35.0		13.3
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	19.6	* 26		39.2	14.6	31.0		35.0
Max Q Clear Time (g_c+I1), s	17.7	17.1		41.2	14.4	20.6		4.2
Green Ext Time (p_c), s	0.1	3.9		0.0	0.0	5.1		0.2

Intersection Summary	
HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

NT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	545	26	55	976	172	10	3	16	61	7	33
Future Volume (veh/h)	53	545	26	55	976	172	10	3	16	61	7	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.93	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	556	27	56	996	176	10	3	16	67	0	34
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	2139	103	77	1863	328	15	4	23	342	0	285
Arrive On Green	0.04	0.43	0.43	0.04	0.43	0.43	0.03	0.03	0.03	0.10	0.00	0.10
Sat Flow, veh/h	1781	4974	240	1781	4321	761	552	166	883	3563	0	2965
Grp Volume(v), veh/h	54	379	204	56	784	388	29	0	0	67	0	34
Grp Sat Flow(s),veh/h/ln	1781	1702	1810	1781	1702	1678	1600	0	0	1781	0	1483
Q Serve(g_s), s	1.5	3.6	3.6	1.5	8.5	8.5	0.9	0.0	0.0	0.9	0.0	0.5
Cycle Q Clear(g_c), s	1.5	3.6	3.6	1.5	8.5	8.5	0.9	0.0	0.0	0.9	0.0	0.5
Prop In Lane	1.00		0.13	1.00		0.45	0.34		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	75	1464	778	77	1467	723	42	0	0	342	0	285
V/C Ratio(X)	0.72	0.26	0.26	0.73	0.53	0.54	0.68	0.00	0.00	0.20	0.00	0.12
Avail Cap(c_a), veh/h	773	1464	778	1131	1718	847	132	0	0	2084	0	1735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	9.1	9.1	23.5	10.5	10.5	24.0	0.0	0.0	20.7	0.0	20.6
Incr Delay (d2), s/veh	4.7	0.2	0.3	4.8	0.5	1.0	7.0	0.0	0.0	0.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.1	1.2	0.7	2.6	2.7	0.4	0.0	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	9.3	9.4	28.3	11.0	11.5	31.0	0.0	0.0	21.0	0.0	20.7
LnGrp LOS	C	A	A	C	B	B	C	A	A	C	A	C
Approach Vol, veh/h		637			1228			29			101	
Approach Delay, s/veh		10.9			11.9			31.0			20.9	
Approach LOS		B			B			C			C	

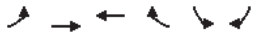
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	27.3		9.7	6.5	27.3		6.2
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	21.6	* 15		29.1	21.6	25.1		4.1
Max Q Clear Time (g_c+I1), s	3.5	5.6		2.9	3.5	10.5		2.9
Green Ext Time (p_c), s	0.1	3.8		0.3	0.0	9.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	91	548	907	334	816	312
Future Volume (veh/h)	91	548	907	334	816	312
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	92	554	916	337	824	315
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	155	2649	1519	557	1166	535
Arrive On Green	0.04	0.52	0.42	0.42	0.34	0.34
Sat Flow, veh/h	3456	5274	3803	1333	3456	1585
Grp Volume(v), veh/h	92	554	858	395	824	315
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1564	1728	1585
Q Serve(g_s), s	2.1	4.6	15.4	15.5	16.3	12.9
Cycle Q Clear(g_c), s	2.1	4.6	15.4	15.5	16.3	12.9
Prop In Lane	1.00			0.85	1.00	1.00
Lane Grp Cap(c), veh/h	155	2649	1423	654	1166	535
V/C Ratio(X)	0.59	0.21	0.60	0.60	0.71	0.59
Avail Cap(c_a), veh/h	246	3182	1688	776	1745	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	10.2	17.8	17.8	22.7	21.5
Incr Delay (d2), s/veh	1.4	0.1	1.1	2.4	1.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.6	5.9	5.6	6.5	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.2	10.3	18.9	20.2	24.0	23.2
LnGrp LOS	D	B	B	C	C	C
Approach Vol, veh/h		646	1253		1139	
Approach Delay, s/veh		14.3	19.3		23.8	
Approach LOS		B	B		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		46.8		31.8	7.9	38.9
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		49.0		39.7	5.6	39.0
Max Q Clear Time (g_c+I1), s		6.6		18.3	4.1	17.5
Green Ext Time (p_c), s		9.2		8.2	0.0	15.4

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	596	838	287	1312	0	0
Future Volume (veh/h)	596	838	287	1312	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	634	891	305	1396		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6390	4892	362	9957		
Arrive On Green	1.00	1.00	0.21	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	634	891	305	1396		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	8.5	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	8.5	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6390	4892	362	9957		
V/C Ratio(X)	0.10	0.18	0.84	0.14		
Avail Cap(c_a), veh/h	6390	4892	370	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.86	0.86	0.82	0.82		
Uniform Delay (d), s/veh	0.0	0.0	38.7	0.0		
Incr Delay (d2), s/veh	0.0	0.1	12.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.8	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	51.2	0.0		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	1525			1701		
Approach Delay, s/veh	0.1			9.2		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	15.2	189.8				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	11	77.6				* 96
Max Q Clear Time (g_c+I1), s	10.5	2.0				2.0
Green Ext Time (p_c), s	0.0	6.3				9.4

Intersection Summary	
HCM 6th Ctrl Delay	4.9
HCM 6th LOS	A

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	581	0	0	727	766	607
Future Volume (vph)	581	0	0	727	766	607
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2682
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2682
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	638	0	0	799	842	667
RTOR Reduction (vph)	0	0	0	0	0	96
Lane Group Flow (vph)	638	0	0	799	842	571
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	48.1			58.4	28.5	34.1
Effective Green, g (s)	48.1			58.4	28.5	34.1
Actuated g/C Ratio	0.48			0.58	0.28	0.34
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1702			3742	978	914
v/s Ratio Prot	c0.18			0.12	c0.25	c0.03
v/s Ratio Perm						0.18
v/c Ratio	0.37			0.21	0.86	0.62
Uniform Delay, d1	16.4			9.9	33.9	27.6
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.6			0.1	7.6	1.0
Delay (s)	17.0			10.0	41.5	28.6
Level of Service	B			B	D	C
Approach Delay (s)	17.0			10.0	35.8	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	29	219	251	38	26	186	1030	37	22	2621	67
Future Volume (veh/h)	33	29	219	251	38	26	186	1030	37	22	2621	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	152	145	259	39	27	192	1062	38	23	2702	69
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	634	649	374	50	34	162	1579	56	48	1372	35
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.18	0.90	0.90	0.03	0.39	0.39
Sat Flow, veh/h	278	1509	1545	788	119	82	1781	3494	125	1781	3536	90
Grp Volume(v), veh/h	186	0	145	325	0	0	192	540	560	23	1350	1421
Grp Sat Flow(s),veh/h/ln	1788	0	1545	989	0	0	1781	1777	1842	1781	1777	1849
Q Serve(g_s), s	0.0	0.0	9.0	37.3	0.0	0.0	13.6	11.2	11.2	1.9	58.2	58.2
Cycle Q Clear(g_c), s	9.6	0.0	9.0	46.9	0.0	0.0	13.6	11.2	11.2	1.9	58.2	58.2
Prop In Lane	0.18		1.00	0.80		0.08	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	779	0	649	458	0	0	162	803	833	48	689	717
V/C Ratio(X)	0.24	0.00	0.22	0.71	0.00	0.00	1.19	0.67	0.67	0.48	1.96	1.98
Avail Cap(c_a), veh/h	779	0	649	458	0	0	162	803	833	68	689	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	27.8	43.1	0.0	0.0	61.4	4.5	4.5	72.0	45.9	45.9
Incr Delay (d2), s/veh	0.7	0.0	0.8	9.0	0.0	0.0	126.8	4.0	3.9	2.8	436.4	446.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	3.5	11.9	0.0	0.0	11.1	2.8	2.9	0.9	108.3	114.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	0.0	28.6	52.1	0.0	0.0	188.2	8.5	8.3	74.8	482.3	492.4
LnGrp LOS	C	A	C	D	A	A	F	A	A	E	F	F
Approach Vol, veh/h		331			325			1292			2794	
Approach Delay, s/veh		28.7			52.1			35.1			484.1	
Approach LOS		C			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	64.1		67.9	8.4	73.7		67.9
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9
Max Green Setting (Gmax), s	3.6	58.2		63.0	5.7	* 66		63.0
Max Q Clear Time (g_c+I1), s	15.6	60.2		48.9	3.9	13.2		11.6
Green Ext Time (p_c), s	0.0	0.0		1.4	0.0	14.8		1.0

Intersection Summary		
HCM 6th Ctrl Delay	300.4	
HCM 6th LOS	F	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	282	293	120	328	361	155	191	648	260	510	1717	654
Future Volume (veh/h)	282	293	120	328	361	155	191	648	260	510	1717	654
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	300	312	128	349	384	165	203	689	277	543	1827	696
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	514	217	344	550	234	184	1281	567	975	1941	861
Arrive On Green	0.09	0.14	0.14	0.10	0.15	0.15	0.10	0.36	0.36	0.28	0.55	0.55
Sat Flow, veh/h	3456	3554	1498	3456	3554	1514	1781	3554	1572	3456	3554	1576
Grp Volume(v), veh/h	300	312	128	349	384	165	203	689	277	543	1827	696
Grp Sat Flow(s),veh/h/ln	1728	1777	1498	1728	1777	1514	1781	1777	1572	1728	1777	1576
Q Serve(g_s), s	16.4	15.6	12.5	18.9	19.5	11.8	19.6	29.2	26.0	25.4	91.2	68.2
Cycle Q Clear(g_c), s	16.4	15.6	12.5	18.9	19.5	11.8	19.6	29.2	26.0	25.4	91.2	68.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	514	217	344	550	234	184	1281	567	975	1941	861
V/C Ratio(X)	0.94	0.61	0.59	1.01	0.70	0.70	1.10	0.54	0.49	0.56	0.94	0.81
Avail Cap(c_a), veh/h	320	733	309	344	729	311	184	1281	567	975	1941	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	85.7	76.2	51.3	85.5	76.1	27.3	85.2	48.2	47.2	58.1	40.3	35.0
Incr Delay (d2), s/veh	33.8	2.5	5.4	51.9	3.3	7.9	97.2	1.6	3.0	0.4	10.6	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	7.4	5.1	11.0	9.2	4.9	13.9	13.2	10.8	11.1	41.2	28.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.4	78.7	56.7	137.5	79.4	35.2	182.4	49.8	50.2	58.5	50.9	43.1
LnGrp LOS	F	E	E	F	E	D	F	D	D	E	D	D
Approach Vol, veh/h		740			898			1169			3066	
Approach Delay, s/veh		91.4			93.9			72.9			50.5	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	74.2	24.6	32.5	24.0	108.9	22.0	35.1
Change Period (Y+Rc), s	5.1	* 5.7	5.7	* 5	4.4	5.1	4.4	5.7
Max Green Setting (Gmax), s	4.1	* 69	18.1	* 39	19.6	94.2	17.6	39.0
Max Q Clear Time (g_c+I1), s	27.4	31.2	20.9	17.6	21.6	93.2	18.4	21.5
Green Ext Time (p_c), s	0.9	11.6	0.0	4.6	0.0	1.0	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	66.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	75.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	443	0	0	399	334	514	0	0	1798	351
Future Vol, veh/h	0	0	443	0	0	399	334	514	0	0	1798	351
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	482	0	0	434	363	559	0	0	1954	382

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	-	-	977			1954	0	-	-	-	0
Stage 1	-	-	-			-	-	-	-	-	-
Stage 2	-	-	-			-	-	-	-	-	-
Critical Hdwy	-	-	6.94			4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 250			~ 295	-	0	0	-	-
Stage 1	0	0	-			-	-	0	0	-	-
Stage 2	0	0	-			-	-	0	0	-	-
Platoon blocked, %							-			-	-
Mov Cap-1 Maneuver	-	0	~ 250			~ 295	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-
Stage 1	-	0	-			-	-	-	-	-	-
Stage 2	-	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 464.2	65.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	~ 295	- 250	-	-
HCM Lane V/C Ratio	1.231	- 1.926	-	-
HCM Control Delay (s)	166.3	-$ 464.2	-	-
HCM Lane LOS	F	- F	-	-
HCM 95th %tile Q(veh)	16.7	- 34.2	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

NT + P PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	368	255	651	321	821	1425
Future Volume (veh/h)	368	255	651	321	821	1425
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	277	708	0	892	1549
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	461	410	1223		373	2148
Arrive On Green	0.26	0.26	0.34	0.00	0.21	0.60
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	400	277	708	0	892	1549
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	19.8	14.5	15.0	0.0	19.3	28.2
Cycle Q Clear(g_c), s	19.8	14.5	15.0	0.0	19.3	28.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	461	410	1223		373	2148
V/C Ratio(X)	0.87	0.68	0.58		2.39	0.72
Avail Cap(c_a), veh/h	709	631	1223		373	2148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	30.7	24.8	0.0	36.4	12.8
Incr Delay (d2), s/veh	7.2	1.9	2.0	0.0	634.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	5.6	6.2	0.0	73.6	9.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.9	32.6	26.8	0.0	670.4	14.9
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	677		708	A		2441
Approach Delay, s/veh	36.9		26.8			254.4
Approach LOS	D		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.0	39.2		28.9		63.2
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 19	31.7		36.7		55.7
Max Q Clear Time (g_c+I1), s	21.3	17.0		21.8		30.2
Green Ext Time (p_c), s	0.0	3.8		2.1		12.7

Intersection Summary	
HCM 6th Ctrl Delay	173.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
32: Genesee Avenue & Centurion Square

NT + P PM
10/10/2019

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	87	23	0	1184	46	44	2993
Future Volume (veh/h)	87	23	0	1184	46	44	2993
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	91	24		1233	48	46	3118
Peak Hour Factor	0.96	0.96		0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	114	102		2364	1047	543	3058
Arrive On Green	0.06	0.06		0.67	0.67	0.16	0.86
Sat Flow, veh/h	1781	1585		3647	1573	3456	3647
Grp Volume(v), veh/h	91	24		1233	48	46	3118
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1573	1728	1777
Q Serve(g_s), s	7.6	2.2		26.7	1.6	1.7	129.1
Cycle Q Clear(g_c), s	7.6	2.2		26.7	1.6	1.7	129.1
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	114	102		2364	1047	543	3058
V/C Ratio(X)	0.80	0.24		0.52	0.05	0.08	1.02
Avail Cap(c_a), veh/h	356	317		2364	1047	543	3058
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	66.7		12.9	8.7	54.0	10.5
Incr Delay (d2), s/veh	4.7	0.4		0.8	0.1	0.3	21.4
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	1.9		10.0	0.5	0.8	34.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	74.0	67.1		13.7	8.7	54.3	31.9
LnGrp LOS	E	E		B	A	D	F
Approach Vol, veh/h	115			1281			3164
Approach Delay, s/veh	72.5			13.5			32.2
Approach LOS	E			B			C
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		135.5		14.5	30.0	105.5	
Change Period (Y+Rc), s		6.4		4.9	6.4	* 5.7	
Max Green Setting (Gmax), s		100.3		30.0	5.2	* 1E2	
Max Q Clear Time (g_c+I1), s		131.1		9.6	3.7	28.7	
Green Ext Time (p_c), s		0.0		0.1	0.0	20.5	

Intersection Summary	
HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

NT + P PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	85	83	236	178	80	74	483	137	99	1691	74
Future Volume (veh/h)	28	85	83	236	178	80	74	483	137	99	1691	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	30	90	88	251	189	85	79	514	146	105	1799	79
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	184	154	297	401	171	67	2374	654	148	3233	142
Arrive On Green	0.02	0.10	0.10	0.09	0.17	0.17	0.04	0.60	0.60	0.08	0.65	0.65
Sat Flow, veh/h	1781	1777	1489	3456	2388	1022	1781	3961	1090	1781	5009	220
Grp Volume(v), veh/h	30	90	88	251	138	136	79	439	221	105	1222	656
Grp Sat Flow(s),veh/h/ln	1781	1777	1489	1728	1777	1633	1781	1702	1647	1781	1702	1824
Q Serve(g_s), s	2.5	7.2	8.5	10.7	10.5	11.3	5.6	8.9	9.3	8.6	29.8	29.9
Cycle Q Clear(g_c), s	2.5	7.2	8.5	10.7	10.5	11.3	5.6	8.9	9.3	8.6	29.8	29.9
Prop In Lane	1.00		1.00	1.00		0.63	1.00		0.66	1.00		0.12
Lane Grp Cap(c), veh/h	38	184	154	297	298	274	67	2040	987	148	2197	1177
V/C Ratio(X)	0.78	0.49	0.57	0.85	0.46	0.50	1.19	0.22	0.22	0.71	0.56	0.56
Avail Cap(c_a), veh/h	139	428	358	359	474	435	67	2040	987	148	2197	1177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.0	63.5	64.1	67.6	56.3	56.7	72.2	13.8	13.9	67.0	14.7	14.7
Incr Delay (d2), s/veh	12.1	0.8	1.2	12.5	0.4	0.5	169.8	0.2	0.5	24.7	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.3	3.3	5.3	4.8	4.7	5.7	3.4	3.5	4.9	11.0	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.1	64.3	65.3	80.1	56.7	57.2	242.0	14.1	14.4	91.7	15.7	16.6
LnGrp LOS	F	E	E	F	E	E	F	B	B	F	B	B
Approach Vol, veh/h		208			525			739			1983	
Approach Delay, s/veh		67.7			68.0			38.5			20.0	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	95.4	17.3	20.4	10.0	102.3	7.6	30.1
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	12.5	66.6	15.6	36.1	5.6	* 74	11.7	40.0
Max Q Clear Time (g_c+I1), s	10.6	11.3	12.7	10.5	7.6	31.9	4.5	13.3
Green Ext Time (p_c), s	0.0	5.7	0.1	0.7	0.0	24.7	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

NT + P PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	758	29	21	1410	110	21	13	7	71	8	378
Future Volume (veh/h)	375	758	29	21	1410	110	21	13	7	71	8	378
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	408	824	32	23	1533	120	23	14	8	77	9	411
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	2188	85	32	1527	119	45	24	5	286	8	367
Arrive On Green	0.19	0.63	0.63	0.02	0.46	0.46	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	3487	135	1781	3341	260	0	101	22	1390	34	1556
Grp Volume(v), veh/h	408	420	436	23	811	842	45	0	0	77	0	420
Grp Sat Flow(s),veh/h/ln	1781	1777	1846	1781	1777	1824	123	0	0	1390	0	1590
Q Serve(g_s), s	22.6	13.8	13.8	1.5	54.7	54.9	0.0	0.0	0.0	0.0	0.0	28.3
Cycle Q Clear(g_c), s	22.6	13.8	13.8	1.5	54.7	54.9	28.3	0.0	0.0	8.0	0.0	28.3
Prop In Lane	1.00		0.07	1.00		0.14	0.51		0.18	1.00		0.98
Lane Grp Cap(c), veh/h	335	1115	1158	32	812	834	74	0	0	286	0	375
V/C Ratio(X)	1.22	0.38	0.38	0.72	1.00	1.01	0.61	0.00	0.00	0.27	0.00	1.12
Avail Cap(c_a), veh/h	335	1115	1158	88	812	834	74	0	0	286	0	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	10.9	10.9	58.7	32.5	32.6	42.5	0.0	0.0	38.1	0.0	45.9
Incr Delay (d2), s/veh	121.9	1.0	0.9	10.9	31.1	33.8	9.8	0.0	0.0	0.2	0.0	83.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.3	5.5	5.8	0.8	29.7	31.2	1.6	0.0	0.0	1.9	0.0	19.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.6	11.9	11.8	69.6	63.7	66.4	52.3	0.0	0.0	38.3	0.0	129.3
LnGrp LOS	F	B	B	E	E	F	D	A	A	D	A	F
Approach Vol, veh/h		1264			1676			45			497	
Approach Delay, s/veh		63.1			65.1			52.3			115.2	
Approach LOS		E			E			D			F	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	6.5	80.4	33.2	27.0	59.9	33.2
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	5.9	71.5	28.3	22.6	* 55	28.3
Max Q Clear Time (g_c+I1), s	3.5	15.8	30.3	24.6	56.9	30.3
Green Ext Time (p_c), s	0.0	9.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	71.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX L

NEAR-TERM (OPENING DAY2023) WITHOUT AND WITH PROJECT FREEWAY ANALYSIS CALCULATION SHEETS

HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6514	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1696
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8020	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2133
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2296
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2296
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.93
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	39.1
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.6		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	5616	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1448
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	6996	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1822
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	31.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	6023	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1552
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	26.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	7720	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.85	Flow Rate (V_p), pc/h/ln	2270
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	44.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10728	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2212
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.05
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5598	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1166
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.1
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	9489	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1937
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.5
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	4906	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1264
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2284
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.6
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	9239	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1886
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/201
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	5190	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1093
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2105
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4878	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2651
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.15
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – NT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4683	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2491
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.08
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8135	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2075
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.280
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7179	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	1994
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	16.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7068	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1822
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	31.3
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.240
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6193	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1780
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	14.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	7755	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	2020
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.430
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6663	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.89	Flow Rate (V_p), pc/h/ln	1872
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	25.5		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	7025	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1448
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.0
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.520
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	11138	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	2475
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.22
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	30.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6203	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1279
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.330
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9762	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	2805
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.28
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	19.3		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6450	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1330
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.5
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.290
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	9631	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2094
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	17.1		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5121	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2783
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.21
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – NT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3297	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1700
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.3
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6561	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1708
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8028	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2135
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2296
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2296
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.93
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	54.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	39.1
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.6		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	5616	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1448
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6996	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1822
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	31.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6029	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1554
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	26.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7752	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.85	Flow Rate (V_p), pc/h/ln	2280
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.99
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	44.5
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10775	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2222
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.06
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5606	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1168
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.1
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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Project Information

Analyst		Date	2/22/2019
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Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9500	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1939
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.92
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.7
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4908	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1265
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2284
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9247	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1887
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.5
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5232	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1101
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2105
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.7
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4888	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2656
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.15
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – NT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4741	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2522
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.10
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8148	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2078
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.5
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.280
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7220	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	2006
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	16.7		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	7068	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1822
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	31.3
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.240
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6193	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1780
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	14.2		

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Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	7782	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	2026
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	36.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.430
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	6671	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.89	Flow Rate (V_p), pc/h/ln	1874
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	25.5		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7038	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1451
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.0
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.520
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	11179	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	2484
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.23
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	30.2		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6206	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1280
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.330
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9771	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	2808
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.28
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	19.3		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6486	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1337
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.290
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9642	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2096
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.04
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	17.1		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5171	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2810
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.22
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – NT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3312	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1707
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.4
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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APPENDIX M

YEAR 2035 (COMMUNITY BUILDOUT) WITHOUT AND WITH PROJECT INTERSECTION ANALYSIS CALCULATION SHEETS

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	310	80	107	370	660	350	1603	327	450	553	120
Future Volume (veh/h)	70	310	80	107	370	660	350	1603	327	450	553	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.90	1.00		0.92	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	388	100	134	462	825	438	2004	409	562	691	150
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	704	178	130	524	420	453	1639	320	461	1106	235
Arrive On Green	0.03	0.26	0.26	0.07	0.29	0.29	0.25	0.39	0.39	0.13	0.27	0.27
Sat Flow, veh/h	1781	2743	694	1781	1777	1425	1781	4217	823	3456	4136	879
Grp Volume(v), veh/h	88	249	239	134	462	825	438	1600	813	562	566	275
Grp Sat Flow(s),veh/h/ln	1781	1777	1660	1781	1777	1425	1781	1702	1636	1728	1702	1611
Q Serve(g_s), s	4.6	16.0	16.5	9.6	32.7	38.9	32.1	51.3	51.3	17.6	19.3	19.9
Cycle Q Clear(g_c), s	4.6	16.0	16.5	9.6	32.7	38.9	32.1	51.3	51.3	17.6	19.3	19.9
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.50	1.00		0.55
Lane Grp Cap(c), veh/h	62	456	426	130	524	420	453	1323	636	461	910	431
V/C Ratio(X)	1.42	0.55	0.56	1.03	0.88	1.96	0.97	1.21	1.28	1.22	0.62	0.64
Avail Cap(c_a), veh/h	62	459	429	130	524	420	453	1323	636	461	910	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	42.4	42.6	61.2	44.4	46.6	48.6	40.3	40.4	57.2	42.5	42.7
Incr Delay (d2), s/veh	259.3	0.7	1.0	88.5	15.6	442.4	6.6	95.1	126.3	117.2	3.2	7.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	7.1	6.9	7.5	16.6	65.3	15.0	38.6	42.6	15.2	8.5	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	323.0	43.1	43.6	149.7	60.0	489.0	55.3	135.4	166.7	174.4	45.7	49.8
LnGrp LOS	F	D	D	F	E	F	E	F	F	F	D	D
Approach Vol, veh/h		576			1421			2851			1403	
Approach Delay, s/veh		86.1			317.5			132.0			98.0	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	57.0	14.0	39.0	38.0	41.0	9.0	44.0
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	17.6	51.3	9.6	* 34	33.6	35.3	4.6	38.9
Max Q Clear Time (g_c+I1), s	19.6	53.3	11.6	18.5	34.1	21.9	6.6	40.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	6.5	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay	162.3	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

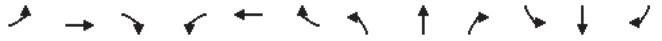
HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1922	260	0	1713	510	0	0	0	746	0	1420
Future Volume (vph)	0	1922	260	0	1713	510	0	0	0	746	0	1420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.99
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1529				3433		2765
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1529				3433		2765
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	2067	280	0	1842	548	0	0	0	802	0	1527
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	2067	280	0	1842	548	0	0	0	802	0	1515
Confl. Peds. (#/hr)	22		10	10		22	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free				Prot		custom
Protected Phases		2			6					4		5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		86.3	120.0		41.3	120.0				23.4		64.2
Effective Green, g (s)		86.3	120.0		41.3	120.0				23.4		64.2
Actuated g/C Ratio		0.72	1.00		0.34	1.00				0.19		0.54
Clearance Time (s)		5.7			5.7					4.6		4.2
Vehicle Extension (s)		2.0			2.0					2.0		2.0
Lane Grp Cap (vph)		4608	1538		1750	1529				669		1479
v/s Ratio Prot		0.32			c0.36					c0.23		c0.35
v/s Ratio Perm			0.18			0.36						0.20
v/c Ratio		0.45	0.18		1.05	0.36				1.20		1.02
Uniform Delay, d1		7.0	0.0		39.4	0.0				48.3		27.9
Progression Factor		1.00	1.00		0.77	1.00				1.00		1.00
Incremental Delay, d2		0.3	0.3		34.3	0.5				103.5		29.9
Delay (s)		7.3	0.3		64.7	0.5				151.8		57.8
Level of Service		A	A		E	A				F		E
Approach Delay (s)		6.5			50.0			0.0			90.1	
Approach LOS		A			D			A			F	

Intersection Summary					
HCM 2000 Control Delay	48.8	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	1.07				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	92.1%	ICU Level of Service		F	
Analysis Period (min)	15				

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1718	950	0	1663	596	560	0	870	0	0	0
Future Volume (vph)	0	1718	950	0	1663	596	560	0	870	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.98			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2736			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2736			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1909	1056	0	1848	662	622	0	967	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	19	0	0	0
Lane Group Flow (vph)	0	1909	1056	0	1848	662	622	0	948	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		73.8	120.0		91.3	120.0	18.4		31.7			
Effective Green, g (s)		73.8	120.0		91.3	120.0	18.4		31.7			
Actuated g/C Ratio		0.61	1.00		0.76	1.00	0.15		0.26			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3127	1538		3868	1538	526		722			
v/s Ratio Prot		0.38			0.36		0.18		c0.15			
v/s Ratio Perm			c0.69			0.43			0.20			
v/c Ratio		0.61	0.69		0.48	0.43	1.18		1.31			
Uniform Delay, d1		14.2	0.0		5.4	0.0	50.8		44.1			
Progression Factor		1.38	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.7	1.9		0.4	0.9	100.3		150.6			
Delay (s)		20.4	1.9		5.8	0.9	151.1		194.7			
Level of Service		C	A		A	A	F		F			
Approach Delay (s)		13.8			4.5			177.6			0.0	
Approach LOS		B			A			F			A	

Intersection Summary				
HCM 2000 Control Delay	47.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	72.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2258	190	150	1619	9	620	10	230	9	10	20
Future Volume (veh/h)	20	2258	190	150	1619	9	620	10	230	9	10	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.96	1.00		0.79
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	2566	216	170	1840	10	705	0	268	10	11	23
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	30	2733	1203	195	3011	16	853	0	730	23	26	33
Arrive On Green	0.02	0.54	0.54	0.06	0.57	0.57	0.24	0.00	0.24	0.03	0.03	0.03
Sat Flow, veh/h	1781	5106	1540	3456	5239	28	3563	0	3049	870	957	1245
Grp Volume(v), veh/h	23	2566	216	170	1195	655	705	0	268	21	0	23
Grp Sat Flow(s),veh/h/ln	1781	1702	1540	1728	1702	1864	1781	0	1525	1827	0	1245
Q Serve(g_s), s	1.8	65.7	5.1	6.8	32.2	32.2	26.3	0.0	10.3	1.6	0.0	2.6
Cycle Q Clear(g_c), s	1.8	65.7	5.1	6.8	32.2	32.2	26.3	0.0	10.3	1.6	0.0	2.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.48		1.00
Lane Grp Cap(c), veh/h	30	2733	1203	195	1956	1071	853	0	730	49	0	33
V/C Ratio(X)	0.76	0.94	0.18	0.87	0.61	0.61	0.83	0.00	0.37	0.43	0.00	0.69
Avail Cap(c_a), veh/h	78	2733	1203	195	1956	1071	891	0	762	90	0	61
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	0.43	0.09	0.09	0.09	0.91	0.00	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.5	30.4	4.1	65.5	19.5	19.5	50.5	0.0	44.4	67.1	0.0	67.5
Incr Delay (d2), s/veh	6.3	3.8	0.1	4.0	0.1	0.2	8.3	0.0	1.3	2.2	0.0	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	27.1	3.9	3.1	12.6	13.9	12.7	0.0	4.0	0.8	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.9	34.2	4.3	69.6	19.6	19.8	58.7	0.0	45.7	69.3	0.0	76.6
LnGrp LOS	E	C	A	E	B	B	E	A	D	E	A	E
Approach Vol, veh/h		2805			2020			973			44	
Approach Delay, s/veh		32.3			23.9			55.2			73.1	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	80.6		8.7	6.8	86.2		38.4				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	7.9	* 71		6.9	6.1	72.1		35.0				
Max Q Clear Time (g_c+I1), s	3.8	67.7		4.6	3.8	34.2		28.3				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	32.5		4.8				

Intersection Summary		
HCM 6th Ctrl Delay	33.5	
HCM 6th LOS	C	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

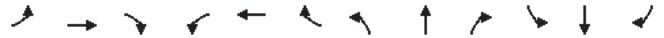
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1070	2027	80	99	848	146	320	500	319	176	180	370
Future Volume (veh/h)	1070	2027	80	99	848	146	320	500	319	176	180	370
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.89	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1259	2385	94	116	998	172	376	588	375	207	212	435
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	854	2777	109	131	1492	256	286	1069	426	159	1091	436
Arrive On Green	0.17	0.37	0.37	0.01	0.11	0.11	0.08	0.30	0.30	0.09	0.31	0.31
Sat Flow, veh/h	3456	5036	197	3456	4361	750	3456	3554	1415	1781	3554	1418
Grp Volume(v), veh/h	1259	1606	873	116	778	392	376	588	375	207	212	435
Grp Sat Flow(s),veh/h/ln	1728	1702	1829	1728	1702	1706	1728	1777	1415	1781	1777	1418
Q Serve(g_s), s	34.6	60.9	61.9	4.7	30.7	30.8	11.6	19.4	35.3	12.5	6.2	42.9
Cycle Q Clear(g_c), s	34.6	60.9	61.9	4.7	30.7	30.8	11.6	19.4	35.3	12.5	6.2	42.9
Prop In Lane	1.00		0.11	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	854	1877	1009	131	1165	584	286	1069	426	159	1091	436
V/C Ratio(X)	1.47	0.86	0.87	0.89	0.67	0.67	1.31	0.55	0.88	1.30	0.19	1.00
Avail Cap(c_a), veh/h	854	1877	1009	131	1165	584	286	1069	426	159	1091	436
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.23	0.23	0.23	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.4	39.0	39.3	68.8	54.5	54.5	64.2	41.0	46.6	63.8	35.7	48.5
Incr Delay (d2), s/veh	214.9	1.3	2.5	45.2	3.1	6.0	159.6	0.6	16.0	173.8	0.1	42.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	41.1	26.9	29.7	2.9	14.6	15.2	11.5	8.7	14.3	13.4	2.7	20.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	273.3	40.3	41.8	114.0	57.5	60.6	223.8	41.6	62.6	237.6	35.8	91.2
LnGrp LOS	F	D	D	F	E	E	F	D	E	F	D	F
Approach Vol, veh/h		3738			1286			1339			854	
Approach Delay, s/veh		119.1			63.5			98.6			112.9	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	83.1	16.0	48.7	39.0	53.8	16.9	47.8
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	5.3	* 61	11.6	* 43	34.6	31.3	12.5	41.7
Max Q Clear Time (g_c+I1), s	13.6	63.9	13.6	44.9	36.6	32.8	14.5	37.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5

Intersection Summary		
HCM 6th Ctrl Delay		104.7
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2420	92	0	1573	180	0	0	218	0	0	50
Future Volume (Veh/h)	0	2420	92	0	1573	180	0	0	218	0	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	2916	111	0	1895	217	0	0	263	0	0	60
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.68			0.55			0.71	0.71	0.55	0.71	0.71	0.68
vC, conflicting volume	2122			3037			3683	5104	1048	3258	5050	760
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1009			1832			305	2312	0	0	2237	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	55	100	100	92
cM capacity (veh/h)	461			179			393	26	585	387	29	726

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1166	1166	694	758	758	596	263	60
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	111	0	0	217	263	60
cSH	1700	1700	1700	1700	1700	1700	585	726
Volume to Capacity	0.69	0.69	0.41	0.45	0.45	0.35	0.45	0.08
Queue Length 95th (ft)	0	0	0	0	0	0	58	7
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	16.1	10.4
Lane LOS							C	B
Approach Delay (s)	0.0			0.0			16.1	10.4
Approach LOS							C	B

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	70.0%	ICU Level of Service		C
Analysis Period (min)	15			

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	548	1920	140	255	1900	560	335	1679	406	330	437	100
Future Volume (veh/h)	548	1920	140	255	1900	560	335	1679	406	330	437	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	645	2259	165	300	2235	659	394	1975	478	388	514	118
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	2294	695	217	1937	730	380	1543	465	316	1448	436
Arrive On Green	0.27	0.90	0.90	0.04	0.25	0.25	0.15	0.40	0.40	0.09	0.28	0.28
Sat Flow, veh/h	3456	5106	1547	3456	5106	1543	3456	5106	1539	3456	5106	1537
Grp Volume(v), veh/h	645	2259	165	300	2235	659	394	1975	478	388	514	118
Grp Sat Flow(s),veh/h/ln	1728	1702	1547	1728	1702	1543	1728	1702	1539	1728	1702	1537
Q Serve(g_s), s	18.6	54.5	1.9	8.8	53.1	53.1	15.4	42.3	42.3	12.8	11.2	8.3
Cycle Q Clear(g_c), s	18.6	54.5	1.9	8.8	53.1	53.1	15.4	42.3	42.3	12.8	11.2	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	2294	695	217	1937	730	380	1543	465	316	1448	436
V/C Ratio(X)	1.40	0.98	0.24	1.38	1.15	0.90	1.04	1.28	1.03	1.23	0.35	0.27
Avail Cap(c_a), veh/h	459	2294	695	217	1937	730	380	1543	465	316	1459	439
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.27	0.27	0.27	0.67	0.67	0.67
Uniform Delay (d), s/veh	51.4	6.7	4.0	67.1	52.2	40.5	59.8	41.9	41.9	63.6	40.0	38.9
Incr Delay (d2), s/veh	194.9	15.5	0.8	174.2	69.9	2.0	34.0	127.5	29.1	120.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	6.1	0.7	9.2	36.0	21.4	8.3	34.9	18.9	10.9	4.8	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	246.3	22.2	4.8	241.2	122.2	42.5	93.7	169.4	71.0	183.8	40.1	39.2
LnGrp LOS	F	C	A	F	F	D	F	F	F	F	D	D
Approach Vol, veh/h		3069			3194			2847			1020	
Approach Delay, s/veh		68.4			116.9			142.4			94.7	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	68.6	19.8	45.4	23.0	58.8	17.2	48.0
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	8.8	* 56	15.4	* 40	18.6	46.3	12.8	42.3
Max Q Clear Time (g_c+I1), s	10.8	56.5	17.4	13.2	20.6	55.1	14.8	44.3
Green Ext Time (p_c), s	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	107.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	2476	60	120	2475	510	40	40	90	70	40	50
Future Volume (veh/h)	120	2476	60	120	2475	510	40	40	90	70	40	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.93	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	2879	70	140	2878	593	47	47	105	62	74	58
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	3453	1051	185	2865	548	168	177	280	65	72	46
Arrive On Green	0.04	0.45	0.45	0.11	1.00	1.00	0.09	0.09	0.09	0.04	0.04	0.04
Sat Flow, veh/h	1781	5106	1554	3456	4287	821	1781	1870	2963	1781	1985	1272
Grp Volume(v), veh/h	140	2879	70	140	2240	1231	47	47	105	62	69	63
Grp Sat Flow(s),veh/h/ln	1781	1702	1554	1728	1702	1703	1781	1870	1481	1781	1870	1386
Q Serve(g_s), s	8.6	69.4	3.6	5.5	0.0	86.1	3.4	3.3	4.7	4.9	5.1	5.1
Cycle Q Clear(g_c), s	8.6	69.4	3.6	5.5	0.0	86.1	3.4	3.3	4.7	4.9	5.1	5.1
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	109	3453	1051	185	2275	1138	168	177	280	65	68	50
V/C Ratio(X)	1.28	0.83	0.07	0.76	0.98	1.08	0.28	0.27	0.38	0.96	1.01	1.25
Avail Cap(c_a), veh/h	109	3453	1051	212	2275	1138	522	548	868	65	68	50
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.1	31.4	13.4	61.6	0.0	0.0	59.0	58.9	59.5	67.3	67.4	67.5
Incr Delay (d2), s/veh	132.2	0.2	0.0	1.0	3.1	38.3	0.3	0.3	0.3	98.8	111.8	209.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	29.9	1.2	2.4	1.0	12.1	1.6	1.6	1.8	4.0	4.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	199.3	31.6	13.4	62.6	3.1	38.3	59.3	59.2	59.8	166.2	179.2	276.7
LnGrp LOS	F	C	B	E	A	F	E	E	E	F	F	F
Approach Vol, veh/h		3089			3611			199			194	
Approach Delay, s/veh		38.8			17.4			59.5			206.8	
Approach LOS		D			B			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.9	100.0		10.0	13.0	98.9		18.1
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9
Max Green Setting (Gmax), s	8.6	65.8		5.1	8.6	65.8		41.0
Max Q Clear Time (g_c+I1), s	7.5	71.4		7.1	10.6	88.1		6.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.5

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

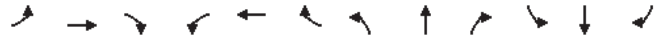
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	738	1759	139	270	2838	1860	139	380	290	270	70	128
Future Volume (veh/h)	738	1759	139	270	2838	1860	139	380	290	270	70	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	820	1954	154	300	3153	2067	154	422	322	300	78	142
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	2606	790	346	2785	1464	143	732	833	138	727	312
Arrive On Green	0.09	0.68	0.68	0.10	0.55	0.55	0.04	0.21	0.21	0.04	0.20	0.20
Sat Flow, veh/h	3456	5106	1548	3456	5106	2685	3456	3554	2687	3456	3554	1526
Grp Volume(v), veh/h	820	1954	154	300	3153	2067	154	422	322	300	78	142
Grp Sat Flow(s),veh/h/ln	1728	1702	1548	1728	1702	1343	1728	1777	1344	1728	1777	1526
Q Serve(g_s), s	9.6	35.1	5.2	12.0	76.4	76.4	5.8	15.0	13.2	5.6	2.5	11.4
Cycle Q Clear(g_c), s	9.6	35.1	5.2	12.0	76.4	76.4	5.8	15.0	13.2	5.6	2.5	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	2606	790	346	2785	1464	143	732	833	138	727	312
V/C Ratio(X)	3.46	0.75	0.19	0.87	1.13	1.41	1.08	0.58	0.39	2.17	0.11	0.45
Avail Cap(c_a), veh/h	237	2606	790	358	2785	1464	143	939	989	138	926	398
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.19	0.19	0.19	0.09	0.09	0.09	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.6	16.6	11.8	62.1	31.8	31.8	67.1	50.1	38.3	67.2	45.3	48.8
Incr Delay (d2), s/veh	1109.2	0.4	0.1	2.1	60.0	185.5	88.9	1.4	0.6	549.8	0.1	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.6	11.6	1.8	5.4	45.7	61.5	4.3	6.8	4.5	13.0	1.1	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1172.8	17.0	11.9	64.1	91.8	217.3	156.0	51.4	38.8	617.0	45.4	50.7
LnGrp LOS	F	B	B	E	F	F	F	D	D	F	D	D
Approach Vol, veh/h		2928			5520			898			520	
Approach Delay, s/veh		340.5			137.3			64.8			376.6	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.9	76.9	10.2	33.9	14.0	81.9	10.0	34.1
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	14.5	63.1	5.8	36.5	9.6	* 69	5.6	* 37
Max Q Clear Time (g_c+I1), s	11.6	37.1	7.8	13.4	11.6	78.4	7.6	17.0
Green Ext Time (p_c), s	0.0	22.7	0.0	1.7	0.0	0.0	0.0	7.9

Intersection Summary		
HCM 6th Ctrl Delay	203.6	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1781	538	0	2764	580	0	0	0	860	0	2204
Future Volume (vph)	0	1781	538	0	2764	580	0	0	0	860	0	2204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1556				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1556				3433		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1979	598	0	3071	644	0	0	0	956	0	2449
RTOR Reduction (vph)	0	0	0	0	0	122	0	0	0	0	0	20
Lane Group Flow (vph)	0	1979	598	0	3071	522	0	0	0	956	0	2429
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov				Prot		custom
Protected Phases		2			6	4				4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		54.6	120.0		44.9	97.2				52.3		62.9
Effective Green, g (s)		54.6	120.0		44.9	97.2				52.3		62.9
Actuated g/C Ratio		0.46	1.00		0.37	0.81				0.44		0.52
Clearance Time (s)		7.5			7.5	5.6				5.6		
Vehicle Extension (s)		2.0			2.0	2.0				2.0		
Lane Grp Cap (vph)		2313	2707		1902	1260				1496		1460
v/s Ratio Prot		0.39			c0.60	0.18				0.28		c0.87
v/s Ratio Perm			0.22			0.15						
v/c Ratio		0.86	0.22		1.61	0.41				0.64		1.66
Uniform Delay, d1		29.2	0.0		37.5	3.3				26.5		28.6
Progression Factor		1.00	1.00		0.72	1.90				1.00		1.00
Incremental Delay, d2		4.3	0.2		277.7	0.0				0.7		301.9
Delay (s)		33.5	0.2		304.9	6.2				27.1		330.4
Level of Service		C	A		F	A				C		F
Approach Delay (s)		25.8			253.1			0.0			245.3	
Approach LOS		C			F			A			F	

Intersection Summary					
HCM 2000 Control Delay	190.0	HCM 2000 Level of Service		F	
HCM 2000 Volume to Capacity ratio	1.73				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		17.8	
Intersection Capacity Utilization	142.5%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: I-805 NB Ramps & Miramar Road

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1547	1094	0	1956	640	1388	0	580	0	0	0
Future Volume (vph)	0	1547	1094	0	1956	640	1388	0	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1559		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1559		6408	1538	3433		2787			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1738	1229	0	2198	719	1560	0	652	0	0	0
RTOR Reduction (vph)	0	0	215	0	0	0	0	0	22	0	0	0
Lane Group Flow (vph)	0	1738	1014	0	2198	719	1560	0	630	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		48.0	96.4		58.5	120.0	48.4		59.8			
Effective Green, g (s)		48.0	96.4		58.5	120.0	48.4		54.2			
Actuated g/C Ratio		0.40	0.80		0.49	1.00	0.40		0.45			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		2034	1252		3123	1538	1384		1258			
v/s Ratio Prot		c0.34	0.33		c0.34		c0.45		0.23			
v/s Ratio Perm			0.32			0.47						
v/c Ratio		0.85	0.81		0.70	0.47	1.13		0.50			
Uniform Delay, d1		32.8	6.6		24.0	0.0	35.8		23.3			
Progression Factor		0.74	10.56		1.00	1.00	1.00		1.00			
Incremental Delay, d2		3.0	2.4		1.4	1.0	67.1		0.1			
Delay (s)		27.2	72.6		25.3	1.0	102.9		23.4			
Level of Service		C	E		C	A	F		C			
Approach Delay (s)		46.0			19.4			79.4			0.0	
Approach LOS		D			B			E			A	

Intersection Summary				
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	80.4%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
12: Costa Verde Blvd & Costa Verde Shopping Center Entrance (North)

LT AM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	48	170	40	42	90
Future Volume (Veh/h)	140	48	170	40	42	90
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	52	185	43	46	98
Pedestrians	28		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	438	152			256	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	438	152			256	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	94			96	
cM capacity (veh/h)	510	840			1275	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	152	52	123	105	144
Volume Left	152	0	0	0	46
Volume Right	0	52	0	43	0
cSH	510	840	1700	1700	1275
Volume to Capacity	0.30	0.06	0.07	0.06	0.04
Queue Length 95th (ft)	31	5	0	0	3
Control Delay (s)	15.0	9.6	0.0	0.0	2.7
Lane LOS	C	A			A
Approach Delay (s)	13.6		0.0		2.7
Approach LOS	B				

Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	37.0%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
13: Costa Verde Blvd & Costa Verde Shopping Center Entrance (South)

LT AM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	121	100	250	130	50	160
Future Volume (Veh/h)	121	100	250	130	50	160
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	139	115	287	149	57	184
Pedestrians	10		12			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	590	238			446	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	590	238			446	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	66	85			95	
cM capacity (veh/h)	409	751			1101	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	254	191	245	118	123
Volume Left	139	0	0	57	0
Volume Right	115	0	149	0	0
cSH	515	1700	1700	1101	1700
Volume to Capacity	0.49	0.11	0.14	0.05	0.07
Queue Length 95th (ft)	67	0	0	4	0
Control Delay (s)	18.6	0.0	0.0	4.3	0.0
Lane LOS	C			A	
Approach Delay (s)	18.6	0.0		2.1	
Approach LOS	C				

Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	41.1%	ICU Level of Service		A
Analysis Period (min)	15			

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	57	194	80	37	110	74	2190	170	130	603	129
Future Volume (veh/h)	210	57	194	80	37	110	74	2190	170	130	603	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.92	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	181	213	88	101	81	81	2407	187	143	663	142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	175	127	605	318	247	101	2663	203	141	2246	473
Arrive On Green	0.09	0.09	0.09	0.17	0.17	0.17	0.08	0.73	0.73	0.08	1.00	1.00
Sat Flow, veh/h	1781	1870	1361	3563	1870	1451	1781	4829	369	3456	4194	883
Grp Volume(v), veh/h	147	181	213	88	101	81	81	1684	910	143	536	269
Grp Sat Flow(s),veh/h/ln	1781	1870	1361	1781	1870	1451	1781	1702	1794	1728	1702	1673
Q Serve(g_s), s	11.4	13.1	13.1	2.9	6.6	6.9	6.3	54.0	58.2	5.7	0.0	0.0
Cycle Q Clear(g_c), s	11.4	13.1	13.1	2.9	6.6	6.9	6.3	54.0	58.2	5.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.53
Lane Grp Cap(c), veh/h	167	175	127	605	318	247	101	1878	989	141	1823	896
V/C Ratio(X)	0.88	1.03	1.67	0.15	0.32	0.33	0.80	0.90	0.92	1.02	0.29	0.30
Avail Cap(c_a), veh/h	167	175	127	970	509	395	160	1878	989	141	1823	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.71	0.71	0.71
Uniform Delay (d), s/veh	62.7	63.5	63.4	49.5	51.0	51.1	63.9	15.6	16.1	64.3	0.0	0.0
Incr Delay (d2), s/veh	37.2	77.3	334.4	0.0	0.2	0.3	6.1	7.2	14.8	68.2	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	10.0	16.4	1.3	3.2	2.5	3.0	17.9	22.3	3.7	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.8	140.8	397.8	49.5	51.2	51.4	70.0	22.8	30.9	132.5	0.3	0.6
LnGrp LOS	F	F	F	D	D	D	E	C	C	F	A	A
Approach Vol, veh/h		541			270			2675			948	
Approach Delay, s/veh		230.9			50.7			27.0			20.3	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	83.2		18.0	12.3	81.0		28.7				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	5.7	62.9		13.1	12.6	* 56		38.1				
Max Q Clear Time (g_c+I1), s	7.7	60.2		15.1	8.3	2.0		8.9				
Green Ext Time (p_c), s	0.0	2.7		0.0	0.0	10.1		0.7				

Intersection Summary		
HCM 6th Ctrl Delay	51.9	
HCM 6th LOS	D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	64	0	2404	734	53
Future Volume (Veh/h)	0	64	0	2404	734	53
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	67	0	2531	773	56
Pedestrians	14			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.53	0.97	0.97			
vC, conflicting volume	1669	310	843			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	187	736			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	91	100			
cM capacity (veh/h)	534	784	831			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	67	844	844	844	309	309	211
Volume Left	0	0	0	0	0	0	0
Volume Right	67	0	0	0	0	0	56
cSH	784	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.50	0.50	0.50	0.18	0.18	0.12
Queue Length 95th (ft)	7	0	0	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.0	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay		0.2		
Intersection Capacity Utilization		59.3%	ICU Level of Service	B
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	417	150	387	1117	0	0
Future Volume (veh/h)	417	150	387	1117	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	439	158	407	1176		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2236	796	472	3756		
Arrive On Green	0.88	0.88	0.27	1.00		
Sat Flow, veh/h	2639	906	3456	3647		
Grp Volume(v), veh/h	305	292	407	1176		
Grp Sat Flow(s),veh/h/ln	1777	1674	1728	1777		
Q Serve(g_s), s	2.5	2.6	11.2	0.0		
Cycle Q Clear(g_c), s	2.5	2.6	11.2	0.0		
Prop In Lane		0.54	1.00			
Lane Grp Cap(c), veh/h	1561	1471	472	3756		
V/C Ratio(X)	0.20	0.20	0.86	0.31		
Avail Cap(c_a), veh/h	1561	1471	650	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.89	0.89		
Uniform Delay (d), s/veh	0.9	0.9	35.5	0.0		
Incr Delay (d2), s/veh	0.3	0.3	6.1	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.3	0.3	4.4	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.2	1.2	41.5	0.2		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	597			1583		
Approach Delay, s/veh	1.2			10.8		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.9	92.6				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 19	72.5				* 96
Max Q Clear Time (g_c+I1), s	13.2	4.6				2.0
Green Ext Time (p_c), s	0.5	12.4				7.4

Intersection Summary		
HCM 6th Ctrl Delay	8.2	
HCM 6th LOS	A	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	417	0	0	1024	60	370	230	587	0	0	110
Future Volume (vph)	0	417	0	0	1024	60	370	230	587	0	0	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			0.98		1.00	1.00	0.95			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			0.99		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (prot)		3539			6258		1681	1748	1506			1611
Flt Permitted		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (perm)		3539			6258		1681	1748	1506			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	463	0	0	1138	67	411	256	652	0	0	122
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	146	0	0	116
Lane Group Flow (vph)	0	463	0	0	1198	0	329	338	506	0	0	6
Confl. Peds. (#/hr)	72		27	27		72	38		30	30		38
Confl. Bikes (#/hr)			10			66			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		52.2			42.7		38.8	38.8	38.8			5.0
Effective Green, g (s)		52.2			42.7		38.8	38.8	38.8			5.0
Actuated g/C Ratio		0.52			0.43		0.39	0.39	0.39			0.05
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1847			2672		652	678	584			80
v/s Ratio Prot		c0.13			c0.19		0.20	0.19				0.00
v/s Ratio Perm									c0.34			
v/c Ratio		0.25			0.45		0.50	0.50	0.87			0.08
Uniform Delay, d1		13.1			20.3		23.3	23.2	28.2			45.3
Progression Factor		0.98			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.3			0.5		0.2	0.2	12.4			0.1
Delay (s)		13.2			20.9		23.5	23.4	40.6			45.4
Level of Service		B			C		C	C	D			D
Approach Delay (s)		13.2			20.9			31.9			45.4	
Approach LOS		B			C			C			D	

Intersection Summary				
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	59.1%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	654	80	66	624	239	180	450	176	89	110	70
Future Volume (veh/h)	70	654	80	66	624	239	180	450	176	89	110	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.74	1.00		0.76	1.00		0.82	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	735	90	74	701	269	202	506	198	100	124	79
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	1564	187	95	1254	442	263	1160	427	309	1207	507
Arrive On Green	0.04	0.35	0.35	0.05	0.37	0.37	0.08	0.33	0.33	0.09	0.34	0.34
Sat Flow, veh/h	3456	4433	530	1781	3404	1201	3456	3554	1306	3456	3554	1318
Grp Volume(v), veh/h	79	560	265	74	701	269	202	506	198	100	124	79
Grp Sat Flow(s),veh/h/ln	1728	1702	1559	1781	1702	1201	1728	1777	1306	1728	1777	1318
Q Serve(g_s), s	2.4	13.5	14.0	4.4	17.4	19.3	6.1	11.9	12.8	2.9	2.5	4.2
Cycle Q Clear(g_c), s	2.4	13.5	14.0	4.4	17.4	19.3	6.1	11.9	12.8	2.9	2.5	4.2
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	1201	550	95	1254	442	263	1160	427	309	1207	507
V/C Ratio(X)	0.61	0.47	0.48	0.78	0.56	0.61	0.77	0.44	0.46	0.32	0.10	0.16
Avail Cap(c_a), veh/h	137	1201	550	111	1254	442	280	1160	427	326	1207	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	50.3	26.6	26.8	49.6	26.6	27.2	48.0	28.0	28.3	45.3	23.9	21.9
Incr Delay (d2), s/veh	4.8	1.3	3.0	18.3	1.5	5.0	10.0	1.2	3.6	0.2	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.6	5.6	2.4	7.2	6.1	3.0	5.2	4.4	1.2	1.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	27.9	29.8	67.8	28.1	32.3	58.0	29.2	31.9	45.5	24.1	22.5
LnGrp LOS	E	C	C	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		904			1044			906			303	
Approach Delay, s/veh		30.8			32.0			36.2			30.7	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	42.6	12.5	40.9	8.4	44.3	13.9	39.5
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.6	35.9	8.6	36.0	4.2	38.3	10.0	34.6
Max Q Clear Time (g_c+I1), s	10.4	16.0	8.1	6.2	4.4	21.3	4.9	14.8
Green Ext Time (p_c), s	0.0	8.5	0.0	2.5	0.0	9.4	0.1	9.7

Intersection Summary		
HCM 6th Ctrl Delay	32.7	
HCM 6th LOS	C	

HCM 6th Signalized Intersection Summary
19: Regents Road & Nobel Drive

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	659	60	222	619	180	150	440	251	110	260	120
Future Volume (veh/h)	290	659	60	222	619	180	150	440	251	110	260	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.84	1.00		0.83	1.00		0.69	1.00		0.68
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	716	65	241	673	196	163	478	273	120	283	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1558	139	298	1133	420	192	1156	371	94	1011	308
Arrive On Green	0.03	0.11	0.11	0.17	0.64	0.64	0.11	0.34	0.34	0.05	0.28	0.28
Sat Flow, veh/h	3456	4683	419	3456	3554	1316	1781	3404	1092	1781	3554	1083
Grp Volume(v), veh/h	315	518	263	241	673	196	163	478	273	120	283	130
Grp Sat Flow(s),veh/h/ln	1728	1702	1697	1728	1777	1316	1781	1702	1092	1781	1777	1083
Q Serve(g_s), s	9.6	15.1	15.4	7.1	11.7	8.1	9.5	11.4	23.3	5.6	6.6	10.4
Cycle Q Clear(g_c), s	9.6	15.1	15.4	7.1	11.7	8.1	9.5	11.4	23.3	5.6	6.6	10.4
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1132	565	298	1133	420	192	1156	371	94	1011	308
V/C Ratio(X)	0.91	0.46	0.47	0.81	0.59	0.47	0.85	0.41	0.74	1.28	0.28	0.42
Avail Cap(c_a), veh/h	346	1132	565	319	1133	420	212	1198	384	94	1011	308
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.71	0.71	0.71	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	50.8	38.2	38.4	43.0	15.2	14.6	46.4	26.9	30.8	50.2	29.5	30.8
Incr Delay (d2), s/veh	25.1	1.2	2.5	9.0	1.6	2.6	22.5	0.7	10.1	180.4	0.6	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	7.1	7.4	3.2	3.7	2.3	5.4	4.7	7.1	7.2	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.9	39.4	40.9	52.0	16.8	17.2	68.9	27.6	40.9	230.6	30.1	34.3
LnGrp LOS	E	D	D	D	B	B	E	C	D	F	C	C
Approach Vol, veh/h		1096			1110			914			533	
Approach Delay, s/veh		50.2			24.5			38.9			76.2	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	41.5	13.5	41.0	15.9	35.6	15.0	39.5
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	5.6	* 37	9.8	33.6	12.6	30.0	10.6	* 33
Max Q Clear Time (g_c+I1), s	7.6	25.3	9.1	17.4	11.5	12.4	11.6	13.7
Green Ext Time (p_c), s	0.0	7.1	0.0	6.9	0.0	5.2	0.0	11.2

Intersection Summary	
HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
20: Cargill Drive/Costa Verde Blvd & Nobel Drive

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	747	50	40	807	140	100	127	80	130	37	124
Future Volume (veh/h)	163	747	50	40	807	140	100	127	80	130	37	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	821	55	44	887	154	110	140	88	143	41	136
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	2114	141	56	1755	303	77	291	183	134	114	377
Arrive On Green	0.12	0.87	0.87	0.03	0.40	0.40	0.04	0.28	0.28	0.08	0.31	0.31
Sat Flow, veh/h	1781	4865	324	1781	4345	750	1781	1040	654	1781	364	1208
Grp Volume(v), veh/h	179	573	303	44	694	347	110	0	228	143	0	177
Grp Sat Flow(s),veh/h/ln	1781	1702	1785	1781	1702	1691	1781	0	1693	1781	0	1572
Q Serve(g_s), s	6.6	3.5	3.6	2.6	16.2	16.3	4.6	0.0	11.9	8.0	0.0	9.3
Cycle Q Clear(g_c), s	6.6	3.5	3.6	2.6	16.2	16.3	4.6	0.0	11.9	8.0	0.0	9.3
Prop In Lane	1.00		0.18	1.00		0.44	1.00		0.39	1.00		0.77
Lane Grp Cap(c), veh/h	111	1480	776	56	1375	683	77	0	474	134	0	491
V/C Ratio(X)	1.61	0.39	0.39	0.78	0.50	0.51	1.42	0.00	0.48	1.06	0.00	0.36
Avail Cap(c_a), veh/h	111	1480	776	101	1375	683	77	0	601	134	0	608
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	4.1	4.1	51.0	23.7	23.7	50.7	0.0	31.7	49.0	0.0	28.3
Incr Delay (d2), s/veh	308.7	0.7	1.3	8.5	1.3	2.7	250.0	0.0	0.3	95.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	1.1	1.3	1.3	6.6	6.9	7.4	0.0	4.9	7.1	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	355.1	4.8	5.4	59.5	25.0	26.4	300.7	0.0	32.0	144.7	0.0	28.4
LnGrp LOS	F	A	A	E	C	C	F	A	C	F	A	C
Approach Vol, veh/h		1055			1085			338			320	
Approach Delay, s/veh		64.4			26.8			119.5			80.4	
Approach LOS		E			C			F			F	

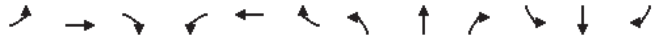
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	51.3	9.0	38.0	11.0	48.0	12.4	34.6
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	3.3	35.5	4.6	41.0	6.6	34.9	8.0	37.6
Max Q Clear Time (g_c+I1), s	14.6	5.6	6.6	11.3	8.6	18.3	10.0	13.9
Green Ext Time (p_c), s	0.0	10.8	0.0	0.8	0.0	9.4	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1117	945	134	0	140
Future Volume (Veh/h)	0	1117	945	134	0	140
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	1255	1062	151	0	157
Pedestrians		10	10		27	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.89				0.93	0.89
vC, conflicting volume	1240				1593	466
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	843				767	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	83
cM capacity (veh/h)	687				307	937

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	418	418	418	425	425	363	157
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	151	157
cSH	1700	1700	1700	1700	1700	1700	937
Volume to Capacity	0.25	0.25	0.25	0.25	0.25	0.21	0.17
Queue Length 95th (ft)	0	0	0	0	0	0	15
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.6
Approach LOS							A

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	730	220	140	524	187	400	1970	280	172	461	155
Future Volume (veh/h)	247	730	220	140	524	187	400	1970	280	172	461	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	266	785	237	151	563	201	430	2118	301	185	496	167
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	870	369	198	855	362	385	1861	812	114	2273	689
Arrive On Green	0.06	0.24	0.24	0.06	0.24	0.24	0.11	0.52	0.52	0.01	0.15	0.15
Sat Flow, veh/h	3456	3554	1509	3456	3554	1505	3456	3554	1550	3456	5106	1548
Grp Volume(v), veh/h	266	785	237	151	563	201	430	2118	301	185	496	167
Grp Sat Flow(s),veh/h/ln	1728	1777	1509	1728	1777	1505	1728	1777	1550	1728	1702	1548
Q Serve(g_s), s	8.6	30.0	19.7	6.0	20.0	16.4	15.6	73.3	16.1	4.6	12.0	13.4
Cycle Q Clear(g_c), s	8.6	30.0	19.7	6.0	20.0	16.4	15.6	73.3	16.1	4.6	12.0	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	870	369	198	855	362	385	1861	812	114	2273	689
V/C Ratio(X)	1.25	0.90	0.64	0.76	0.66	0.56	1.12	1.14	0.37	1.63	0.22	0.24
Avail Cap(c_a), veh/h	212	899	381	207	888	376	385	1861	812	114	2273	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.7	51.2	47.4	65.1	48.0	46.6	62.2	33.3	19.7	69.2	38.2	38.8
Incr Delay (d2), s/veh	146.5	12.3	4.1	13.0	1.7	1.7	81.4	69.3	1.3	319.6	0.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	14.8	7.9	3.0	9.1	6.3	11.2	48.4	6.1	7.1	5.6	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	212.2	63.6	51.4	78.1	49.7	48.3	143.6	102.6	21.0	388.8	38.5	39.7
LnGrp LOS	F	E	D	E	D	D	F	F	C	F	D	D
Approach Vol, veh/h		1288			915			2849			848	
Approach Delay, s/veh		92.0			54.1			100.2			115.1	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	79.2	12.4	39.4	20.0	68.2	13.0	38.8
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	4.6	* 72	8.4	* 35	15.6	61.0	8.6	35.0
Max Q Clear Time (g_c+I1), s	6.6	75.3	8.0	32.0	17.6	15.4	10.6	22.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	6.7	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	93.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	448	814	20	30	384	100	40	210	110	30	60	247
Future Volume (veh/h)	448	814	20	30	384	100	40	210	110	30	60	247
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	462	839	21	31	396	103	41	216	113	31	62	255
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	1267	32	43	1135	679	64	343	186	387	407	332
Arrive On Green	0.16	0.36	0.36	0.02	0.22	0.22	0.17	0.17	0.17	0.22	0.22	0.22
Sat Flow, veh/h	3456	3536	89	1781	5106	1505	377	2008	1086	1781	1870	1529
Grp Volume(v), veh/h	462	422	438	31	396	103	202	0	168	31	62	255
Grp Sat Flow(s),veh/h/ln	1728	1777	1848	1781	1702	1505	1852	0	1619	1781	1870	1529
Q Serve(g_s), s	11.4	17.6	17.6	1.5	5.8	3.6	8.9	0.0	8.5	1.2	2.4	13.8
Cycle Q Clear(g_c), s	11.4	17.6	17.6	1.5	5.8	3.6	8.9	0.0	8.5	1.2	2.4	13.8
Prop In Lane	1.00		0.05	1.00		1.00	0.20		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	553	636	662	43	1135	679	316	0	277	387	407	332
V/C Ratio(X)	0.84	0.66	0.66	0.72	0.35	0.15	0.64	0.00	0.61	0.08	0.15	0.77
Avail Cap(c_a), veh/h	871	1005	1045	81	1827	883	736	0	644	629	661	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	23.8	23.8	42.7	28.9	14.8	34.0	0.0	33.8	27.4	27.9	32.4
Incr Delay (d2), s/veh	2.2	2.4	2.3	8.1	0.2	0.1	0.8	0.0	0.8	0.1	0.2	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	7.5	7.8	0.8	2.3	1.8	4.0	0.0	3.3	0.5	1.1	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	26.2	26.1	50.8	29.1	15.0	34.8	0.0	34.6	27.6	28.1	37.6
LnGrp LOS	D	C	C	D	C	B	C	A	C	C	C	D
Approach Vol, veh/h		1322			530			370			348	
Approach Delay, s/veh		30.3			27.6			34.7			35.0	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.5	37.5		24.0	18.5	25.6		19.9
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	4.6	* 50		31.1	22.2	31.5		35.0
Max Q Clear Time (g_c+I1), s	13.5	19.6		15.8	13.4	7.8		10.9
Green Ext Time (p_c), s	0.0	11.7		1.8	0.7	3.5		1.5

Intersection Summary	
HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

LT AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	925	10	10	425	80	40	10	90	240	10	49
Future Volume (veh/h)	19	925	10	10	425	80	40	10	90	240	10	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	1005	11	11	462	87	43	11	98	269	0	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	1910	21	20	1546	283	53	14	122	586	0	493
Arrive On Green	0.02	0.37	0.37	0.01	0.36	0.36	0.12	0.12	0.12	0.16	0.00	0.16
Sat Flow, veh/h	1781	5203	57	1781	4311	789	446	114	1017	3563	0	3001
Grp Volume(v), veh/h	21	657	359	11	362	187	152	0	0	269	0	53
Grp Sat Flow(s),veh/h/ln	1781	1702	1856	1781	1702	1696	1577	0	0	1781	0	1500
Q Serve(g_s), s	0.7	9.0	9.0	0.4	4.5	4.7	5.6	0.0	0.0	4.1	0.0	0.9
Cycle Q Clear(g_c), s	0.7	9.0	9.0	0.4	4.5	4.7	5.6	0.0	0.0	4.1	0.0	0.9
Prop In Lane	1.00		0.03	1.00		0.46	0.28		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	35	1249	681	20	1220	608	189	0	0	586	0	493
V/C Ratio(X)	0.60	0.53	0.53	0.55	0.30	0.31	0.80	0.00	0.00	0.46	0.00	0.11
Avail Cap(c_a), veh/h	198	1841	1004	138	1721	858	294	0	0	1921	0	1618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	14.8	14.8	29.3	13.7	13.8	25.5	0.0	0.0	22.5	0.0	21.2
Incr Delay (d2), s/veh	5.9	0.6	1.1	8.6	0.2	0.5	4.2	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.2	3.6	0.2	1.6	1.7	2.2	0.0	0.0	1.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	15.4	15.9	37.9	13.9	14.2	29.7	0.0	0.0	23.0	0.0	21.2
LnGrp LOS	C	B	B	D	B	B	C	A	A	C	A	C
Approach Vol, veh/h		1037			560			152			322	
Approach Delay, s/veh		16.0			14.5			29.7			22.7	
Approach LOS		B			B			C			C	

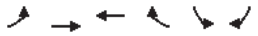
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	27.7		14.7	5.6	27.2		12.0
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	4.6	* 32		32.1	6.6	30.1		11.1
Max Q Clear Time (g_c+I1), s	2.4	11.0		6.1	2.7	6.7		7.6
Green Ext Time (p_c), s	0.0	10.8		1.0	0.0	5.7		0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	279	976	466	1330	330	69
Future Volume (veh/h)	279	976	466	1330	330	69
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	294	1027	491	1400	347	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	320	3610	1909	857	536	246
Arrive On Green	0.09	0.71	0.56	0.56	0.16	0.16
Sat Flow, veh/h	3456	5274	3572	1529	3456	1585
Grp Volume(v), veh/h	294	1027	491	1400	347	73
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1529	1728	1585
Q Serve(g_s), s	6.9	6.1	6.1	46.0	7.7	3.3
Cycle Q Clear(g_c), s	6.9	6.1	6.1	46.0	7.7	3.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	320	3610	1909	857	536	246
V/C Ratio(X)	0.92	0.28	0.26	1.63	0.65	0.30
Avail Cap(c_a), veh/h	320	3610	1909	857	2136	980
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	4.4	9.2	18.0	32.5	30.7
Incr Delay (d2), s/veh	29.7	0.1	0.2	290.0	2.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	1.7	2.1	83.0	3.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	66.6	4.5	9.4	308.1	34.7	31.8
LnGrp LOS	E	A	A	F	C	C
Approach Vol, veh/h		1321	1891		420	
Approach Delay, s/veh		18.3	230.5		34.2	
Approach LOS		B	F		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		64.0		18.0	12.0	52.0
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		58.0		50.7	7.6	46.0
Max Q Clear Time (g_c+I1), s		8.1		9.7	8.9	48.0
Green Ext Time (p_c), s		20.9		3.0	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			130.6			
HCM 6th LOS			F			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	479	737	220	1776	0	0
Future Volume (veh/h)	479	737	220	1776	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	504	776	232	1869		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6539	5006	218	9957		
Arrive On Green	1.00	1.00	0.13	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	504	776	232	1869		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	6.3	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	6.3	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6539	5006	218	9957		
V/C Ratio(X)	0.08	0.16	1.07	0.19		
Avail Cap(c_a), veh/h	6539	5006	218	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.94	0.94	0.71	0.71		
Uniform Delay (d), s/veh	0.0	0.0	43.7	0.0		
Incr Delay (d2), s/veh	0.0	0.1	69.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.6	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	113.5	0.0		
LnGrp LOS	A	A	F	A		
Approach Vol, veh/h	1280			2101		
Approach Delay, s/veh	0.0			12.6		
Approach LOS	A			B		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	11.0	194.0				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	6.3	82.0				* 96
Max Q Clear Time (g_c+I1), s	8.3	2.0				2.0
Green Ext Time (p_c), s	0.0	4.8				16.2
Intersection Summary						
HCM 6th Ctrl Delay			7.8			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	479	0	0	839	1097	790
Future Volume (vph)	479	0	0	839	1097	790
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.97
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2689
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2689
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	494	0	0	865	1131	814
RTOR Reduction (vph)	0	0	0	0	0	119
Lane Group Flow (vph)	494	0	0	865	1131	695
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	41.8			52.6	34.3	40.4
Effective Green, g (s)	41.8			52.6	34.3	40.4
Actuated g/C Ratio	0.42			0.53	0.34	0.40
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1479			3370	1177	1086
v/s Ratio Prot	c0.14			0.13	c0.33	c0.04
v/s Ratio Perm						0.22
v/c Ratio	0.33			0.26	0.96	0.64
Uniform Delay, d1	19.7			13.0	32.2	24.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.6			0.2	17.5	1.0
Delay (s)	20.4			13.2	49.7	24.9
Level of Service	C			B	D	C
Approach Delay (s)	20.4			13.2	39.3	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	29	198	69	43	37	163	2898	143	19	908	64
Future Volume (veh/h)	43	29	198	69	43	37	163	2898	143	19	908	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	133	145	74	46	40	175	3116	154	20	976	69
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	307	373	132	81	58	197	2130	104	51	1803	127
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.15	0.82	0.82	0.03	0.54	0.54
Sat Flow, veh/h	326	1259	1533	388	332	240	1781	3439	168	1781	3357	237
Grp Volume(v), veh/h	179	0	145	160	0	0	175	1593	1677	20	517	528
Grp Sat Flow(s),veh/h/ln	1586	0	1533	959	0	0	1781	1777	1831	1781	1777	1817
Q Serve(g_s), s	0.0	0.0	11.1	12.5	0.0	0.0	13.5	86.7	86.7	1.5	26.6	26.6
Cycle Q Clear(g_c), s	13.0	0.0	11.1	25.5	0.0	0.0	13.5	86.7	86.7	1.5	26.6	26.6
Prop In Lane	0.26		1.00	0.46		0.25	1.00		0.09	1.00		0.13
Lane Grp Cap(c), veh/h	419	0	373	271	0	0	197	1100	1134	51	954	976
V/C Ratio(X)	0.43	0.00	0.39	0.59	0.00	0.00	0.89	1.45	1.48	0.39	0.54	0.54
Avail Cap(c_a), veh/h	419	0	373	271	0	0	198	1100	1134	771	954	976
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	0.0	44.2	52.4	0.0	0.0	58.8	12.3	12.3	66.8	21.1	21.1
Incr Delay (d2), s/veh	3.2	0.0	3.0	9.1	0.0	0.0	4.7	202.0	216.0	1.8	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	4.6	6.0	0.0	0.0	6.0	75.0	81.7	0.7	11.1	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	0.0	47.3	61.5	0.0	0.0	63.5	214.3	228.4	68.6	23.3	23.3
LnGrp LOS	D	A	D	E	A	A	E	F	F	E	C	C
Approach Vol, veh/h		324			160			3445			1065	
Approach Delay, s/veh		47.6			61.5			213.5			24.2	
Approach LOS		D			E			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	81.1		39.0	8.4	92.6		39.0				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	5.6	75.1		34.1	60.6	* 30		34.1				
Max Q Clear Time (g_c+I1), s	15.5	28.6		27.5	3.5	88.7		15.0				
Green Ext Time (p_c), s	0.0	10.4		0.3	0.0	0.0		0.9				

Intersection Summary		
HCM 6th Ctrl Delay	157.5	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	771	324	168	270	247	395	94	1898	239	287	722	423
Future Volume (veh/h)	771	324	168	270	247	395	94	1898	239	287	722	423
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	876	368	191	307	281	449	107	2157	272	326	820	481
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1214	493	138	1214	527	71	1338	587	138	1338	592
Arrive On Green	0.04	0.34	0.34	0.04	0.34	0.34	0.04	0.38	0.38	0.04	0.38	0.38
Sat Flow, veh/h	3456	3554	1442	3456	3554	1542	1781	3554	1560	3456	3554	1572
Grp Volume(v), veh/h	876	368	191	307	281	449	107	2157	272	326	820	481
Grp Sat Flow(s),veh/h/ln	1728	1777	1442	1728	1777	1542	1781	1777	1560	1728	1777	1572
Q Serve(g_s), s	4.0	7.6	10.1	4.0	5.7	27.0	4.0	37.7	13.2	4.0	18.7	27.5
Cycle Q Clear(g_c), s	4.0	7.6	10.1	4.0	5.7	27.0	4.0	37.7	13.2	4.0	18.7	27.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1214	493	138	1214	527	71	1338	587	138	1338	592
V/C Ratio(X)	6.34	0.30	0.39	2.22	0.23	0.85	1.50	1.61	0.46	2.36	0.61	0.81
Avail Cap(c_a), veh/h	138	1411	573	138	1386	601	71	1338	587	138	1338	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	24.2	25.0	48.0	23.5	30.6	48.0	31.2	23.5	48.0	25.3	28.0
Incr Delay (d2), s/veh	2417.2	0.3	1.1	572.2	0.2	11.8	285.6	279.0	2.6	633.1	2.1	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	48.1	3.2	3.5	12.7	2.4	11.5	7.4	66.6	5.2	13.8	7.7	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2465.2	24.5	26.1	620.2	23.7	42.4	333.6	310.1	26.2	681.1	27.4	39.6
LnGrp LOS	F	C	C	F	C	D	F	F	C	F	C	D
Approach Vol, veh/h		1435			1037			2536			1627	
Approach Delay, s/veh		1514.6			208.4			280.7			162.0	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	43.4	8.4	39.8	8.4	43.4	8.4	39.8
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7
Max Green Setting (Gmax), s	4.0	32.8	4.0	* 40	4.0	* 33	4.0	39.0
Max Q Clear Time (g_c+I1), s	6.0	39.7	6.0	12.1	6.0	29.5	6.0	29.0
Green Ext Time (p_c), s	0.0	0.0	0.0	6.5	0.0	3.2	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	507.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	171	0	0	961	454	1191	0	0	1054	138
Future Vol, veh/h	0	0	171	0	0	961	454	1191	0	0	1054	138
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	186	0	0	1045	493	1295	0	0	1146	150

Major/Minor	Minor2					Major1			Major2			
Conflicting Flow All	-	-	573			1146	0	-	-	-	0	
Stage 1	-	-	-			-	-	-	-	-	-	
Stage 2	-	-	-			-	-	-	-	-	-	
Critical Hdwy	-	-	6.94			4.3	-	-	-	-	-	
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-	
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-	
Pot Cap-1 Maneuver	0	0	463			575	-	0	0	-	-	
Stage 1	0	0	-			-	-	0	0	-	-	
Stage 2	0	0	-			-	-	0	0	-	-	
Platoon blocked, %							-			-	-	
Mov Cap-1 Maneuver	-	0	463			575	-	-	-	-	-	
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-	
Stage 1	-	0	-			-	-	-	-	-	-	
Stage 2	-	0	-			-	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	17.9	10.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	575	-	463	-	-
HCM Lane V/C Ratio	0.858	-	0.401	-	-
HCM Control Delay (s)	38	-	17.9	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	9.4	-	1.9	-	-

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

LT AM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	147	253	1507	808	444	754
Future Volume (veh/h)	147	253	1507	808	444	754
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	275	1638	0	483	820
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	355	316	1406		361	2321
Arrive On Green	0.20	0.20	0.40	0.00	0.20	0.65
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	160	275	1638	0	483	820
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.8	14.4	33.8	0.0	17.3	8.9
Cycle Q Clear(g_c), s	6.8	14.4	33.8	0.0	17.3	8.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	355	316	1406		361	2321
V/C Ratio(X)	0.45	0.87	1.16		1.34	0.35
Avail Cap(c_a), veh/h	667	594	1406		361	2321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	33.1	25.8	0.0	34.1	6.7
Incr Delay (d2), s/veh	0.3	2.9	82.4	0.0	170.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.6	28.6	0.0	24.0	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.4	36.1	108.2	0.0	204.2	7.1
LnGrp LOS	C	D	F		F	A
Approach Vol, veh/h	435		1638	A		1303
Approach Delay, s/veh	34.0		108.2			80.2
Approach LOS	C		F			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	41.3		22.1		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		* 56
Max Q Clear Time (g_c+I1), s	19.3	35.8		16.4		10.9
Green Ext Time (p_c), s	0.0	0.0		0.7		3.6

Intersection Summary	
HCM 6th Ctrl Delay	87.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
32: Genesee Avenue & Centurion Square

LT AM
10/10/2019

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	337	225	0	2818	299	188	981
Future Volume (veh/h)	337	225	0	2818	299	188	981
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	366	0		3063	0	204	1066
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	388	345		2142	955	249	2493
Arrive On Green	0.22	0.00		0.60	0.00	0.07	0.70
Sat Flow, veh/h	1781	1585		3647	1585	3456	3647
Grp Volume(v), veh/h	366	0		3063	0	204	1066
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1585	1728	1777
Q Serve(g_s), s	28.3	0.0		84.4	0.0	8.1	17.9
Cycle Q Clear(g_c), s	28.3	0.0		84.4	0.0	8.1	17.9
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	388	345		2142	955	249	2493
V/C Ratio(X)	0.94	0.00		1.43	0.00	0.82	0.43
Avail Cap(c_a), veh/h	397	353		2142	955	249	2493
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00		1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	0.0		27.8	0.0	64.0	8.9
Incr Delay (d2), s/veh	31.1	0.0		196.2	0.0	17.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.0	0.0		90.5	0.0	4.1	6.3
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	85.0	0.0		224.0	0.0	81.8	9.5
LnGrp LOS	F	A		F	A	F	A
Approach Vol, veh/h	366			3063			1270
Approach Delay, s/veh	85.0			224.0			21.1
Approach LOS	F			F			C
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	14.5	90.1		35.4		104.6	
Change Period (Y+Rc), s	4.4	5.7		4.9		6.4	
Max Green Setting (Gmax), s	10.1	83.7		31.2		89.1	
Max Q Clear Time (g_c+I1), s	10.1	86.4		30.3		19.9	
Green Ext Time (p_c), s	0.0	0.0		0.2		5.2	

Intersection Summary	
HCM 6th Ctrl Delay	158.3
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

LT AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	110	51	102	64	87	101	2038	526	86	590	65
Future Volume (veh/h)	37	110	51	102	64	87	101	2038	526	86	590	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	118	55	110	69	94	109	2191	566	92	634	70
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	301	130	139	246	205	84	2588	621	97	2983	326
Arrive On Green	0.03	0.13	0.13	0.04	0.14	0.14	0.05	0.63	0.63	0.05	0.64	0.64
Sat Flow, veh/h	1781	2361	1021	3456	1777	1479	1781	4091	982	1781	4661	509
Grp Volume(v), veh/h	40	87	86	110	69	94	109	1795	962	92	461	243
Grp Sat Flow(s),veh/h/ln	1781	1777	1605	1728	1777	1479	1781	1702	1670	1781	1702	1766
Q Serve(g_s), s	2.9	5.9	6.6	4.2	4.6	7.7	6.2	54.1	66.0	6.8	7.4	7.6
Cycle Q Clear(g_c), s	2.9	5.9	6.6	4.2	4.6	7.7	6.2	54.1	66.0	6.8	7.4	7.6
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.59	1.00		0.29
Lane Grp Cap(c), veh/h	51	226	205	139	246	205	84	2153	1056	97	2179	1131
V/C Ratio(X)	0.78	0.38	0.42	0.79	0.28	0.46	1.30	0.83	0.91	0.95	0.21	0.21
Avail Cap(c_a), veh/h	103	530	479	139	499	416	84	2153	1056	97	2179	1131
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	52.8	53.1	62.8	50.9	52.3	62.9	18.9	21.0	62.2	9.9	9.9
Incr Delay (d2), s/veh	9.0	0.4	0.5	24.4	0.2	0.6	199.5	4.0	13.1	77.7	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.7	2.7	2.3	2.1	2.9	7.4	20.1	26.4	5.1	2.6	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	53.2	53.6	87.2	51.2	52.9	262.4	22.8	34.2	139.9	10.1	10.4
LnGrp LOS	E	D	D	F	D	D	F	C	C	F	B	B
Approach Vol, veh/h		213			273			2866			796	
Approach Delay, s/veh		57.1			66.3			35.8			25.2	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	89.0	9.7	21.7	10.6	90.0	8.2	23.2
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	7.2	60.9	5.3	39.4	6.2	* 62	7.6	37.1
Max Q Clear Time (g_c+I1), s	9.8	68.0	6.2	8.6	8.2	9.6	4.9	9.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	6.6	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

LT AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	1273	19	9	730	46	44	4	25	63	2	79
Future Volume (veh/h)	138	1273	19	9	730	46	44	4	25	63	2	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	150	1384	21	10	793	50	48	4	27	68	2	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	2225	34	18	1775	112	159	30	45	311	4	183
Arrive On Green	0.11	0.62	0.62	0.01	0.52	0.52	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3583	54	1781	3395	214	483	254	382	1378	36	1554
Grp Volume(v), veh/h	150	686	719	10	415	428	79	0	0	68	0	88
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	1832	1119	0	0	1378	0	1591
Q Serve(g_s), s	4.7	13.6	13.6	0.3	8.3	8.3	1.5	0.0	0.0	0.0	0.0	2.9
Cycle Q Clear(g_c), s	4.7	13.6	13.6	0.3	8.3	8.3	4.5	0.0	0.0	2.2	0.0	2.9
Prop In Lane	1.00		0.03	1.00		0.12	0.61		0.34	1.00		0.98
Lane Grp Cap(c), veh/h	193	1103	1155	18	929	958	234	0	0	311	0	188
V/C Ratio(X)	0.78	0.62	0.62	0.55	0.45	0.45	0.34	0.00	0.00	0.22	0.00	0.47
Avail Cap(c_a), veh/h	519	2027	2122	238	1749	1803	888	0	0	949	0	924
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.7	6.7	6.7	28.1	8.5	8.5	24.1	0.0	0.0	23.1	0.0	23.5
Incr Delay (d2), s/veh	2.6	0.7	0.7	9.1	0.6	0.5	0.3	0.0	0.0	0.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.7	3.9	0.2	2.7	2.7	1.0	0.0	0.0	0.8	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	7.4	7.4	37.2	9.0	9.0	24.4	0.0	0.0	23.2	0.0	24.1
LnGrp LOS	C	A	A	D	A	A	C	A	A	C	A	C
Approach Vol, veh/h		1555			853			79			156	
Approach Delay, s/veh		9.3			9.3			24.4			23.8	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	5.0	40.4	11.6	10.6	34.8	11.6
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	7.6	65.0	33.1	16.6	* 56	33.1
Max Q Clear Time (g_c+I1), s	2.3	15.6	4.9	6.7	10.3	6.5
Green Ext Time (p_c), s	0.0	19.8	0.4	0.1	11.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	280	120	213	410	520	170	768	145	630	1305	70
Future Volume (veh/h)	50	280	120	213	410	520	170	768	145	630	1305	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.91	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	301	129	229	441	559	183	826	156	677	1403	75
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	576	238	157	517	421	170	1315	246	734	2107	113
Arrive On Green	0.04	0.24	0.24	0.09	0.29	0.29	0.10	0.31	0.31	0.21	0.43	0.43
Sat Flow, veh/h	1781	2378	983	1781	1777	1447	1781	4255	795	3456	4947	264
Grp Volume(v), veh/h	54	222	208	229	441	559	183	659	323	677	965	513
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1447	1781	1702	1647	1728	1702	1807
Q Serve(g_s), s	4.0	14.3	15.1	11.6	30.9	38.4	12.6	21.9	22.3	25.3	30.0	30.0
Cycle Q Clear(g_c), s	4.0	14.3	15.1	11.6	30.9	38.4	12.6	21.9	22.3	25.3	30.0	30.0
Prop In Lane	1.00		0.62	1.00		1.00	1.00		0.48	1.00		0.15
Lane Grp Cap(c), veh/h	69	430	384	157	517	421	170	1052	509	734	1450	770
V/C Ratio(X)	0.78	0.52	0.54	1.46	0.85	1.33	1.08	0.63	0.63	0.92	0.67	0.67
Avail Cap(c_a), veh/h	116	458	408	157	517	421	170	1052	509	827	1450	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.9	43.3	43.6	60.2	44.1	46.8	59.7	39.1	39.2	50.9	30.4	30.4
Incr Delay (d2), s/veh	6.8	0.4	0.5	239.9	12.4	163.0	84.6	2.4	5.0	13.8	2.4	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.4	6.0	15.7	15.3	32.8	9.7	9.5	9.7	12.4	12.7	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.6	43.7	44.2	300.1	56.5	209.8	144.3	41.4	44.2	64.7	32.8	34.9
LnGrp LOS	E	D	D	F	E	F	F	D	D	E	C	C
Approach Vol, veh/h		484			1229			1165			2155	
Approach Delay, s/veh		46.8			171.6			58.4			43.3	
Approach LOS		D			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.5	46.5	16.0	37.1	17.0	61.9	9.6	43.5
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	31.6	35.4	11.6	* 34	12.6	54.4	8.6	36.8
Max Q Clear Time (g_c+I1), s	27.3	24.3	13.6	17.1	14.6	32.0	6.0	40.4
Green Ext Time (p_c), s	0.7	6.4	0.0	1.6	0.0	15.2	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay	78.5		
HCM 6th LOS	E		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2633	950	0	1628	1450	0	0	0	841	0	760
Future Volume (vph)	0	2633	950	0	1628	1450	0	0	0	841	0	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1533				3433		2733
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1533				3433		2733
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2687	969	0	1661	1480	0	0	0	858	0	776
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	9
Lane Group Flow (vph)	0	2687	969	0	1661	1480	0	0	0	858	0	767
Confl. Peds. (#/hr)	16		10	10		16	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free					Prot	custom
Protected Phases		2			6						4	5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		52.1	138.0		41.9	138.0					75.6	81.6
Effective Green, g (s)		52.1	138.0		41.9	138.0					75.6	81.6
Actuated g/C Ratio		0.38	1.00		0.30	1.00					0.55	0.59
Clearance Time (s)		5.7			5.7						4.6	4.2
Vehicle Extension (s)		2.0			2.0						2.0	2.0
Lane Grp Cap (vph)		2419	1538		1543	1533					1880	1616
v/s Ratio Prot		c0.42			0.33						0.25	0.02
v/s Ratio Perm			0.63			c0.97						0.26
v/c Ratio		1.11	0.63		1.08	0.97					0.46	0.47
Uniform Delay, d1		42.9	0.0		48.0	0.0					18.8	16.0
Progression Factor		1.00	1.00		0.97	1.00					1.00	1.00
Incremental Delay, d2		56.4	2.0		39.9	8.3					0.8	0.1
Delay (s)		99.4	2.0		86.5	8.3					19.6	16.1
Level of Service		F	A		F	A					B	B
Approach Delay (s)		73.6			49.7			0.0			17.9	
Approach LOS		E			D			A			B	

Intersection Summary					
HCM 2000 Control Delay	53.9	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	1.11				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	70.7%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: I-5 NB Off Ramp & La Jolla Village Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1914	1560	0	2708	753	360	0	490	0	0	0
Future Volume (vph)	0	1914	1560	0	2708	753	360	0	490	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.98			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2734			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2734			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1973	1608	0	2792	776	371	0	505	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	11	0	0	0
Lane Group Flow (vph)	0	1973	1608	0	2792	776	371	0	494	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		60.0	138.0		76.0	138.0	51.7		63.5			
Effective Green, g (s)		60.0	138.0		76.0	138.0	51.7		63.5			
Actuated g/C Ratio		0.43	1.00		0.55	1.00	0.37		0.46			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2210	1538		2800	1538	1286		1258			
v/s Ratio Prot		0.39			0.55		0.11		0.03			
v/s Ratio Perm			c1.05			0.50			0.15			
v/c Ratio		0.89	1.05		1.00	0.50	0.29		0.39			
Uniform Delay, d1		36.0	69.0		30.9	0.0	30.3		24.5			
Progression Factor		0.59	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		2.2	27.3		16.4	1.2	0.6		0.9			
Delay (s)		23.6	96.3		47.2	1.2	30.8		25.5			
Level of Service		C	F		D	A	C		C			
Approach Delay (s)		56.2			37.2			27.7			0.0	
Approach LOS		E			D			C			A	

Intersection Summary				
HCM 2000 Control Delay	44.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.17			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	71.2%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
4: Lebon Drive & La Jolla Village Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2334	340	350	2861	8	590	10	160	18	10	10
Future Volume (veh/h)	20	2334	340	350	2861	8	590	10	160	18	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	2457	358	368	3012	8	621	0	175	19	11	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	2388	1123	422	3019	8	902	0	771	28	16	29
Arrive On Green	0.02	0.47	0.47	0.12	0.57	0.57	0.25	0.00	0.25	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1544	3456	5257	14	3563	0	3046	1148	665	1194
Grp Volume(v), veh/h	21	2457	358	368	1949	1071	621	0	175	30	0	11
Grp Sat Flow(s),veh/h/ln	1781	1702	1544	1728	1702	1867	1781	0	1523	1813	0	1194
Q Serve(g_s), s	1.8	70.2	12.6	15.7	85.6	85.9	23.6	0.0	6.8	2.5	0.0	1.4
Cycle Q Clear(g_c), s	1.8	70.2	12.6	15.7	85.6	85.9	23.6	0.0	6.8	2.5	0.0	1.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.63		1.00
Lane Grp Cap(c), veh/h	28	2388	1123	422	1955	1072	902	0	771	44	0	29
V/C Ratio(X)	0.76	1.03	0.32	0.87	1.00	1.00	0.69	0.00	0.23	0.68	0.00	0.38
Avail Cap(c_a), veh/h	447	2388	1123	728	1955	1072	1451	0	1241	50	0	33
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.51	0.51	0.51	0.09	0.09	0.09	0.86	0.00	0.86	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.6	39.9	7.6	64.7	31.8	31.9	50.7	0.0	44.4	72.6	0.0	72.1
Incr Delay (d2), s/veh	7.8	21.3	0.4	0.2	5.5	8.0	3.7	0.0	0.6	20.7	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	33.6	9.1	6.9	35.4	39.7	11.1	0.0	2.7	1.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.3	61.2	8.0	64.9	37.3	39.9	54.4	0.0	45.0	93.3	0.0	75.0
LnGrp LOS	F	F	A	E	D	D	D	A	D	F	A	E
Approach Vol, veh/h		2836			3388			796			41	
Approach Delay, s/veh		54.7			41.1			52.3			88.4	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.7	75.9		8.6	6.7	91.8		42.9				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	31.6	* 34		4.1	37.6	27.3		61.1				
Max Q Clear Time (g_c+I1), s	17.3	72.2		4.5	3.8	87.9		25.6				
Green Ext Time (p_c), s	0.6	0.0		0.0	0.0	0.0		12.3				

Intersection Summary			
HCM 6th Ctrl Delay	48.1		
HCM 6th LOS	D		

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
5: Regents Road & La Jolla Village Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	1852	140	538	2129	123	320	280	198	321	960	1110
Future Volume (veh/h)	510	1852	140	538	2129	123	320	280	198	321	960	1110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.89	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	531	1929	146	560	2218	128	333	292	206	334	1000	1156
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	583	1939	146	405	1725	99	221	964	383	340	1414	581
Arrive On Green	0.17	0.40	0.40	0.04	0.12	0.12	0.02	0.09	0.09	0.19	0.40	0.40
Sat Flow, veh/h	3456	4830	364	3456	4929	282	3456	3554	1411	1781	3554	1460
Grp Volume(v), veh/h	531	1356	719	560	1526	820	333	292	206	334	1000	1156
Grp Sat Flow(s),veh/h/ln	1728	1702	1790	1728	1702	1807	1728	1777	1411	1781	1777	1460
Q Serve(g_s), s	22.6	59.5	60.2	17.6	52.5	52.5	9.6	11.5	21.0	28.0	35.4	59.7
Cycle Q Clear(g_c), s	22.6	59.5	60.2	17.6	52.5	52.5	9.6	11.5	21.0	28.0	35.4	59.7
Prop In Lane	1.00		0.20	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	1366	718	405	1191	632	221	964	383	340	1414	581
V/C Ratio(X)	0.91	0.99	1.00	1.38	1.28	1.30	1.51	0.30	0.54	0.98	0.71	1.99
Avail Cap(c_a), veh/h	705	1366	718	405	1191	632	221	964	383	340	1414	581
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	44.7	44.9	72.1	66.3	66.3	73.4	55.0	59.3	60.5	37.8	45.2
Incr Delay (d2), s/veh	1.5	5.8	10.2	186.3	132.9	145.1	246.1	0.2	1.5	44.1	1.8	451.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	26.0	28.5	18.7	46.2	51.2	12.0	5.6	8.2	16.8	15.8	94.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.7	50.5	55.1	258.4	199.2	211.4	319.6	55.2	60.8	104.6	39.6	496.7
LnGrp LOS	E	D	F	F	F	F	F	E	E	F	D	F
Approach Vol, veh/h		2606			2906			831			2490	
Approach Delay, s/veh		54.3			214.0			162.5			260.5	
Approach LOS		D			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	66.1	14.0	65.4	29.7	58.4	33.0	46.4
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	17.6	* 44	9.6	* 60	30.6	30.6	28.6	40.3
Max Q Clear Time (g_c+I1), s	13.6	62.2	11.6	61.7	24.6	54.5	30.0	23.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.7	0.0	0.0	3.1

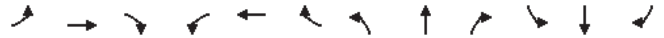
Intersection Summary		
HCM 6th Ctrl Delay		175.2
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Unsignalized Intersection Capacity Analysis
6: Costa Verde Blvd & La Jolla Village Drive

LT PM
10/03/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2088	293	0	2480	80	0	0	117	0	0	280
Future Volume (Veh/h)	0	2088	293	0	2480	80	0	0	117	0	0	280
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2270	318	0	2696	87	0	0	127	0	0	304
Pedestrians		10			10			10			18	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.66			0.72			0.80	0.80	0.72	0.80	0.80	0.66
vC, conflicting volume	2801			2598			3652	5240	936	3651	5356	970
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1919			1862			1075	3066	0	1075	3211	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	83	100	100	56
cM capacity (veh/h)	197			229			76	9	769	111	8	697

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	908	908	772	1078	1078	626	127	304
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	318	0	0	87	127	304
cSH	1700	1700	1700	1700	1700	1700	769	697
Volume to Capacity	0.53	0.53	0.45	0.63	0.63	0.37	0.17	0.44
Queue Length 95th (ft)	0	0	0	0	0	0	15	55
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.6	14.1
Lane LOS							B	B
Approach Delay (s)	0.0			0.0			10.6	14.1
Approach LOS							B	B

Intersection Summary				
Average Delay		1.0		
Intersection Capacity Utilization		74.8%	ICU Level of Service	D
Analysis Period (min)		15		

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	217	1460	518	637	1720	220	363	449	285	660	1384	480
Future Volume (veh/h)	217	1460	518	637	1720	220	363	449	285	660	1384	480
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	231	1553	551	678	1830	234	386	478	303	702	1472	511
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	2219	661	544	2621	1121	359	899	258	733	1450	427
Arrive On Green	0.16	0.87	0.87	0.05	0.17	0.17	0.03	0.06	0.06	0.21	0.28	0.28
Sat Flow, veh/h	3456	5106	1522	3456	5106	1529	3456	5106	1466	3456	5106	1503
Grp Volume(v), veh/h	231	1553	551	678	1830	234	386	478	303	702	1472	511
Grp Sat Flow(s),veh/h/ln	1728	1702	1522	1728	1702	1529	1728	1702	1466	1728	1702	1503
Q Serve(g_s), s	9.8	15.2	25.7	23.6	50.6	11.3	15.6	13.6	26.4	30.1	42.6	42.6
Cycle Q Clear(g_c), s	9.8	15.2	25.7	23.6	50.6	11.3	15.6	13.6	26.4	30.1	42.6	42.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	2219	661	544	2621	1121	359	899	258	733	1450	427
V/C Ratio(X)	0.85	0.70	0.83	1.25	0.70	0.21	1.07	0.53	1.17	0.96	1.02	1.20
Avail Cap(c_a), veh/h	290	2219	661	544	2621	1121	359	899	258	733	1450	427
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.81	0.81	0.81	0.49	0.49	0.49
Uniform Delay (d), s/veh	62.3	6.5	7.2	71.1	51.3	12.3	72.4	64.6	70.6	58.4	53.7	53.7
Incr Delay (d2), s/veh	18.4	1.9	11.7	112.6	0.1	0.0	64.0	0.6	106.6	14.4	20.4	99.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	3.0	5.1	19.6	23.3	4.6	10.5	6.3	18.1	14.6	20.9	27.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.8	8.4	19.0	183.7	51.5	12.4	136.4	65.2	177.2	72.9	74.1	153.4
LnGrp LOS	F	A	B	F	D	B	F	E	F	E	F	F
Approach Vol, veh/h		2335			2742			1167			2685	
Approach Delay, s/veh		18.1			80.9			117.8			88.9	
Approach LOS		B			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	71.2	20.0	48.3	16.2	83.0	36.2	32.1
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	23.6	* 49	15.6	* 43	12.6	59.5	31.8	26.1
Max Q Clear Time (g_c+I1), s	25.6	27.7	17.6	44.6	11.8	52.6	32.1	28.4
Green Ext Time (p_c), s	0.0	19.8	0.0	0.0	0.0	6.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	71.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	2045	260	400	2297	120	220	90	370	420	140	280
Future Volume (veh/h)	100	2045	260	400	2297	120	220	90	370	420	140	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.92	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	2464	313	482	2767	145	186	218	446	337	405	337
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	1713	517	267	1811	93	424	445	690	391	410	335
Arrive On Green	0.06	0.45	0.45	0.05	0.24	0.24	0.24	0.24	0.24	0.22	0.22	0.22
Sat Flow, veh/h	1781	5106	1542	3456	4964	255	1781	1870	2902	1781	1870	1529
Grp Volume(v), veh/h	120	2464	313	482	1880	1032	186	218	446	337	405	337
Grp Sat Flow(s),veh/h/ln	1781	1702	1542	1728	1702	1815	1781	1870	1451	1781	1870	1529
Q Serve(g_s), s	7.2	50.3	23.1	11.6	54.7	54.7	13.3	15.1	20.8	27.3	32.4	32.9
Cycle Q Clear(g_c), s	7.2	50.3	23.1	11.6	54.7	54.7	13.3	15.1	20.8	27.3	32.4	32.9
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	1713	517	267	1242	662	424	445	690	391	410	335
V/C Ratio(X)	1.40	1.44	0.61	1.80	1.51	1.56	0.44	0.49	0.65	0.86	0.99	1.00
Avail Cap(c_a), veh/h	86	1713	517	267	1242	662	487	511	793	391	410	335
HCM Platoon Ratio	1.33	1.33	1.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.28	0.28	0.28	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.2	41.5	34.0	71.1	56.7	56.7	48.6	49.3	51.5	56.4	58.3	58.6
Incr Delay (d2), s/veh	200.2	198.4	1.5	363.0	231.6	252.3	0.3	0.3	0.9	20.7	41.3	50.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	51.3	8.5	18.8	64.2	72.3	6.0	7.2	7.7	14.6	20.0	17.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	270.4	240.0	35.5	434.1	288.3	309.0	48.9	49.6	52.4	77.0	99.6	108.9
LnGrp LOS	F	F	D	F	F	F	D	D	D	E	F	F
Approach Vol, veh/h		2897			3394			850			1079	
Approach Delay, s/veh		219.1			315.3			50.9			95.5	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	55.6		37.8	11.6	60.0		40.6
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9
Max Green Setting (Gmax), s	11.6	45.0		32.9	7.2	49.4		41.0
Max Q Clear Time (g_c+I1), s	13.3	52.3		34.9	9.2	56.7		22.8
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		2.2

Intersection Summary	
HCM 6th Ctrl Delay	225.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

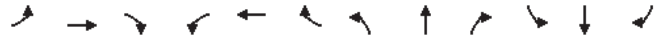
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	2450	118	400	2093	500	228	220	550	1350	560	496
Future Volume (veh/h)	267	2450	118	400	2093	500	228	220	550	1350	560	496
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	314	2882	139	471	2462	588	268	259	647	1588	659	584
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	2087	631	187	2121	1109	304	869	811	705	1282	557
Arrive On Green	0.07	0.54	0.54	0.05	0.42	0.42	0.09	0.24	0.24	0.20	0.36	0.36
Sat Flow, veh/h	3456	5106	1544	3456	5106	2670	3456	3554	2698	3456	3554	1543
Grp Volume(v), veh/h	314	2882	139	471	2462	588	268	259	647	1588	659	584
Grp Sat Flow(s),veh/h/ln	1728	1702	1544	1728	1702	1335	1728	1777	1349	1728	1777	1543
Q Serve(g_s), s	7.6	61.3	7.0	8.1	62.3	24.8	11.5	8.9	33.2	30.6	21.8	54.1
Cycle Q Clear(g_c), s	7.6	61.3	7.0	8.1	62.3	24.8	11.5	8.9	33.2	30.6	21.8	54.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	2087	631	187	2121	1109	304	869	811	705	1282	557
V/C Ratio(X)	1.79	1.38	0.22	2.52	1.16	0.53	0.88	0.30	0.80	2.25	0.51	1.05
Avail Cap(c_a), veh/h	175	2087	631	187	2121	1109	304	877	816	705	1282	557
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.21	0.21	0.21	0.71	0.71	0.71	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.9	34.2	21.8	70.9	43.9	32.9	67.6	46.2	48.5	59.7	37.6	47.9
Incr Delay (d2), s/veh	359.1	171.8	0.1	689.1	73.7	0.4	18.2	0.3	4.7	568.2	0.6	51.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	56.3	2.5	21.5	40.4	8.2	5.9	4.0	11.7	69.0	9.7	28.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	429.0	206.0	21.9	760.1	117.5	33.3	85.8	46.5	53.2	627.9	38.2	99.6
LnGrp LOS	F	F	C	F	F	C	F	D	D	F	D	F
Approach Vol, veh/h		3335			3521			1174			2831	
Approach Delay, s/veh		219.4			189.4			59.2			381.7	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	67.0	17.6	59.4	12.0	68.0	35.0	42.0
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	8.1	54.5	13.2	54.1	7.6	* 56	30.6	* 37
Max Q Clear Time (g_c+I1), s	10.1	63.3	13.5	56.1	9.6	64.3	32.6	35.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3

Intersection Summary		
HCM 6th Ctrl Delay	234.6	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2813	1537	0	2316	1010	0	0	0	240	0	677
Future Volume (vph)	0	2813	1537	0	2316	1010	0	0	0	240	0	677
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1545				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1545				3433		2787
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	3233	1767	0	2662	1161	0	0	0	276	0	778
RTOR Reduction (vph)	0	0	0	0	0	185	0	0	0	0	0	22
Lane Group Flow (vph)	0	3233	1767	0	2662	976	0	0	0	276	0	756
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov					Prot		custom
Protected Phases		2			6	4					4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		80.8	138.0		70.5	114.6					44.1		55.3
Effective Green, g (s)		80.8	138.0		70.5	114.6					44.1		55.3
Actuated g/C Ratio		0.59	1.00		0.51	0.83					0.32		0.40
Clearance Time (s)		7.5			7.5	5.6					5.6		
Vehicle Extension (s)		2.0			2.0	2.0					2.0		
Lane Grp Cap (vph)		2977	2707		2597	1283					1097		1116
v/s Ratio Prot		c0.64			0.52	c0.24					0.08		0.27
v/s Ratio Perm			0.65			0.39						
v/c Ratio		1.09	0.65		1.03	0.76					0.25		0.68
Uniform Delay, d1		28.6	0.0		33.8	5.4					34.7		34.0
Progression Factor		1.00	1.00		0.56	63.54					1.00		1.00
Incremental Delay, d2		45.2	1.2		16.7	0.7					0.0		1.3
Delay (s)		73.8	1.2		35.6	343.0					34.8		35.3
Level of Service		E	A		D	F					C		D
Approach Delay (s)		48.2			128.9			0.0			35.2	
Approach LOS		D			F			A			D	

Intersection Summary					
HCM 2000 Control Delay	78.0	HCM 2000 Level of Service		E	
HCM 2000 Volume to Capacity ratio	1.01				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		17.8	
Intersection Capacity Utilization	80.4%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: I-805 NB Ramps & Miramar Road

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1413	1640	0	2550	1110	776	0	320	0	0	0
Future Volume (vph)	0	1413	1640	0	2550	1110	776	0	320	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1564		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1564		6408	1538	3433		2787			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	1606	1864	0	2898	1261	882	0	364	0	0	0
RTOR Reduction (vph)	0	0	181	0	0	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	1606	1683	0	2898	1261	882	0	347	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		45.7	115.1		55.5	138.0	69.4		80.1			
Effective Green, g (s)		45.7	115.1		55.5	138.0	69.4		74.5			
Actuated g/C Ratio		0.33	0.83		0.40	1.00	0.50		0.54			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		1683	1304		2577	1538	1726		1504			
v/s Ratio Prot		0.32	c0.65		c0.45		0.26		0.12			
v/s Ratio Perm			0.43			0.82						
v/c Ratio		0.95	1.29		1.12	0.82	0.51		0.23			
Uniform Delay, d1		45.1	11.5		41.2	0.0	22.9		16.7			
Progression Factor		1.37	9.43		1.00	1.00	1.00		1.00			
Incremental Delay, d2		1.8	131.3		61.8	5.0	0.1		0.0			
Delay (s)		63.6	239.3		103.0	5.0	23.1		16.7			
Level of Service		E	F		F	A	C		B			
Approach Delay (s)		158.0			73.3			21.2			0.0	
Approach LOS		F			E			C			A	

Intersection Summary				
HCM 2000 Control Delay	99.1	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.30			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	107.2%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
12: Costa Verde Blvd & Costa Verde Shopping Center Entrance (North)

LT PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	90	27	90	110	93	200
Future Volume (Veh/h)	90	27	90	110	93	200
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	106	32	106	129	109	235
Pedestrians	11		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	648	138			246	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	648	138			246	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	96			92	
cM capacity (veh/h)	362	869			1305	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	106	32	71	164	344
Volume Left	106	0	0	0	109
Volume Right	0	32	0	129	0
cSH	362	869	1700	1700	1305
Volume to Capacity	0.29	0.04	0.04	0.10	0.08
Queue Length 95th (ft)	30	3	0	0	7
Control Delay (s)	19.0	9.3	0.0	0.0	3.1
Lane LOS	C	A			A
Approach Delay (s)	16.7		0.0		3.1
Approach LOS	C				

Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	41.7%	ICU Level of Service	A	
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
13: Costa Verde Blvd & Costa Verde Shopping Center Entrance (South)

LT PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	233	90	310	208	90	310
Future Volume (Veh/h)	233	90	310	208	90	310
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	248	96	330	221	96	330
Pedestrians	16		10			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	824	302			567	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	824	302			567	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	10	86			90	
cM capacity (veh/h)	275	680			988	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	344	220	331	206	220
Volume Left	248	0	0	96	0
Volume Right	96	0	221	0	0
cSH	330	1700	1700	988	1700
Volume to Capacity	1.04	0.13	0.19	0.10	0.13
Queue Length 95th (ft)	307	0	0	8	0
Control Delay (s)	97.7	0.0	0.0	4.7	0.0
Lane LOS	F			A	
Approach Delay (s)	97.7	0.0		2.3	
Approach LOS	F				

Intersection Summary				
Average Delay		26.2		
Intersection Capacity Utilization		55.8%	ICU Level of Service	B
Analysis Period (min)		15		

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	95	180	330	123	260	243	680	330	420	1775	454
Future Volume (veh/h)	197	95	180	330	123	260	243	680	330	420	1775	454
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.75	1.00		0.87	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	154	175	189	347	238	202	256	716	347	442	1868	478
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	226	144	853	448	330	197	1368	619	357	1595	392
Arrive On Green	0.12	0.12	0.12	0.24	0.24	0.24	0.04	0.13	0.13	0.10	0.39	0.39
Sat Flow, veh/h	1781	1870	1196	3563	1870	1377	1781	3404	1539	3456	4042	993
Grp Volume(v), veh/h	154	175	189	347	238	202	256	716	347	442	1561	785
Grp Sat Flow(s),veh/h/ln	1781	1870	1196	1781	1870	1377	1781	1702	1539	1728	1702	1631
Q Serve(g_s), s	12.5	13.6	18.1	12.3	16.6	19.6	16.6	29.4	31.7	15.5	59.2	59.2
Cycle Q Clear(g_c), s	12.5	13.6	18.1	12.3	16.6	19.6	16.6	29.4	31.7	15.5	59.2	59.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	215	226	144	853	448	330	197	1368	619	357	1343	644
V/C Ratio(X)	0.72	0.78	1.31	0.41	0.53	0.61	1.30	0.52	0.56	1.24	1.16	1.22
Avail Cap(c_a), veh/h	215	226	144	929	488	359	197	1368	619	357	1343	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	63.5	64.0	65.9	48.1	49.7	50.8	72.3	51.7	52.7	67.3	45.4	45.4
Incr Delay (d2), s/veh	9.4	14.2	179.9	0.1	0.4	1.7	166.4	1.4	3.7	109.3	73.8	100.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	7.4	12.8	5.5	7.9	7.0	17.1	13.8	13.8	12.3	38.6	41.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.9	78.1	245.9	48.2	50.1	52.5	238.7	53.1	56.3	176.6	119.2	145.7
LnGrp LOS	E	E	F	D	D	D	F	D	E	F	F	F
Approach Vol, veh/h		518			787			1319			2788	
Approach Delay, s/veh		137.8			49.9			90.0			135.8	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.9	66.3		23.0	21.0	65.2		40.8				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	15.5	57.1		18.1	16.6	* 56		39.1				
Max Q Clear Time (g_c+I1), s	17.5	33.7		20.1	18.6	61.2		21.6				
Green Ext Time (p_c), s	0.0	10.0		0.0	0.0	0.0		1.9				

Intersection Summary			
HCM 6th Ctrl Delay		112.3	
HCM 6th LOS		F	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	103	0	1133	2180	85
Future Volume (Veh/h)	0	103	0	1133	2180	85
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	106	0	1168	2247	88
Pedestrians	33			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	3			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.69	0.64	0.64			
vC, conflicting volume	2723	836	2368			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	860	0	1146			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	84	100			
cM capacity (veh/h)	196	665	374			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	106	389	389	389	899	899	537
Volume Left	0	0	0	0	0	0	0
Volume Right	106	0	0	0	0	0	88
cSH	665	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.16	0.23	0.23	0.23	0.53	0.53	0.32
Queue Length 95th (ft)	14	0	0	0	0	0	0
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.4	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay		0.3		
Intersection Capacity Utilization	59.9%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1145	510	1045	1825	0	0
Future Volume (veh/h)	1145	510	1045	1825	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.89	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1231	548	1124	1962		
Peak Hour Factor	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1613	655	1152	3756		
Arrive On Green	0.68	0.68	0.67	1.00		
Sat Flow, veh/h	2460	961	3456	3647		
Grp Volume(v), veh/h	895	884	1124	1962		
Grp Sat Flow(s),veh/h/ln	1777	1551	1728	1777		
Q Serve(g_s), s	32.3	42.2	31.0	0.0		
Cycle Q Clear(g_c), s	32.3	42.2	31.0	0.0		
Prop In Lane		0.62	1.00			
Lane Grp Cap(c), veh/h	1211	1057	1152	3756		
V/C Ratio(X)	0.74	0.84	0.98	0.52		
Avail Cap(c_a), veh/h	1211	1057	1168	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.28	0.28		
Uniform Delay (d), s/veh	10.2	11.8	16.3	0.0		
Incr Delay (d2), s/veh	4.1	7.9	9.0	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.1	14.6	7.0	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.3	19.7	25.3	0.1		
LnGrp LOS	B	B	C	A		
Approach Vol, veh/h	1779			3086		
Approach Delay, s/veh	17.0			9.3		
Approach LOS	B			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	37.5	73.0				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 34	57.5				* 96
Max Q Clear Time (g_c+I1), s	33.0	44.2				2.0
Green Ext Time (p_c), s	0.3	12.7				20.3

Intersection Summary		
HCM 6th Ctrl Delay	12.1	
HCM 6th LOS	B	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1145	0	0	2000	20	480	120	483	0	0	390
Future Volume (vph)	0	1145	0	0	2000	20	480	120	483	0	0	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.92			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.97	1.00			1.00
Satd. Flow (prot)		3539			6390		1681	1718	1459			1611
Flt Permitted		1.00			1.00		0.95	0.97	1.00			1.00
Satd. Flow (perm)		3539			6390		1681	1718	1459			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1272	0	0	2222	22	533	133	537	0	0	433
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	45	0	0	58
Lane Group Flow (vph)	0	1272	0	0	2243	0	330	336	492	0	0	375
Confl. Peds. (#/hr)	35		85	85		35	51		57	57		51
Confl. Bikes (#/hr)			53			13			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		60.5			44.5		30.5	30.5	30.5			11.5
Effective Green, g (s)		60.5			44.5		30.5	30.5	30.5			11.5
Actuated g/C Ratio		0.60			0.44		0.30	0.30	0.30			0.12
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2141			2843		512	523	444			185
v/s Ratio Prot		0.36			c0.35		0.20	0.20				c0.23
v/s Ratio Perm									c0.34			
v/c Ratio		0.59			0.79		0.64	0.64	1.11			2.03
Uniform Delay, d1		12.2			23.7		30.1	30.0	34.8			44.2
Progression Factor		0.21			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.4			2.3		2.1	2.0	75.3			481.8
Delay (s)		3.0			26.0		32.1	32.1	110.1			526.0
Level of Service		A			C		C	C	F			F
Approach Delay (s)		3.0			26.0			66.9			526.0	
Approach LOS		A			C			E			F	

Intersection Summary				
HCM 2000 Control Delay	71.9	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	91.1%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	918	180	163	1160	138	170	260	131	178	340	230
Future Volume (veh/h)	130	918	180	163	1160	138	170	260	131	178	340	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.83	1.00		0.85	1.00		0.86	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	987	194	175	1247	148	183	280	141	191	366	247
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	1880	368	199	2325	276	232	841	324	242	851	414
Arrive On Green	0.05	0.46	0.46	0.07	0.34	0.34	0.07	0.24	0.24	0.02	0.08	0.08
Sat Flow, veh/h	3456	4126	807	1781	4531	538	3456	3554	1369	3456	3554	1371
Grp Volume(v), veh/h	140	813	368	175	937	458	183	280	141	191	366	247
Grp Sat Flow(s),veh/h/ln	1728	1702	1528	1781	1702	1664	1728	1777	1369	1728	1777	1371
Q Serve(g_s), s	6.0	25.6	25.9	14.6	33.2	33.2	7.8	9.8	13.1	8.2	14.7	24.6
Cycle Q Clear(g_c), s	6.0	25.6	25.9	14.6	33.2	33.2	7.8	9.8	13.1	8.2	14.7	24.6
Prop In Lane	1.00		0.53	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	1551	697	199	1747	854	232	841	324	242	851	414
V/C Ratio(X)	0.75	0.52	0.53	0.88	0.54	0.54	0.79	0.33	0.44	0.79	0.43	0.60
Avail Cap(c_a), veh/h	429	1551	697	304	1747	854	498	974	375	498	974	462
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.31	0.31	0.31	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	69.9	29.2	29.3	68.4	34.9	34.9	68.9	47.4	48.7	72.2	59.3	55.8
Incr Delay (d2), s/veh	2.2	1.3	2.9	4.2	0.4	0.8	2.3	1.1	4.2	1.8	0.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	10.8	10.1	7.1	14.7	14.5	3.6	4.5	4.9	3.9	7.2	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	30.5	32.1	72.6	35.2	35.6	71.2	48.5	52.9	74.0	60.1	59.0
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	E	E
Approach Vol, veh/h		1321			1570			604			804	
Approach Delay, s/veh		35.3			39.5			56.4			63.1	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	73.6	14.5	40.8	12.5	82.2	14.9	40.4
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	25.6	42.8	21.6	41.1	18.6	49.8	21.6	41.1
Max Q Clear Time (g_c+I1), s	10.6	27.9	9.8	26.6	8.0	35.2	10.2	15.1
Green Ext Time (p_c), s	0.2	9.8	0.2	5.8	0.2	10.8	0.3	6.5

Intersection Summary		
HCM 6th Ctrl Delay	45.0	
HCM 6th LOS	D	

HCM 6th Signalized Intersection Summary
19: Regents Road & Nobel Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	937	170	395	1111	150	90	190	210	370	660	380
Future Volume (veh/h)	220	937	170	395	1111	150	90	190	210	370	660	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.80	1.00		0.82	1.00		0.73	1.00		0.82
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	1018	185	429	1208	163	98	207	228	402	717	413
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1321	239	452	1301	478	119	817	279	421	1455	534
Arrive On Green	0.03	0.10	0.10	0.09	0.25	0.25	0.07	0.24	0.24	0.24	0.41	0.41
Sat Flow, veh/h	3456	4159	752	3456	3554	1305	1781	3404	1164	1781	3554	1303
Grp Volume(v), veh/h	239	832	371	429	1208	163	98	207	228	402	717	413
Grp Sat Flow(s),veh/h/ln	1728	1702	1508	1728	1777	1305	1781	1702	1164	1781	1777	1303
Q Serve(g_s), s	10.3	35.7	35.9	18.5	49.8	15.4	8.2	7.4	27.8	33.4	22.4	41.1
Cycle Q Clear(g_c), s	10.3	35.7	35.9	18.5	49.8	15.4	8.2	7.4	27.8	33.4	22.4	41.1
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	1081	479	452	1301	478	119	817	279	421	1455	534
V/C Ratio(X)	0.84	0.77	0.77	0.95	0.93	0.34	0.82	0.25	0.82	0.96	0.49	0.77
Avail Cap(c_a), veh/h	290	1081	479	452	1301	478	162	817	279	423	1455	534
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.35	0.35	0.35	1.00	1.00	1.00	0.19	0.19	0.19
Uniform Delay (d), s/veh	72.0	61.8	61.9	67.9	54.7	41.7	69.1	46.1	53.9	56.5	32.8	38.3
Incr Delay (d2), s/veh	15.6	4.5	9.9	14.6	5.4	0.7	16.3	0.5	20.2	10.5	0.2	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	17.1	16.0	9.4	24.1	5.3	4.3	3.2	9.7	16.2	9.8	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.5	66.3	71.8	82.6	60.1	42.4	85.4	46.6	74.0	67.0	33.0	40.3
LnGrp LOS	F	E	E	F	E	D	F	D	E	E	C	D
Approach Vol, veh/h		1442			1800			533			1532	
Approach Delay, s/veh		71.2			63.8			65.5			43.9	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	41.5	24.0	53.6	14.4	66.9	16.7	60.9
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	5.6	* 36	19.6	39.1	13.6	57.7	12.6	* 47
Max Q Clear Time (g_c+I1), s	5.4	29.8	20.5	37.9	10.2	43.1	12.3	51.8
Green Ext Time (p_c), s	0.0	2.6	0.0	1.0	0.0	11.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	60.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
20: Cargill Drive/Costa Verde Blvd & Nobel Drive

LT PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	972	240	220	1378	190	70	73	70	170	155	228
Future Volume (veh/h)	265	972	240	220	1378	190	70	73	70	170	155	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.93	1.00		0.91	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	282	1034	255	234	1466	202	74	78	74	181	165	243
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	1529	376	252	1598	220	93	195	185	203	191	282
Arrive On Green	0.06	0.13	0.13	0.28	0.71	0.71	0.05	0.23	0.23	0.11	0.29	0.29
Sat Flow, veh/h	1781	3956	974	1781	4487	617	1781	839	796	1781	650	958
Grp Volume(v), veh/h	282	889	400	234	1112	556	74	0	152	181	0	408
Grp Sat Flow(s),veh/h/ln	1781	1702	1526	1781	1702	1700	1781	0	1634	1781	0	1608
Q Serve(g_s), s	23.6	37.4	37.5	19.2	40.7	40.9	6.2	0.0	11.8	15.0	0.0	36.0
Cycle Q Clear(g_c), s	23.6	37.4	37.5	19.2	40.7	40.9	6.2	0.0	11.8	15.0	0.0	36.0
Prop In Lane	1.00		0.64	1.00		0.36	1.00		0.49	1.00		0.60
Lane Grp Cap(c), veh/h	306	1315	590	252	1212	605	93	0	379	203	0	473
V/C Ratio(X)	0.92	0.68	0.68	0.93	0.92	0.92	0.80	0.00	0.40	0.89	0.00	0.86
Avail Cap(c_a), veh/h	340	1315	590	268	1212	605	126	0	404	245	0	505
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.39	0.39	0.39	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.7	56.5	56.5	53.0	19.8	19.8	70.3	0.0	48.8	65.5	0.0	50.1
Incr Delay (d2), s/veh	13.4	1.1	2.5	34.3	12.4	21.3	15.9	0.0	0.3	25.0	0.0	12.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	17.4	15.9	10.0	12.0	13.6	3.2	0.0	4.9	8.3	0.0	16.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.1	57.6	59.0	87.4	32.1	41.1	86.2	0.0	49.0	90.5	0.0	62.9
LnGrp LOS	F	E	E	F	C	D	F	A	D	F	A	E
Approach Vol, veh/h		1571			1902			226			589	
Approach Delay, s/veh		62.5			41.5			61.2			71.4	
Approach LOS		E			D			E			E	

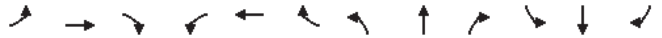
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.6	63.2	12.2	49.0	30.2	58.6	21.5	39.7
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	22.6	50.8	10.6	47.1	28.6	44.8	20.6	37.1
Max Q Clear Time (g_c+I1), s	21.3	39.5	8.2	38.0	25.6	42.9	17.0	13.8
Green Ext Time (p_c), s	0.1	8.4	0.0	1.3	0.1	1.8	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1352	1702	155	0	76
Future Volume (Veh/h)	0	1352	1702	155	0	76
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	1394	1755	160	0	78
Pedestrians		10	10		37	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.72				0.82	0.72
vC, conflicting volume	1952				2347	712
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	960				248	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	90
cM capacity (veh/h)	497				565	750

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	465	465	465	702	702	511	78
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	160	78
cSH	1700	1700	1700	1700	1700	1700	750
Volume to Capacity	0.27	0.27	0.27	0.41	0.41	0.30	0.10
Queue Length 95th (ft)	0	0	0	0	0	0	9
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.4
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.4
Approach LOS							B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		51.2%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	322	680	280	560	1187	153	398	658	150	295	1766	272
Future Volume (veh/h)	322	680	280	560	1187	153	398	658	150	295	1766	272
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	329	694	286	571	1211	156	406	671	153	301	1802	278
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	874	373	567	1111	478	447	1575	684	207	1909	575
Arrive On Green	0.03	0.08	0.08	0.16	0.31	0.31	0.13	0.44	0.44	0.12	0.75	0.75
Sat Flow, veh/h	3456	3554	1518	3456	3554	1528	3456	3554	1542	3456	5106	1538
Grp Volume(v), veh/h	329	694	286	571	1211	156	406	671	153	301	1802	278
Grp Sat Flow(s),veh/h/ln	1728	1777	1518	1728	1777	1528	1728	1777	1542	1728	1702	1538
Q Serve(g_s), s	14.3	28.8	27.7	24.6	46.9	11.7	17.4	19.4	9.2	9.0	45.4	10.7
Cycle Q Clear(g_c), s	14.3	28.8	27.7	24.6	46.9	11.7	17.4	19.4	9.2	9.0	45.4	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	336	874	373	567	1111	478	447	1575	684	207	1909	575
V/C Ratio(X)	0.98	0.79	0.77	1.01	1.09	0.33	0.91	0.43	0.22	1.45	0.94	0.48
Avail Cap(c_a), veh/h	336	879	375	567	1111	478	452	1575	684	207	1909	575
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.4	65.2	64.7	62.7	51.6	39.5	64.4	28.7	25.8	66.0	17.6	13.2
Incr Delay (d2), s/veh	42.9	5.3	9.7	39.7	54.9	0.4	21.3	0.8	0.8	228.1	11.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	14.5	12.4	13.9	29.3	4.5	9.0	8.6	3.6	10.3	11.6	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.3	70.5	74.4	102.4	106.5	39.9	85.7	29.5	26.6	294.1	28.6	16.1
LnGrp LOS	F	E	E	F	F	D	F	C	C	F	C	B
Approach Vol, veh/h		1309			1938			1230			2381	
Approach Delay, s/veh		82.6			99.9			47.7			60.7	
Approach LOS		F			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	72.6	29.0	42.0	23.8	62.2	19.0	52.0
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	9.0	* 60	24.6	* 37	19.6	49.1	14.6	46.9
Max Q Clear Time (g_c+I1), s	11.0	21.4	26.6	30.8	19.4	47.4	16.3	48.9
Green Ext Time (p_c), s	0.0	9.8	0.0	3.7	0.0	1.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	73.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	405	650	30	200	1017	80	20	40	40	100	250	743
Future Volume (veh/h)	405	650	30	200	1017	80	20	40	40	100	250	743
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.95	1.00		0.93	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	418	670	31	206	1048	82	21	41	41	103	258	766
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	891	41	235	1342	940	61	118	113	613	644	531
Arrive On Green	0.13	0.26	0.26	0.13	0.26	0.26	0.09	0.09	0.09	0.34	0.34	0.34
Sat Flow, veh/h	3456	3441	159	1781	5106	1498	701	1357	1299	1781	1870	1542
Grp Volume(v), veh/h	418	346	355	206	1048	82	55	0	48	103	258	766
Grp Sat Flow(s),veh/h/ln	1728	1777	1823	1781	1702	1498	1835	0	1522	1781	1870	1542
Q Serve(g_s), s	13.7	20.4	20.4	12.9	21.7	2.6	3.2	0.0	3.4	4.6	11.9	39.2
Cycle Q Clear(g_c), s	13.7	20.4	20.4	12.9	21.7	2.6	3.2	0.0	3.4	4.6	11.9	39.2
Prop In Lane	1.00		0.09	1.00		1.00	0.38		0.85	1.00		1.00
Lane Grp Cap(c), veh/h	443	460	472	235	1342	940	160	0	133	613	644	531
V/C Ratio(X)	0.94	0.75	0.75	0.88	0.78	0.09	0.34	0.00	0.36	0.17	0.40	1.44
Avail Cap(c_a), veh/h	443	460	472	307	1390	954	564	0	468	613	644	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.2	38.8	38.8	48.5	38.9	9.3	48.9	0.0	49.0	26.0	28.4	37.3
Incr Delay (d2), s/veh	28.5	7.9	7.8	16.5	2.9	0.0	0.5	0.0	0.6	0.2	0.6	209.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	9.8	10.1	6.8	9.3	1.8	1.5	0.0	1.3	2.0	5.4	45.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.8	46.7	46.6	65.0	41.8	9.3	49.4	0.0	49.6	26.2	29.0	246.9
LnGrp LOS	E	D	D	E	D	A	D	A	D	C	C	F
Approach Vol, veh/h		1119			1336			103			1127	
Approach Delay, s/veh		58.3			43.4			49.5			176.8	
Approach LOS		E			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	35.5		44.1	19.0	35.9		14.8
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	5.0	* 26		39.2	14.6	31.0		35.0
Max Q Clear Time (g_c+I1), s	5.4	22.4		41.2	15.7	23.7		5.4
Green Ext Time (p_c), s	0.1	2.1		0.0	0.0	4.4		0.4

Intersection Summary	
HCM 6th Ctrl Delay	88.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	682	50	100	1249	230	20	10	20	80	10	48
Future Volume (veh/h)	58	682	50	100	1249	230	20	10	20	80	10	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.91	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	696	51	102	1274	235	20	10	20	89	0	49
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	2282	166	132	2163	399	24	12	24	331	0	275
Arrive On Green	0.04	0.47	0.47	0.07	0.50	0.50	0.04	0.04	0.04	0.09	0.00	0.09
Sat Flow, veh/h	1781	4836	352	1781	4289	791	657	329	657	3563	0	2960
Grp Volume(v), veh/h	59	488	259	102	1011	498	50	0	0	89	0	49
Grp Sat Flow(s),veh/h/ln	1781	1702	1783	1781	1702	1676	1643	0	0	1781	0	1480
Q Serve(g_s), s	2.0	5.5	5.6	3.5	13.0	13.0	1.9	0.0	0.0	1.4	0.0	0.9
Cycle Q Clear(g_c), s	2.0	5.5	5.6	3.5	13.0	13.0	1.9	0.0	0.0	1.4	0.0	0.9
Prop In Lane	1.00		0.20	1.00		0.47	0.40		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	74	1606	842	132	1716	845	61	0	0	331	0	275
V/C Ratio(X)	0.79	0.30	0.31	0.77	0.59	0.59	0.82	0.00	0.00	0.27	0.00	0.18
Avail Cap(c_a), veh/h	218	1876	983	333	2090	1029	135	0	0	1671	0	1388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.5	10.1	10.1	28.2	10.8	10.8	29.7	0.0	0.0	26.2	0.0	26.0
Incr Delay (d2), s/veh	7.0	0.2	0.4	3.6	0.5	1.1	9.5	0.0	0.0	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.8	2.0	1.5	4.2	4.3	0.9	0.0	0.0	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	10.3	10.5	31.9	11.4	11.9	39.1	0.0	0.0	26.5	0.0	26.2
LnGrp LOS	D	B	B	C	B	B	D	A	A	C	A	C
Approach Vol, veh/h		806			1611			50			138	
Approach Delay, s/veh		12.3			12.8			39.1			26.4	
Approach LOS		B			B			D			C	

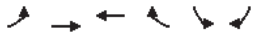
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	35.2		10.7	7.0	37.2		7.2
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	4.6	* 34		29.1	7.6	38.1		5.1
Max Q Clear Time (g_c+I1), s	3.5	7.6		3.4	4.0	15.0		3.9
Green Ext Time (p_c), s	0.1	8.8		0.4	0.0	16.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	108	704	1281	350	830	328
Future Volume (veh/h)	108	704	1281	350	830	328
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	711	1294	354	838	331
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	174	2746	1723	471	1144	525
Arrive On Green	0.05	0.54	0.44	0.44	0.33	0.33
Sat Flow, veh/h	3456	5274	4118	1078	3456	1585
Grp Volume(v), veh/h	109	711	1115	533	838	331
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1624	1728	1585
Q Serve(g_s), s	2.7	6.4	23.6	23.7	18.4	15.2
Cycle Q Clear(g_c), s	2.7	6.4	23.6	23.7	18.4	15.2
Prop In Lane	1.00			0.66	1.00	1.00
Lane Grp Cap(c), veh/h	174	2746	1486	709	1144	525
V/C Ratio(X)	0.63	0.26	0.75	0.75	0.73	0.63
Avail Cap(c_a), veh/h	225	2905	1541	735	1593	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	10.7	20.3	20.4	25.4	24.4
Incr Delay (d2), s/veh	1.4	0.1	2.7	5.6	1.7	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.3	9.4	9.5	7.5	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.5	10.8	23.0	26.0	27.1	26.4
LnGrp LOS	D	B	C	C	C	C
Approach Vol, veh/h		820	1648		1169	
Approach Delay, s/veh		14.9	24.0		26.9	
Approach LOS		B	C		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		52.3		33.8	8.7	43.6
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		49.0		39.7	5.6	39.0
Max Q Clear Time (g_c+I1), s		8.4		20.4	4.7	25.7
Green Ext Time (p_c), s		12.2		8.1	0.0	11.9
Intersection Summary						
HCM 6th Ctrl Delay			22.9			
HCM 6th LOS			C			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	609	825	420	1521	0	0
Future Volume (veh/h)	609	825	420	1521	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	648	878	447	1618		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6290	4815	460	9957		
Arrive On Green	1.00	1.00	0.27	1.00		
Sat Flow, veh/h	3647	2720	3456	5274		
Grp Volume(v), veh/h	648	878	447	1618		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	12.8	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	12.8	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6290	4815	460	9957		
V/C Ratio(X)	0.10	0.18	0.97	0.16		
Avail Cap(c_a), veh/h	6290	4815	460	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.86	0.86	0.79	0.79		
Uniform Delay (d), s/veh	0.0	0.0	36.5	0.0		
Incr Delay (d2), s/veh	0.0	0.1	30.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	6.4	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	66.7	0.0		
LnGrp LOS	A	A	E	A		
Approach Vol, veh/h	1526			2065		
Approach Delay, s/veh	0.1			14.5		
Approach LOS	A			B		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	18.0	187.0				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	13.3	75.0				* 96
Max Q Clear Time (g_c+I1), s	14.8	2.0				2.0
Green Ext Time (p_c), s	0.0	6.3				12.1
Intersection Summary						
HCM 6th Ctrl Delay			8.3			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	579	0	0	1098	843	630
Future Volume (vph)	579	0	0	1098	843	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2684
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2684
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	636	0	0	1207	926	692
RTOR Reduction (vph)	0	0	0	0	0	102
Lane Group Flow (vph)	636	0	0	1207	926	590
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	46.6			57.0	29.9	35.6
Effective Green, g (s)	46.6			57.0	29.9	35.6
Actuated g/C Ratio	0.47			0.57	0.30	0.36
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1649			3652	1026	955
v/s Ratio Prot	c0.18			0.19	c0.27	c0.04
v/s Ratio Perm						0.18
v/c Ratio	0.39			0.33	0.90	0.62
Uniform Delay, d1	17.4			11.4	33.7	26.6
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.7			0.2	10.7	0.8
Delay (s)	18.0			11.6	44.4	27.4
Level of Service	B			B	D	C
Approach Delay (s)	18.0			11.6	37.1	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	32	227	256	38	34	192	1258	44	27	3169	81
Future Volume (veh/h)	43	32	227	256	38	34	192	1258	44	27	3169	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	151	156	264	39	35	198	1297	45	28	3267	84
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	514	555	300	38	34	162	1784	62	51	1584	40
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.18	1.00	1.00	0.03	0.45	0.45
Sat Flow, veh/h	347	1427	1542	715	106	95	1781	3499	121	1781	3536	90
Grp Volume(v), veh/h	195	0	156	338	0	0	198	658	684	28	1633	1718
Grp Sat Flow(s),veh/h/ln	1773	0	1542	916	0	0	1781	1777	1843	1781	1777	1849
Q Serve(g_s), s	0.0	0.0	10.8	42.5	0.0	0.0	13.6	0.0	0.0	2.3	67.2	67.2
Cycle Q Clear(g_c), s	11.5	0.0	10.8	54.0	0.0	0.0	13.6	0.0	0.0	2.3	67.2	67.2
Prop In Lane	0.23		1.00	0.78		0.10	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	668	0	555	372	0	0	162	906	940	51	796	828
V/C Ratio(X)	0.29	0.00	0.28	0.91	0.00	0.00	1.23	0.73	0.73	0.54	2.05	2.07
Avail Cap(c_a), veh/h	668	0	555	372	0	0	162	906	940	68	796	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	0.0	34.2	54.3	0.0	0.0	61.4	0.0	0.0	71.9	41.4	41.4
Incr Delay (d2), s/veh	1.1	0.0	1.3	28.2	0.0	0.0	137.8	4.1	4.0	3.3	477.3	487.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	4.3	15.8	0.0	0.0	11.6	1.0	1.0	1.1	133.6	141.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	35.4	82.5	0.0	0.0	199.2	4.1	4.0	75.2	518.7	529.1
LnGrp LOS	D	A	D	F	A	A	F	A	A	E	F	F
Approach Vol, veh/h		351			338			1540			3379	
Approach Delay, s/veh		35.4			82.5			29.2			520.3	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	73.1		58.9	8.7	82.4		58.9				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	13.6	67.2		54.0	5.7	* 75		54.0				
Max Q Clear Time (g_c+I1), s	15.6	69.2		56.0	4.3	2.0		13.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	22.6		1.0				

Intersection Summary		
HCM 6th Ctrl Delay	328.7	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	305	122	339	382	183	193	754	268	580	1964	780
Future Volume (veh/h)	344	305	122	339	382	183	193	754	268	580	1964	780
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	366	324	130	361	406	195	205	802	285	617	2089	830
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	523	221	355	570	243	184	1281	567	955	1921	852
Arrive On Green	0.09	0.15	0.15	0.10	0.16	0.16	0.10	0.36	0.36	0.28	0.54	0.54
Sat Flow, veh/h	3456	3554	1499	3456	3554	1516	1781	3554	1572	3456	3554	1576
Grp Volume(v), veh/h	366	324	130	361	406	195	205	802	285	617	2089	830
Grp Sat Flow(s),veh/h/ln	1728	1777	1499	1728	1777	1516	1781	1777	1572	1728	1777	1576
Q Serve(g_s), s	17.6	16.3	12.6	19.5	20.6	14.2	19.6	35.4	26.9	29.9	102.7	97.1
Cycle Q Clear(g_c), s	17.6	16.3	12.6	19.5	20.6	14.2	19.6	35.4	26.9	29.9	102.7	97.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	523	221	355	570	243	184	1281	567	955	1921	852
V/C Ratio(X)	1.14	0.62	0.59	1.02	0.71	0.80	1.12	0.63	0.50	0.65	1.09	0.97
Avail Cap(c_a), veh/h	320	733	309	355	729	311	184	1281	567	955	1921	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.2	76.0	51.0	85.2	75.6	27.9	85.2	50.2	47.5	60.6	43.6	42.3
Incr Delay (d2), s/veh	95.0	2.5	5.3	52.3	3.7	14.6	100.8	2.3	3.2	1.2	48.7	25.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	7.7	5.2	11.4	9.8	6.3	14.1	16.0	11.2	13.2	56.3	43.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	181.2	78.6	56.2	137.6	79.3	42.6	186.0	52.5	50.6	61.7	92.4	67.5
LnGrp LOS	F	E	E	F	E	D	F	D	D	E	F	E
Approach Vol, veh/h		820			962			1292			3536	
Approach Delay, s/veh		120.8			93.7			73.3			81.2	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	74.2	25.2	33.0	24.0	107.8	22.0	36.2
Change Period (Y+Rc), s	5.1	* 5.7	5.7	* 5	4.4	5.1	4.4	5.7
Max Green Setting (Gmax), s	44.1	* 69	18.1	* 39	19.6	94.2	17.6	39.0
Max Q Clear Time (g_c+I1), s	21.6	37.4	21.5	18.3	21.6	104.7	19.6	22.6
Green Ext Time (p_c), s	1.0	12.8	0.0	4.7	0.0	0.0	0.0	5.3

Intersection Summary	
HCM 6th Ctrl Delay	86.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	99

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	460	0	0	425	337	571	0	0	1938	388
Future Vol, veh/h	0	0	460	0	0	425	337	571	0	0	1938	388
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	500	0	0	462	366	621	0	0	2107	422

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	-	-	1054			2107	0	-	-	-	0
Stage 1	-	-	-			-	-	-	-	-	-
Stage 2	-	-	-			-	-	-	-	-	-
Critical Hdwy	-	-	6.94			4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 222			~ 257	-	0	0	-	-
Stage 1	0	0	-			-	-	0	0	-	-
Stage 2	0	0	-			-	-	0	0	-	-
Platoon blocked, %							-			-	-
Mov Cap-1 Maneuver	-	0	~ 222			~ 257	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-
Stage 1	-	0	-			-	-	-	-	-	-
Stage 2	-	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 612.5	92.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	~ 257	-	222	-	-
HCM Lane V/C Ratio	1.425	-	2.252	-	-
HCM Control Delay (s)	249.4	-	$ 612.5	-	-
HCM Lane LOS	F	-	F	-	-
HCM 95th %tile Q(veh)	20.4	-	39.5	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

LT PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	380	287	723	338	822	1585
Future Volume (veh/h)	380	287	723	338	822	1585
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	413	312	786	0	893	1723
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	475	423	1244		351	2124
Arrive On Green	0.27	0.27	0.35	0.00	0.20	0.60
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	413	312	786	0	893	1723
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	20.6	16.7	17.1	0.0	18.3	35.2
Cycle Q Clear(g_c), s	20.6	16.7	17.1	0.0	18.3	35.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	475	423	1244		351	2124
V/C Ratio(X)	0.87	0.74	0.63		2.54	0.81
Avail Cap(c_a), veh/h	708	630	1244		351	2124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	31.1	25.2	0.0	37.3	14.6
Incr Delay (d2), s/veh	7.7	2.5	2.4	0.0	703.2	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	6.5	7.1	0.0	76.1	12.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.2	33.6	27.6	0.0	740.5	18.1
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	725		786	A		2616
Approach Delay, s/veh	37.4		27.6			264.7
Approach LOS	D		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.0	40.0		29.9		63.0
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 18	32.5		36.9		55.5
Max Q Clear Time (g_c+I1), s	20.3	19.1		22.6		37.2
Green Ext Time (p_c), s	0.0	4.1		2.2		11.7

Intersection Summary	
HCM 6th Ctrl Delay	179.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
32: Genesee Avenue & Centurion Square

LT PM
10/10/2019

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	89	23	0	1394	46	46	3506
Future Volume (veh/h)	89	23	0	1394	46	46	3506
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			1.00	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	93	0		1452	0	48	3652
Peak Hour Factor	0.96	0.96		0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	114	102		1571	701	1315	3058
Arrive On Green	0.06	0.00		0.44	0.00	0.38	0.86
Sat Flow, veh/h	1781	1585		3647	1585	3456	3647
Grp Volume(v), veh/h	93	0		1452	0	48	3652
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1585	1728	1777
Q Serve(g_s), s	7.7	0.0		57.8	0.0	1.3	129.1
Cycle Q Clear(g_c), s	7.7	0.0		57.8	0.0	1.3	129.1
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	114	102		1571	701	1315	3058
V/C Ratio(X)	0.81	0.00		0.92	0.00	0.04	1.19
Avail Cap(c_a), veh/h	363	323		1571	701	1315	3058
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00		1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	69.3	0.0		39.5	0.0	29.2	10.5
Incr Delay (d2), s/veh	5.2	0.0		10.7	0.0	0.1	90.9
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0		26.5	0.0	0.6	63.5
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	74.5	0.0		50.2	0.0	29.2	101.4
LnGrp LOS	E	A		D	A	C	F
Approach Vol, veh/h	93			1452			3700
Approach Delay, s/veh	74.5			50.2			100.4
Approach LOS	E			D			F
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		135.5		14.5	63.5	72.0	
Change Period (Y+Rc), s		6.4		4.9	6.4	* 5.7	
Max Green Setting (Gmax), s		99.7		30.6	38.1	* 66	
Max Q Clear Time (g_c+I1), s		131.1		9.7	3.3	59.8	
Green Ext Time (p_c), s		0.0		0.1	0.1	5.3	

Intersection Summary	
HCM 6th Ctrl Delay	86.1
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

LT PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	95	98	319	198	102	114	584	178	101	2183	78
Future Volume (veh/h)	34	95	98	319	198	102	114	584	178	101	2183	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	101	104	339	211	109	121	621	189	107	2322	83
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	199	168	359	432	213	67	2220	661	150	3128	111
Arrive On Green	0.03	0.11	0.11	0.10	0.19	0.19	0.04	0.57	0.57	0.08	0.62	0.62
Sat Flow, veh/h	1781	1777	1494	3456	2274	1118	1781	3882	1155	1781	5057	180
Grp Volume(v), veh/h	36	101	104	339	163	157	121	543	267	107	1559	846
Grp Sat Flow(s),veh/h/ln	1781	1777	1494	1728	1777	1616	1781	1702	1633	1781	1702	1832
Q Serve(g_s), s	3.0	8.0	10.0	14.6	12.2	13.1	5.6	12.2	12.6	8.8	48.3	49.1
Cycle Q Clear(g_c), s	3.0	8.0	10.0	14.6	12.2	13.1	5.6	12.2	12.6	8.8	48.3	49.1
Prop In Lane	1.00		1.00	1.00		0.69	1.00		0.71	1.00		0.10
Lane Grp Cap(c), veh/h	46	199	168	359	338	307	67	1947	934	150	2106	1133
V/C Ratio(X)	0.78	0.51	0.62	0.94	0.48	0.51	1.82	0.28	0.29	0.72	0.74	0.75
Avail Cap(c_a), veh/h	139	428	360	359	474	431	67	1947	934	150	2106	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.6	62.7	63.5	66.8	54.2	54.5	72.2	16.4	16.4	67.0	20.1	20.3
Incr Delay (d2), s/veh	9.9	0.7	1.4	32.7	0.4	0.5	421.4	0.4	0.8	25.2	2.4	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.7	3.9	8.1	5.6	5.4	10.3	4.7	4.8	5.0	18.4	20.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.5	63.4	64.9	99.5	54.5	55.0	493.6	16.7	17.2	92.2	22.5	24.8
LnGrp LOS	F	E	E	F	D	E	F	B	B	F	C	C
Approach Vol, veh/h		241			659			931			2512	
Approach Delay, s/veh		66.9			77.8			78.8			26.2	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	91.3	20.0	21.7	10.0	98.3	8.3	33.4
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	2.6	66.5	15.6	36.1	5.6	* 74	11.7	40.0
Max Q Clear Time (g_c+I1), s	0.8	14.6	16.6	12.0	7.6	51.1	5.0	15.1
Green Ext Time (p_c), s	0.0	7.4	0.0	0.8	0.0	19.5	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	47.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

LT PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	477	914	37	27	1779	140	27	17	9	90	10	481
Future Volume (veh/h)	477	914	37	27	1779	140	27	17	9	90	10	481
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	518	993	40	29	1934	152	29	18	10	98	11	523
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	2175	88	37	1527	118	45	24	5	285	8	367
Arrive On Green	0.19	0.62	0.62	0.02	0.46	0.46	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	3482	140	1781	3341	259	0	102	22	1382	33	1557
Grp Volume(v), veh/h	518	507	526	29	1016	1070	57	0	0	98	0	534
Grp Sat Flow(s),veh/h/ln	1781	1777	1845	1781	1777	1824	124	0	0	1382	0	1590
Q Serve(g_s), s	22.6	18.0	18.0	1.9	54.9	54.9	0.0	0.0	0.0	0.0	0.0	28.3
Cycle Q Clear(g_c), s	22.6	18.0	18.0	1.9	54.9	54.9	28.3	0.0	0.0	10.5	0.0	28.3
Prop In Lane	1.00		0.08	1.00		0.14	0.51		0.18	1.00		0.98
Lane Grp Cap(c), veh/h	335	1110	1153	37	812	834	74	0	0	285	0	375
V/C Ratio(X)	1.55	0.46	0.46	0.79	1.25	1.28	0.77	0.00	0.00	0.34	0.00	1.43
Avail Cap(c_a), veh/h	335	1110	1153	88	812	834	74	0	0	285	0	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	11.8	11.8	58.5	32.6	32.6	46.1	0.0	0.0	39.1	0.0	45.9
Incr Delay (d2), s/veh	259.8	1.4	1.3	12.9	123.2	136.6	34.2	0.0	0.0	0.3	0.0	206.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	7.2	7.5	1.0	50.6	55.0	2.4	0.0	0.0	2.5	0.0	32.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	308.5	13.2	13.1	71.4	155.8	169.2	80.2	0.0	0.0	39.4	0.0	252.2
LnGrp LOS	F	B	B	E	F	F	F	A	A	D	A	F
Approach Vol, veh/h		1551			2115			57			632	
Approach Delay, s/veh		111.8			161.4			80.2			219.2	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	6.9	80.0	33.2	27.0	59.9	33.2
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	5.9	71.5	28.3	22.6	* 55	28.3
Max Q Clear Time (g_c+I1), s	3.9	20.0	30.3	24.6	56.9	30.3
Green Ext Time (p_c), s	0.0	11.9	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	151.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	310	80	112	370	660	350	1609	328	450	585	120
Future Volume (veh/h)	70	310	80	112	370	660	350	1609	328	450	585	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.90	1.00		0.92	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	388	100	140	462	825	438	2011	410	562	731	150
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	704	178	130	524	420	453	1639	320	461	1118	226
Arrive On Green	0.03	0.26	0.26	0.07	0.29	0.29	0.25	0.39	0.39	0.13	0.27	0.27
Sat Flow, veh/h	1781	2743	694	1781	1777	1425	1781	4218	822	3456	4182	844
Grp Volume(v), veh/h	88	249	239	140	462	825	438	1605	816	562	593	288
Grp Sat Flow(s),veh/h/ln	1781	1777	1660	1781	1777	1425	1781	1702	1636	1728	1702	1622
Q Serve(g_s), s	4.6	16.0	16.5	9.6	32.7	38.9	32.1	51.3	51.3	17.6	20.4	20.9
Cycle Q Clear(g_c), s	4.6	16.0	16.5	9.6	32.7	38.9	32.1	51.3	51.3	17.6	20.4	20.9
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.50	1.00		0.52
Lane Grp Cap(c), veh/h	62	456	426	130	524	420	453	1323	636	461	910	434
V/C Ratio(X)	1.42	0.55	0.56	1.08	0.88	1.96	0.97	1.21	1.28	1.22	0.65	0.66
Avail Cap(c_a), veh/h	62	459	429	130	524	420	453	1323	636	461	910	434
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	42.4	42.6	61.2	44.4	46.6	48.6	40.3	40.4	57.2	42.9	43.1
Incr Delay (d2), s/veh	259.3	0.7	1.0	102.3	15.6	442.4	6.6	96.7	128.5	117.2	3.6	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	7.1	6.9	8.0	16.6	65.3	15.0	38.9	43.0	15.2	9.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	323.0	43.1	43.6	163.5	60.0	489.0	55.3	137.0	168.9	174.4	46.5	50.9
LnGrp LOS	F	D	D	F	E	F	E	F	F	F	D	D
Approach Vol, veh/h		576			1427			2859			1443	
Approach Delay, s/veh		86.1			318.2			133.6			97.2	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	57.0	14.0	39.0	38.0	41.0	9.0	44.0
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	17.6	51.3	9.6	* 34	33.6	35.3	4.6	38.9
Max Q Clear Time (g_c+I1), s	19.6	53.3	11.6	18.5	34.1	22.9	6.6	40.9
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	6.4	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay	162.7	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1943	260	0	1717	510	0	0	0	778	0	1420
Future Volume (vph)	0	1943	260	0	1717	510	0	0	0	778	0	1420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.99
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1529				3433		2765
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1529				3433		2765
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	2089	280	0	1846	548	0	0	0	837	0	1527
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	12
Lane Group Flow (vph)	0	2089	280	0	1846	548	0	0	0	837	0	1515
Confl. Peds. (#/hr)	22		10	10		22	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free					Prot	custom
Protected Phases		2			6						4	5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		86.3	120.0		41.3	120.0					23.4	64.2
Effective Green, g (s)		86.3	120.0		41.3	120.0					23.4	64.2
Actuated g/C Ratio		0.72	1.00		0.34	1.00					0.19	0.54
Clearance Time (s)		5.7			5.7						4.6	4.2
Vehicle Extension (s)		2.0			2.0						2.0	2.0
Lane Grp Cap (vph)		4608	1538		1750	1529					669	1479
v/s Ratio Prot		0.33			c0.36						c0.24	c0.35
v/s Ratio Perm			0.18			0.36						0.20
v/c Ratio		0.45	0.18		1.05	0.36					1.25	1.02
Uniform Delay, d1		7.0	0.0		39.4	0.0					48.3	27.9
Progression Factor		1.00	1.00		0.77	1.00					1.00	1.00
Incremental Delay, d2		0.3	0.3		35.1	0.5					125.1	29.9
Delay (s)		7.3	0.3		65.5	0.5					173.4	57.8
Level of Service		A	A		E	A					F	E
Approach Delay (s)		6.5			50.6			0.0			98.7	
Approach LOS		A			D			A			F	

Intersection Summary					
HCM 2000 Control Delay	51.9	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	1.09				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	92.1%	ICU Level of Service		F	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1771	950	0	1667	602	560	0	870	0	0	0
Future Volume (vph)	0	1771	950	0	1667	602	560	0	870	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.98			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2735			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2735			
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1968	1056	0	1852	669	622	0	967	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	19	0	0	0
Lane Group Flow (vph)	0	1968	1056	0	1852	669	622	0	949	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		74.3	120.0		91.3	120.0	18.4		31.2			
Effective Green, g (s)		74.3	120.0		91.3	120.0	18.4		31.2			
Actuated g/C Ratio		0.62	1.00		0.76	1.00	0.15		0.26			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		3148	1538		3868	1538	526		711			
v/s Ratio Prot		0.39			0.36		0.18		c0.14			
v/s Ratio Perm			c0.69			0.43			0.20			
v/c Ratio		0.63	0.69		0.48	0.43	1.18		1.33			
Uniform Delay, d1		14.2	0.0		5.4	0.0	50.8		44.4			
Progression Factor		1.39	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		0.7	1.9		0.4	0.9	100.3		159.8			
Delay (s)		20.4	1.9		5.8	0.9	151.1		204.2			
Level of Service		C	A		A	A	F		F			
Approach Delay (s)		13.9			4.5			183.4			0.0	
Approach LOS		B			A			F			A	

Intersection Summary				
HCM 2000 Control Delay	48.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	73.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2300	201	150	1627	9	622	10	230	9	10	20
Future Volume (veh/h)	20	2300	201	150	1627	9	622	10	230	9	10	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.96	1.00		0.79
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	2614	228	170	1849	10	707	0	268	10	11	23
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	30	2732	1204	195	3010	16	854	0	731	23	26	33
Arrive On Green	0.02	0.53	0.53	0.06	0.57	0.57	0.24	0.00	0.24	0.03	0.03	0.03
Sat Flow, veh/h	1781	5106	1540	3456	5239	28	3563	0	3049	870	957	1245
Grp Volume(v), veh/h	23	2614	228	170	1201	658	707	0	268	21	0	23
Grp Sat Flow(s),veh/h/ln	1781	1702	1540	1728	1702	1864	1781	0	1525	1827	0	1245
Q Serve(g_s), s	1.8	68.3	5.5	6.8	32.5	32.5	26.4	0.0	10.3	1.6	0.0	2.6
Cycle Q Clear(g_c), s	1.8	68.3	5.5	6.8	32.5	32.5	26.4	0.0	10.3	1.6	0.0	2.6
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.48		1.00
Lane Grp Cap(c), veh/h	30	2732	1204	195	1956	1071	854	0	731	49	0	33
V/C Ratio(X)	0.76	0.96	0.19	0.87	0.61	0.61	0.83	0.00	0.37	0.43	0.00	0.69
Avail Cap(c_a), veh/h	78	2732	1204	195	1956	1071	891	0	762	90	0	61
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.41	0.09	0.09	0.09	0.89	0.00	0.89	1.00	0.00	1.00
Uniform Delay (d), s/veh	68.5	31.0	4.2	65.5	19.6	19.6	50.5	0.0	44.4	67.1	0.0	67.5
Incr Delay (d2), s/veh	6.0	4.8	0.1	4.0	0.1	0.2	8.2	0.0	1.3	2.2	0.0	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	28.4	4.1	3.1	12.7	14.0	12.7	0.0	4.0	0.8	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.6	35.8	4.3	69.6	19.7	19.8	58.7	0.0	45.6	69.3	0.0	76.6
LnGrp LOS	E	D	A	E	B	B	E	A	D	E	A	E
Approach Vol, veh/h		2865			2029			975			44	
Approach Delay, s/veh		33.6			23.9			55.1			73.1	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	80.6		8.7	6.8	86.1		38.5				
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9				
Max Green Setting (Gmax), s	7.9	* 71		6.9	6.1	72.1		35.0				
Max Q Clear Time (g_c+I1), s	13.8	70.3		4.6	3.8	34.5		28.4				
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	32.4		4.7				

Intersection Summary		
HCM 6th Ctrl Delay	34.1	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1070	2048	101	99	852	149	324	500	319	192	180	370
Future Volume (veh/h)	1070	2048	101	99	852	149	324	500	319	192	180	370
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.89	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1259	2409	119	116	1002	175	381	588	375	226	212	435
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	864	2746	134	131	1476	257	286	1069	426	159	1091	436
Arrive On Green	0.17	0.37	0.37	0.01	0.11	0.11	0.08	0.30	0.30	0.09	0.31	0.31
Sat Flow, veh/h	3456	4980	244	3456	4350	758	3456	3554	1415	1781	3554	1418
Grp Volume(v), veh/h	1259	1639	889	116	783	394	381	588	375	226	212	435
Grp Sat Flow(s),veh/h/ln	1728	1702	1819	1728	1702	1704	1728	1777	1415	1781	1777	1418
Q Serve(g_s), s	35.0	62.7	64.1	4.7	31.0	31.1	11.6	19.4	35.3	12.5	6.2	42.9
Cycle Q Clear(g_c), s	35.0	62.7	64.1	4.7	31.0	31.1	11.6	19.4	35.3	12.5	6.2	42.9
Prop In Lane	1.00		0.13	1.00		0.44	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	864	1877	1003	131	1155	578	286	1069	426	159	1091	436
V/C Ratio(X)	1.46	0.87	0.89	0.89	0.68	0.68	1.33	0.55	0.88	1.42	0.19	1.00
Avail Cap(c_a), veh/h	864	1877	1003	131	1155	578	286	1069	426	159	1091	436
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.18	0.18	0.18	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.3	39.6	40.0	68.8	54.8	54.9	64.2	41.0	46.6	63.8	35.7	48.5
Incr Delay (d2), s/veh	207.0	1.2	2.4	45.2	3.2	6.4	166.8	0.6	16.0	222.0	0.1	42.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.6	27.6	30.5	2.9	14.8	15.3	11.7	8.7	14.3	15.5	2.7	20.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	265.2	40.7	42.4	114.0	58.0	61.2	231.0	41.6	62.6	285.8	35.8	91.2
LnGrp LOS	F	D	D	F	E	E	F	D	E	F	D	F
Approach Vol, veh/h		3787			1293			1344			873	
Approach Delay, s/veh		115.8			64.0			101.1			128.1	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	83.1	16.0	48.7	39.4	53.4	16.9	47.8
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	5.3	* 61	11.6	* 43	35.0	30.9	12.5	41.7
Max Q Clear Time (g_c+I1), s	13.7	66.1	13.6	44.9	37.0	33.1	14.5	37.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5

Intersection Summary		
HCM 6th Ctrl Delay		105.4
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2446	103	0	1580	180	0	0	220	0	0	50
Future Volume (Veh/h)	0	2446	103	0	1580	180	0	0	220	0	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	2947	124	0	1904	217	0	0	265	0	0	60
Pedestrians		10			10			10			10	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.68			0.55			0.71	0.71	0.55	0.71	0.71	0.68
vC, conflicting volume	2131			3081			3724	5150	1064	3280	5104	763
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1023			1912			363	2378	0	0	2313	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	55	100	100	92
cM capacity (veh/h)	456			167			358	24	585	384	26	726

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	1179	1179	713	762	762	598	265	60
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	124	0	0	217	265	60
cSH	1700	1700	1700	1700	1700	1700	585	726
Volume to Capacity	0.69	0.69	0.42	0.45	0.45	0.35	0.45	0.08
Queue Length 95th (ft)	0	0	0	0	0	0	59	7
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	16.2	10.4
Lane LOS							C	B
Approach Delay (s)	0.0			0.0			16.2	10.4
Approach LOS							C	B

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	70.9%	ICU Level of Service		C
Analysis Period (min)	15			

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	550	1920	166	334	1900	560	340	1689	420	330	495	100
Future Volume (veh/h)	550	1920	166	334	1900	560	340	1689	420	330	495	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	647	2259	195	393	2235	659	400	1987	494	388	582	118
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	2294	695	217	1937	730	380	1543	465	316	1448	436
Arrive On Green	0.27	0.90	0.90	0.04	0.25	0.25	0.15	0.40	0.40	0.09	0.28	0.28
Sat Flow, veh/h	3456	5106	1547	3456	5106	1543	3456	5106	1539	3456	5106	1537
Grp Volume(v), veh/h	647	2259	195	393	2235	659	400	1987	494	388	582	118
Grp Sat Flow(s),veh/h/ln	1728	1702	1547	1728	1702	1543	1728	1702	1539	1728	1702	1537
Q Serve(g_s), s	18.6	54.5	2.4	8.8	53.1	53.1	15.4	42.3	42.3	12.8	12.9	8.3
Cycle Q Clear(g_c), s	18.6	54.5	2.4	8.8	53.1	53.1	15.4	42.3	42.3	12.8	12.9	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	2294	695	217	1937	730	380	1543	465	316	1448	436
V/C Ratio(X)	1.41	0.98	0.28	1.81	1.15	0.90	1.05	1.29	1.06	1.23	0.40	0.27
Avail Cap(c_a), veh/h	459	2294	695	217	1937	730	380	1543	465	316	1459	439
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.16	0.16	0.16	0.63	0.63	0.63
Uniform Delay (d), s/veh	51.4	6.7	4.0	67.1	52.2	40.5	59.8	41.9	41.9	63.6	40.6	38.9
Incr Delay (d2), s/veh	196.8	15.5	1.0	365.8	69.9	2.0	34.1	130.4	36.2	119.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.7	6.1	0.9	15.0	36.0	21.4	8.3	35.3	19.8	10.9	5.5	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	248.2	22.2	5.0	432.9	122.2	42.5	93.8	172.3	78.1	182.8	40.7	39.2
LnGrp LOS	F	C	A	F	F	D	F	F	F	F	D	D
Approach Vol, veh/h		3101			3287			2881			1088	
Approach Delay, s/veh		68.3			143.3			145.2			91.2	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	68.6	19.8	45.4	23.0	58.8	17.2	48.0
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	8.8	* 56	15.4	* 40	18.6	46.3	12.8	42.3
Max Q Clear Time (g_c+I1), s	10.8	56.5	17.4	14.9	20.6	55.1	14.8	44.3
Green Ext Time (p_c), s	0.0	0.0	0.0	6.7	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	115.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	2490	60	120	2554	510	40	40	90	70	40	50
Future Volume (veh/h)	120	2490	60	120	2554	510	40	40	90	70	40	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.93	1.00		0.85
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	2895	70	140	2970	593	47	47	105	62	74	58
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	3453	1051	185	2881	536	168	177	280	65	72	46
Arrive On Green	0.04	0.45	0.45	0.11	1.00	1.00	0.09	0.09	0.09	0.04	0.04	0.04
Sat Flow, veh/h	1781	5106	1554	3456	4310	801	1781	1870	2963	1781	1985	1272
Grp Volume(v), veh/h	140	2895	70	140	2300	1263	47	47	105	62	69	63
Grp Sat Flow(s),veh/h/ln	1781	1702	1554	1728	1702	1707	1781	1870	1481	1781	1870	1386
Q Serve(g_s), s	8.6	70.0	3.6	5.5	93.6	89.5	3.4	3.3	4.7	4.9	5.1	5.1
Cycle Q Clear(g_c), s	8.6	70.0	3.6	5.5	93.6	89.5	3.4	3.3	4.7	4.9	5.1	5.1
Prop In Lane	1.00		1.00	1.00		0.47	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	109	3453	1051	185	2275	1141	168	177	280	65	68	50
V/C Ratio(X)	1.28	0.84	0.07	0.76	1.01	1.11	0.28	0.27	0.38	0.96	1.01	1.25
Avail Cap(c_a), veh/h	109	3453	1051	212	2275	1141	522	548	868	65	68	50
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.1	31.5	13.4	61.6	0.0	0.0	59.0	58.9	59.5	67.3	67.4	67.5
Incr Delay (d2), s/veh	132.2	0.2	0.0	1.0	8.6	49.7	0.3	0.3	0.3	98.8	111.8	209.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	30.2	1.2	2.4	2.7	15.8	1.6	1.6	1.8	4.0	4.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	199.3	31.8	13.4	62.6	8.6	49.7	59.3	59.2	59.8	166.2	179.2	276.7
LnGrp LOS	F	C	B	E	F	F	E	E	E	F	F	F
Approach Vol, veh/h		3105			3703			199			194	
Approach Delay, s/veh		38.9			24.6			59.5			206.8	
Approach LOS		D			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.9	100.0		10.0	13.0	98.9		18.1
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9
Max Green Setting (Gmax), s	8.6	65.8		5.1	8.6	65.8		41.0
Max Q Clear Time (g_c+I1), s	7.5	72.0		7.1	10.6	95.6		6.7
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.5

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
9: Towne Center Drive & La Jolla Village Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	739	1772	139	270	2912	1860	139	380	290	270	70	133
Future Volume (veh/h)	739	1772	139	270	2912	1860	139	380	290	270	70	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	821	1969	154	300	3236	2067	154	422	322	300	78	148
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	2595	787	353	2785	1464	126	732	839	138	745	320
Arrive On Green	0.14	1.00	1.00	0.10	0.55	0.55	0.04	0.21	0.21	0.04	0.21	0.21
Sat Flow, veh/h	3456	5106	1548	3456	5106	2685	3456	3554	2687	3456	3554	1527
Grp Volume(v), veh/h	821	1969	154	300	3236	2067	154	422	322	300	78	148
Grp Sat Flow(s),veh/h/ln	1728	1702	1548	1728	1702	1343	1728	1777	1344	1728	1777	1527
Q Serve(g_s), s	9.6	0.0	0.0	11.9	76.4	76.4	5.1	15.0	13.2	5.6	2.5	11.9
Cycle Q Clear(g_c), s	9.6	0.0	0.0	11.9	76.4	76.4	5.1	15.0	13.2	5.6	2.5	11.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	2595	787	353	2785	1464	126	732	839	138	745	320
V/C Ratio(X)	3.46	0.76	0.20	0.85	1.16	1.41	1.22	0.58	0.38	2.17	0.10	0.46
Avail Cap(c_a), veh/h	237	2595	787	518	2785	1464	126	939	995	138	944	406
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.18	0.18	0.18	0.09	0.09	0.09	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.4	0.0	0.0	61.8	31.8	31.8	67.4	50.1	38.1	67.2	44.7	48.4
Incr Delay (d2), s/veh	1111.0	0.4	0.1	0.6	73.3	185.5	143.8	1.3	0.5	549.8	0.1	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.5	0.1	0.0	5.3	49.1	61.5	4.8	6.8	4.5	13.0	1.1	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1171.4	0.4	0.1	62.4	105.1	217.3	211.2	51.4	38.6	617.0	44.8	50.3
LnGrp LOS	F	A	A	E	F	F	F	D	D	F	D	D
Approach Vol, veh/h		2944			5603			898			526	
Approach Delay, s/veh		326.9			144.2			74.2			372.7	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	76.7	9.5	34.6	14.0	81.9	10.0	34.1
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	21.3	56.6	5.1	37.2	9.6	* 69	5.6	* 37
Max Q Clear Time (g_c+I1), s	13.9	2.0	7.1	13.9	11.6	78.4	7.6	17.0
Green Ext Time (p_c), s	0.4	42.4	0.0	1.7	0.0	0.0	0.0	7.9

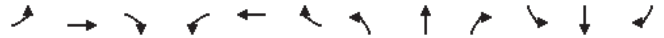
Intersection Summary		
HCM 6th Ctrl Delay	203.9	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
10: I-805 SB Ramps & La Jolla Village Drive/Miramar Road

LT + P AM
10/03/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1792	540	0	2796	580	0	0	0	860	0	2246
Future Volume (vph)	0	1792	540	0	2796	580	0	0	0	860	0	2246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1548				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1548				3433		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1991	600	0	3107	644	0	0	0	956	0	2496
RTOR Reduction (vph)	0	0	0	0	0	135	0	0	0	0	0	23
Lane Group Flow (vph)	0	1991	600	0	3107	509	0	0	0	956	0	2473
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov					Prot		custom
Protected Phases		2			6	4					4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		67.5	120.0		55.5	94.9					39.4		52.3
Effective Green, g (s)		67.5	120.0		55.5	94.9					39.4		52.3
Actuated g/C Ratio		0.56	1.00		0.46	0.79					0.33		0.44
Clearance Time (s)		7.5			7.5	5.6					5.6		
Vehicle Extension (s)		2.0			2.0	2.0					2.0		
Lane Grp Cap (vph)		2860	2707		2351	1224					1127		1214
v/s Ratio Prot		0.39			c0.61	0.14					0.28		c0.89
v/s Ratio Perm			0.22			0.19						
v/c Ratio		0.70	0.22		1.32	0.42					0.85		2.04
Uniform Delay, d1		18.9	0.0		32.2	3.9					37.5		33.9
Progression Factor		1.00	1.00		0.66	1.93					1.00		1.00
Incremental Delay, d2		1.4	0.2		146.0	0.0					5.9		469.5
Delay (s)		20.3	0.2		167.4	7.6					43.4		503.4
Level of Service		C	A		F	A					D		F
Approach Delay (s)		15.6			139.9			0.0			376.0	
Approach LOS		B			F			A			F	

Intersection Summary					
HCM 2000 Control Delay	190.3	HCM 2000 Level of Service		F	
HCM 2000 Volume to Capacity ratio	1.76				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		17.8	
Intersection Capacity Utilization	144.5%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: I-805 NB Ramps & Miramar Road

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1551	1102	0	1977	640	1399	0	580	0	0	0
Future Volume (vph)	0	1551	1102	0	1977	640	1399	0	580	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.98		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1558		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1558		6408	1538	3433		2787			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1743	1238	0	2221	719	1572	0	652	0	0	0
RTOR Reduction (vph)	0	0	215	0	0	0	0	0	23	0	0	0
Lane Group Flow (vph)	0	1743	1023	0	2221	719	1572	0	629	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		50.0	96.4		60.5	120.0	46.4		57.8			
Effective Green, g (s)		50.0	96.4		60.5	120.0	46.4		52.2			
Actuated g/C Ratio		0.42	0.80		0.50	1.00	0.39		0.44			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		2118	1251		3230	1538	1327		1212			
v/s Ratio Prot		c0.34	0.32		c0.35		c0.46		0.23			
v/s Ratio Perm			0.34			0.47						
v/c Ratio		0.82	0.82		0.69	0.47	1.18		0.52			
Uniform Delay, d1		31.1	6.8		22.6	0.0	36.8		24.7			
Progression Factor		0.79	7.19		1.00	1.00	1.00		1.00			
Incremental Delay, d2		2.5	2.7		1.2	1.0	91.0		0.2			
Delay (s)		27.0	51.4		23.8	1.0	127.8		24.9			
Level of Service		C	D		C	A	F		C			
Approach Delay (s)		37.1			18.2			97.6			0.0	
Approach LOS		D			B			F			A	

Intersection Summary				
HCM 2000 Control Delay	46.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	80.8%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
12: Costa Verde Blvd & Costa Verde Shopping Center Entrance (North)

LT + P AM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	50	170	40	53	90
Future Volume (Veh/h)	140	50	170	40	53	90
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	152	54	185	43	58	98
Pedestrians	28		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	462	152			256	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	462	152			256	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	69	94			95	
cM capacity (veh/h)	488	840			1275	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	152	54	123	105	156
Volume Left	152	0	0	0	58
Volume Right	0	54	0	43	0
cSH	488	840	1700	1700	1275
Volume to Capacity	0.31	0.06	0.07	0.06	0.05
Queue Length 95th (ft)	33	5	0	0	4
Control Delay (s)	15.7	9.6	0.0	0.0	3.2
Lane LOS	C	A			A
Approach Delay (s)	14.1		0.0		3.2
Approach LOS	B				

Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	37.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	131	100	250	188	50	160
Future Volume (Veh/h)	131	100	250	188	50	160
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	151	115	287	216	57	184
Pedestrians	10		12			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	623	272			513	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	623	272			513	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	61	84			95	
cM capacity (veh/h)	388	714			1040	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	266	191	312	118	123
Volume Left	151	0	0	57	0
Volume Right	115	0	216	0	0
cSH	483	1700	1700	1040	1700
Volume to Capacity	0.55	0.11	0.18	0.05	0.07
Queue Length 95th (ft)	82	0	0	4	0
Control Delay (s)	21.2	0.0	0.0	4.4	0.0
Lane LOS	C			A	
Approach Delay (s)	21.2	0.0		2.2	
Approach LOS	C				

Intersection Summary				
Average Delay		6.1		
Intersection Capacity Utilization		43.1%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	63	210	80	69	110	248	2190	170	130	635	261
Future Volume (veh/h)	239	63	210	80	69	110	248	2190	170	130	635	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.92	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	166	205	231	88	110	98	273	2407	187	143	698	287
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	175	127	625	328	255	160	2637	201	141	1753	708
Arrive On Green	0.09	0.09	0.09	0.18	0.18	0.18	0.12	0.73	0.73	0.08	0.99	0.99
Sat Flow, veh/h	1781	1870	1361	3563	1870	1455	1781	4829	369	3456	3528	1425
Grp Volume(v), veh/h	166	205	231	88	110	98	273	1684	910	143	673	312
Grp Sat Flow(s),veh/h/ln	1781	1870	1361	1781	1870	1455	1781	1702	1794	1728	1702	1549
Q Serve(g_s), s	13.0	13.1	13.1	2.9	7.2	8.3	12.6	55.4	59.8	5.7	0.3	0.3
Cycle Q Clear(g_c), s	13.0	13.1	13.1	2.9	7.2	8.3	12.6	55.4	59.8	5.7	0.3	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.92
Lane Grp Cap(c), veh/h	167	175	127	625	328	255	160	1859	979	141	1691	769
V/C Ratio(X)	1.00	1.17	1.81	0.14	0.34	0.38	1.70	0.91	0.93	1.02	0.40	0.41
Avail Cap(c_a), veh/h	167	175	127	970	509	396	160	1859	979	141	1691	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.39	0.39	0.39
Uniform Delay (d), s/veh	63.4	63.5	63.4	48.8	50.6	51.0	61.6	16.3	16.9	64.3	0.2	0.2
Incr Delay (d2), s/veh	68.4	121.7	395.4	0.0	0.2	0.4	341.5	7.9	16.0	51.6	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	12.2	18.5	1.3	3.4	3.1	20.7	18.8	23.4	3.4	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.8	185.1	458.8	48.8	50.8	51.4	403.1	24.2	32.9	115.9	0.5	0.8
LnGrp LOS	F	F	F	D	D	D	F	C	C	F	A	A
Approach Vol, veh/h		602			296			2867			1128	
Approach Delay, s/veh		275.4			50.4			63.0			15.2	
Approach LOS		F			D			E			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	82.5		18.0	17.0	75.6		29.4				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	5.7	62.9		13.1	12.6	* 56		38.1				
Max Q Clear Time (g_c+I1), s	7.7	61.8		15.1	14.6	2.3		10.3				
Green Ext Time (p_c), s	0.0	1.1		0.0	0.0	13.6		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		77.4	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	88	0	2578	750	85
Future Volume (Veh/h)	0	88	0	2578	750	85
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	93	0	2714	789	89
Pedestrians	14			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.52					
vC, conflicting volume	1762	332	892			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	332	892			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	100			
cM capacity (veh/h)	520	651	747			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	93	905	905	905	316	316	247
Volume Left	0	0	0	0	0	0	0
Volume Right	93	0	0	0	0	0	89
cSH	651	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.14	0.53	0.53	0.53	0.19	0.19	0.15
Queue Length 95th (ft)	12	0	0	0	0	0	0
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	11.4	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay	0.3			
Intersection Capacity Utilization	62.6%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	438	150	395	1121	0	0
Future Volume (veh/h)	438	150	395	1121	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	461	158	416	1180		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2261	768	480	3756		
Arrive On Green	0.88	0.88	0.28	1.00		
Sat Flow, veh/h	2675	876	3456	3647		
Grp Volume(v), veh/h	316	303	416	1180		
Grp Sat Flow(s),veh/h/ln	1777	1681	1728	1777		
Q Serve(g_s), s	2.7	2.7	11.4	0.0		
Cycle Q Clear(g_c), s	2.7	2.7	11.4	0.0		
Prop In Lane		0.52	1.00			
Lane Grp Cap(c), veh/h	1557	1472	480	3756		
V/C Ratio(X)	0.20	0.21	0.87	0.31		
Avail Cap(c_a), veh/h	1557	1472	650	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.87	0.87		
Uniform Delay (d), s/veh	0.9	0.9	35.2	0.0		
Incr Delay (d2), s/veh	0.3	0.3	6.4	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.3	0.3	4.5	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.2	1.3	41.7	0.2		
LnGrp LOS	A	A	D	A		
Approach Vol, veh/h	619			1596		
Approach Delay, s/veh	1.2			11.0		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	18.1	92.4				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 19	72.5				* 96
Max Q Clear Time (g_c+I1), s	13.4	4.7				2.0
Green Ext Time (p_c), s	0.5	13.0				7.4

Intersection Summary				
HCM 6th Ctrl Delay		8.3		
HCM 6th LOS		A		

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	438	0	0	1036	60	370	230	634	0	0	110
Future Volume (vph)	0	438	0	0	1036	60	370	230	634	0	0	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			0.98		1.00	1.00	0.95			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			0.99		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (prot)		3539			6258		1681	1748	1507			1611
Flt Permitted		1.00			1.00		0.95	0.99	1.00			1.00
Satd. Flow (perm)		3539			6258		1681	1748	1507			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	487	0	0	1151	67	411	256	704	0	0	122
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	129	0	0	116
Lane Group Flow (vph)	0	487	0	0	1211	0	329	338	575	0	0	6
Confl. Peds. (#/hr)	72		27	27		72	38		30	30		38
Confl. Bikes (#/hr)			10			66			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		48.9			39.4		42.1	42.1	42.1			5.0
Effective Green, g (s)		48.9			39.4		42.1	42.1	42.1			5.0
Actuated g/C Ratio		0.49			0.39		0.42	0.42	0.42			0.05
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1730			2465		707	735	634			80
v/s Ratio Prot		c0.14			c0.19		0.20	0.19				0.00
v/s Ratio Perm									c0.38			
v/c Ratio		0.28			0.49		0.47	0.46	0.91			0.08
Uniform Delay, d1		15.1			22.8		20.8	20.8	27.1			45.3
Progression Factor		0.97			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.4			0.7		0.2	0.2	16.3			0.1
Delay (s)		15.2			23.5		21.0	21.0	43.4			45.4
Level of Service		B			C		C	C	D			D
Approach Delay (s)		15.2			23.5			32.5			45.4	
Approach LOS		B			C			C			D	

Intersection Summary				
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	62.0%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	723	80	67	636	242	180	450	181	105	110	70
Future Volume (veh/h)	70	723	80	67	636	242	180	450	181	105	110	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.74	1.00		0.76	1.00		0.82	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	812	90	75	715	272	202	506	203	118	124	79
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	1573	171	96	1248	439	263	1160	426	316	1214	510
Arrive On Green	0.04	0.35	0.35	0.05	0.37	0.37	0.08	0.33	0.33	0.09	0.34	0.34
Sat Flow, veh/h	3456	4495	490	1781	3404	1199	3456	3554	1306	3456	3554	1319
Grp Volume(v), veh/h	79	611	291	75	715	272	202	506	203	118	124	79
Grp Sat Flow(s),veh/h/ln	1728	1702	1581	1781	1702	1199	1728	1777	1306	1728	1777	1319
Q Serve(g_s), s	2.4	15.1	15.5	4.4	17.9	19.7	6.1	11.9	13.1	3.4	2.5	4.2
Cycle Q Clear(g_c), s	2.4	15.1	15.5	4.4	17.9	19.7	6.1	11.9	13.1	3.4	2.5	4.2
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	1192	553	96	1248	439	263	1160	426	316	1214	510
V/C Ratio(X)	0.61	0.51	0.53	0.78	0.57	0.62	0.77	0.44	0.48	0.37	0.10	0.15
Avail Cap(c_a), veh/h	137	1192	553	111	1248	439	280	1160	426	326	1214	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	50.3	27.3	27.4	49.5	26.9	27.5	48.0	28.0	28.5	45.3	23.8	21.7
Incr Delay (d2), s/veh	4.8	1.6	3.5	18.6	1.6	5.2	10.0	1.2	3.8	0.2	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	6.3	6.3	2.4	7.4	6.2	3.0	5.2	4.5	1.5	1.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	28.9	31.0	68.1	28.5	32.7	58.0	29.2	32.2	45.5	24.0	22.3
LnGrp LOS	E	C	C	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		981			1062			911			321	
Approach Delay, s/veh		31.6			32.4			36.3			31.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	42.3	12.5	41.1	8.4	44.1	14.1	39.5
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	5.6	35.9	8.6	36.0	4.2	38.3	10.0	34.6
Max Q Clear Time (g_c+I1), s	13.4	17.5	8.1	6.2	4.4	21.7	5.4	15.1
Green Ext Time (p_c), s	0.0	8.8	0.0	2.5	0.0	9.4	0.1	9.6

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
19: Regents Road & Nobel Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	754	60	226	636	185	150	440	272	136	260	120
Future Volume (veh/h)	290	754	60	226	636	185	150	440	272	136	260	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.83	1.00		0.83	1.00		0.69	1.00		0.68
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	820	65	246	691	201	163	478	296	148	283	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1573	124	303	1133	420	192	1156	371	94	1011	308
Arrive On Green	0.03	0.11	0.11	0.18	0.64	0.64	0.11	0.34	0.34	0.05	0.28	0.28
Sat Flow, veh/h	3456	4747	373	3456	3554	1316	1781	3404	1092	1781	3554	1083
Grp Volume(v), veh/h	315	586	299	246	691	201	163	478	296	148	283	130
Grp Sat Flow(s),veh/h/ln	1728	1702	1716	1728	1777	1316	1781	1702	1092	1781	1777	1083
Q Serve(g_s), s	9.6	17.2	17.5	7.3	12.2	8.4	9.5	11.4	26.0	5.6	6.6	10.4
Cycle Q Clear(g_c), s	9.6	17.2	17.5	7.3	12.2	8.4	9.5	11.4	26.0	5.6	6.6	10.4
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1128	569	303	1133	420	192	1156	371	94	1011	308
V/C Ratio(X)	0.91	0.52	0.53	0.81	0.61	0.48	0.85	0.41	0.80	1.57	0.28	0.42
Avail Cap(c_a), veh/h	346	1128	569	319	1133	420	212	1198	384	94	1011	308
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.63	0.63	0.63	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	50.8	39.2	39.3	42.9	15.3	14.6	46.4	26.9	31.7	50.2	29.5	30.8
Incr Delay (d2), s/veh	24.5	1.5	3.1	8.5	1.6	2.5	22.5	0.7	14.1	299.7	0.6	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	8.1	8.5	3.2	3.8	2.3	5.4	4.7	8.2	10.3	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.3	40.7	42.4	51.4	16.8	17.1	68.9	27.6	45.8	349.9	30.1	34.3
LnGrp LOS	E	D	D	D	B	B	E	C	D	F	C	C
Approach Vol, veh/h		1200			1138			937			561	
Approach Delay, s/veh		50.2			24.4			40.5			115.4	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	41.5	13.7	40.8	15.9	35.6	15.0	39.5
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	5.6	* 37	9.8	33.6	12.6	30.0	10.6	* 33
Max Q Clear Time (g_c+I1), s	7.6	28.0	9.3	19.5	11.5	12.4	11.6	14.2
Green Ext Time (p_c), s	0.0	6.0	0.0	7.1	0.0	5.2	0.0	11.3

Intersection Summary	
HCM 6th Ctrl Delay	49.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
20: Cargill Drive/Costa Verde Blvd & Nobel Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	842	50	40	824	140	100	138	80	130	39	132
Future Volume (veh/h)	210	842	50	40	824	140	100	138	80	130	39	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.95	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	231	925	55	44	905	154	110	152	88	143	43	145
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	2123	126	56	1752	296	77	304	176	134	113	381
Arrive On Green	0.12	0.87	0.87	0.03	0.40	0.40	0.04	0.28	0.28	0.08	0.31	0.31
Sat Flow, veh/h	1781	4907	291	1781	4360	738	1781	1078	624	1781	359	1212
Grp Volume(v), veh/h	231	641	339	44	705	354	110	0	240	143	0	188
Grp Sat Flow(s),veh/h/ln	1781	1702	1793	1781	1702	1694	1781	0	1702	1781	0	1572
Q Serve(g_s), s	6.6	4.3	4.3	2.6	16.6	16.7	4.6	0.0	12.5	8.0	0.0	9.9
Cycle Q Clear(g_c), s	6.6	4.3	4.3	2.6	16.6	16.7	4.6	0.0	12.5	8.0	0.0	9.9
Prop In Lane	1.00		0.16	1.00		0.44	1.00		0.37	1.00		0.77
Lane Grp Cap(c), veh/h	111	1473	776	56	1368	681	77	0	480	134	0	494
V/C Ratio(X)	2.08	0.44	0.44	0.78	0.52	0.52	1.42	0.00	0.50	1.06	0.00	0.38
Avail Cap(c_a), veh/h	111	1473	776	101	1368	681	77	0	604	134	0	608
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.4	4.3	4.3	51.0	23.9	24.0	50.7	0.0	31.8	49.0	0.0	28.3
Incr Delay (d2), s/veh	509.6	0.7	1.3	8.5	1.4	2.8	250.0	0.0	0.3	95.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.4	1.2	1.5	1.3	6.8	7.1	7.4	0.0	5.1	7.1	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	556.0	5.1	5.7	59.5	25.3	26.8	300.7	0.0	32.1	144.7	0.0	28.5
LnGrp LOS	F	A	A	E	C	C	F	A	C	F	A	C
Approach Vol, veh/h		1211			1103			350			331	
Approach Delay, s/veh		110.3			27.1			116.5			78.7	
Approach LOS		F			C			F			E	

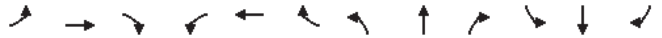
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	51.1	9.0	38.2	11.0	47.8	12.4	34.8
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	3.3	35.5	4.6	41.0	6.6	34.9	8.0	37.6
Max Q Clear Time (g_c+I1), s	4.6	6.3	6.6	11.9	8.6	18.7	10.0	14.5
Green Ext Time (p_c), s	0.0	12.1	0.0	0.8	0.0	9.4	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	76.9
HCM 6th LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1212	953	229	0	148
Future Volume (Veh/h)	0	1212	953	229	0	148
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	1362	1071	257	0	166
Pedestrians		10	10		27	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.88				0.93	0.88
vC, conflicting volume	1355				1690	522
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	922				726	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	82
cM capacity (veh/h)	633				324	924

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	454	454	454	428	428	471	166
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	257	166
cSH	1700	1700	1700	1700	1700	1700	924
Volume to Capacity	0.27	0.27	0.27	0.25	0.25	0.28	0.18
Queue Length 95th (ft)	0	0	0	0	0	0	16
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	9.7
Lane LOS							A
Approach Delay (s)	0.0			0.0			9.7
Approach LOS							A

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization	41.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	342	730	220	140	561	208	458	2028	280	182	482	163
Future Volume (veh/h)	342	730	220	140	561	208	458	2028	280	182	482	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	785	237	151	603	224	492	2181	301	196	518	175
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	870	369	198	855	362	449	1861	812	114	2178	660
Arrive On Green	0.06	0.24	0.24	0.06	0.24	0.24	0.13	0.52	0.52	0.01	0.14	0.14
Sat Flow, veh/h	3456	3554	1509	3456	3554	1505	3456	3554	1550	3456	5106	1547
Grp Volume(v), veh/h	368	785	237	151	603	224	492	2181	301	196	518	175
Grp Sat Flow(s),veh/h/ln	1728	1777	1509	1728	1777	1505	1728	1777	1550	1728	1702	1547
Q Serve(g_s), s	8.6	30.0	19.7	6.0	21.7	18.6	18.2	73.3	16.1	4.6	12.6	14.1
Cycle Q Clear(g_c), s	8.6	30.0	19.7	6.0	21.7	18.6	18.2	73.3	16.1	4.6	12.6	14.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	870	369	198	855	362	449	1861	812	114	2178	660
V/C Ratio(X)	1.73	0.90	0.64	0.76	0.71	0.62	1.10	1.17	0.37	1.73	0.24	0.27
Avail Cap(c_a), veh/h	212	899	381	207	888	376	449	1861	812	114	2178	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.7	51.2	47.4	65.1	48.6	47.4	60.9	33.3	19.7	69.2	39.9	40.6
Incr Delay (d2), s/veh	349.1	12.3	4.1	13.0	2.5	3.0	70.7	83.5	1.3	360.9	0.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	14.8	7.9	3.0	10.0	7.3	12.4	52.1	6.1	7.8	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	414.8	63.6	51.4	78.1	51.1	50.4	131.6	116.8	21.0	430.1	40.2	41.5
LnGrp LOS	F	E	D	E	D	D	F	F	C	F	D	D
Approach Vol, veh/h		1390			978			2974			889	
Approach Delay, s/veh		154.5			55.1			109.6			126.4	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	79.2	12.4	39.4	22.6	65.6	13.0	38.8
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	4.6	* 72	8.4	* 35	18.2	58.4	8.6	35.0
Max Q Clear Time (g_c+I1), s	6.6	75.3	8.0	32.0	20.2	16.1	10.6	23.7
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	7.0	0.0	3.9

Intersection Summary		
HCM 6th Ctrl Delay	113.5	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	450	822	20	30	431	100	40	210	110	30	60	258
Future Volume (veh/h)	450	822	20	30	431	100	40	210	110	30	60	258
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	464	847	21	31	444	103	41	216	113	31	62	266
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	552	1280	32	43	1154	692	64	340	184	395	415	339
Arrive On Green	0.16	0.36	0.36	0.02	0.23	0.23	0.17	0.17	0.17	0.22	0.22	0.22
Sat Flow, veh/h	3456	3537	88	1781	5106	1506	377	2008	1086	1781	1870	1530
Grp Volume(v), veh/h	464	425	443	31	444	103	202	0	168	31	62	266
Grp Sat Flow(s),veh/h/ln	1728	1777	1848	1781	1702	1506	1852	0	1619	1781	1870	1530
Q Serve(g_s), s	11.8	18.2	18.2	1.6	6.7	3.7	9.2	0.0	8.7	1.2	2.4	14.8
Cycle Q Clear(g_c), s	11.8	18.2	18.2	1.6	6.7	3.7	9.2	0.0	8.7	1.2	2.4	14.8
Prop In Lane	1.00		0.05	1.00		1.00	0.20		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	552	643	669	43	1154	692	314	0	274	395	415	339
V/C Ratio(X)	0.84	0.66	0.66	0.73	0.38	0.15	0.64	0.00	0.61	0.08	0.15	0.78
Avail Cap(c_a), veh/h	846	976	1015	79	1775	875	715	0	625	611	642	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.0	24.3	24.3	43.9	29.7	14.8	35.1	0.0	34.9	27.9	28.4	33.2
Incr Delay (d2), s/veh	2.8	2.4	2.3	8.5	0.2	0.1	0.8	0.0	0.8	0.1	0.2	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	7.8	8.1	0.8	2.7	1.9	4.1	0.0	3.5	0.5	1.1	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	26.6	26.6	52.4	30.0	14.9	35.9	0.0	35.7	28.0	28.6	39.0
LnGrp LOS	D	C	C	D	C	B	D	A	D	C	C	D
Approach Vol, veh/h		1332			578			370			359	
Approach Delay, s/veh		31.2			28.5			35.8			36.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	38.8		25.0	18.9	26.5		20.3
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	4.6	* 50		31.1	22.2	31.5		35.0
Max Q Clear Time (g_c+I1), s	13.8	20.2		16.8	13.8	8.7		11.2
Green Ext Time (p_c), s	0.0	11.7		1.8	0.7	3.8		1.5

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

LT + P AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	933	10	10	467	80	40	10	90	240	10	54
Future Volume (veh/h)	20	933	10	10	467	80	40	10	90	240	10	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	1014	11	11	508	87	43	11	98	269	0	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	1917	21	20	1573	263	53	14	122	586	0	494
Arrive On Green	0.02	0.37	0.37	0.01	0.36	0.36	0.12	0.12	0.12	0.16	0.00	0.16
Sat Flow, veh/h	1781	5204	56	1781	4380	732	446	114	1017	3563	0	3001
Grp Volume(v), veh/h	22	663	362	11	392	203	152	0	0	269	0	59
Grp Sat Flow(s),veh/h/ln	1781	1702	1856	1781	1702	1708	1577	0	0	1781	0	1500
Q Serve(g_s), s	0.7	9.1	9.1	0.4	5.0	5.2	5.6	0.0	0.0	4.1	0.0	1.0
Cycle Q Clear(g_c), s	0.7	9.1	9.1	0.4	5.0	5.2	5.6	0.0	0.0	4.1	0.0	1.0
Prop In Lane	1.00		0.03	1.00		0.43	0.28		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	36	1254	684	20	1222	613	189	0	0	586	0	494
V/C Ratio(X)	0.60	0.53	0.53	0.55	0.32	0.33	0.81	0.00	0.00	0.46	0.00	0.12
Avail Cap(c_a), veh/h	197	1834	1000	137	1714	860	293	0	0	1913	0	1611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.0	14.8	14.8	29.4	13.9	13.9	25.6	0.0	0.0	22.6	0.0	21.3
Incr Delay (d2), s/veh	5.8	0.6	1.1	8.6	0.2	0.5	4.3	0.0	0.0	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.2	3.6	0.2	1.8	1.9	2.2	0.0	0.0	1.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	15.4	15.9	38.0	14.1	14.4	30.0	0.0	0.0	23.1	0.0	21.4
LnGrp LOS	C	B	B	D	B	B	C	A	A	C	A	C
Approach Vol, veh/h		1047			606			152			328	
Approach Delay, s/veh		16.0			14.7			30.0			22.8	
Approach LOS		B			B			C			C	

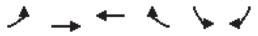
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	27.9		14.7	5.6	27.4		12.1
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	4.6	* 32		32.1	6.6	30.1		11.1
Max Q Clear Time (g_c+I1), s	2.4	11.1		6.1	2.7	7.2		7.6
Green Ext Time (p_c), s	0.0	10.9		1.0	0.0	6.1		0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	279	984	508	1330	330	69
Future Volume (veh/h)	279	984	508	1330	330	69
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	294	1036	535	1400	347	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	325	3596	1893	850	539	247
Arrive On Green	0.09	0.70	0.56	0.56	0.16	0.16
Sat Flow, veh/h	3456	5274	3572	1529	3456	1585
Grp Volume(v), veh/h	294	1036	535	1400	347	73
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1529	1728	1585
Q Serve(g_s), s	6.8	6.1	6.7	45.0	7.6	3.3
Cycle Q Clear(g_c), s	6.8	6.1	6.7	45.0	7.6	3.3
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	325	3596	1893	850	539	247
V/C Ratio(X)	0.91	0.29	0.28	1.65	0.64	0.30
Avail Cap(c_a), veh/h	325	3596	1893	850	2208	1013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	4.4	9.5	18.0	32.0	30.2
Incr Delay (d2), s/veh	27.0	0.1	0.2	296.3	2.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	1.7	2.3	83.6	3.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.3	4.6	9.7	314.3	34.2	31.3
LnGrp LOS	E	A	A	F	C	C
Approach Vol, veh/h		1330	1935		420	
Approach Delay, s/veh		17.5	230.1		33.7	
Approach LOS		B	F		C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		63.0		17.9	12.0	51.0
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		57.0		51.7	7.6	45.0
Max Q Clear Time (g_c+I1), s		8.1		9.6	8.8	47.0
Green Ext Time (p_c), s		21.0		3.0	0.0	0.0
Intersection Summary						
HCM 6th Ctrl Delay			131.0			
HCM 6th LOS			F			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	480	744	220	1818	0	0
Future Volume (veh/h)	480	744	220	1818	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	505	783	232	1914		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6542	5009	214	9957		
Arrive On Green	1.00	1.00	0.12	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	505	783	232	1914		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	6.2	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	6.2	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6542	5009	214	9957		
V/C Ratio(X)	0.08	0.16	1.08	0.19		
Avail Cap(c_a), veh/h	6542	5009	214	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.94	0.94	0.69	0.69		
Uniform Delay (d), s/veh	0.0	0.0	43.8	0.0		
Incr Delay (d2), s/veh	0.0	0.1	75.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.7	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	118.8	0.0		
LnGrp LOS	A	A	F	A		
Approach Vol, veh/h	1288			2146		
Approach Delay, s/veh	0.0			12.9		
Approach LOS	A			B		
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	10.9	194.1				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	6.3	82.1				* 96
Max Q Clear Time (g_c+I1), s	8.2	2.0				2.0
Green Ext Time (p_c), s	0.0	4.9				17.0
Intersection Summary						
HCM 6th Ctrl Delay			8.1			
HCM 6th LOS			A			

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	480	0	0	844	1134	790
Future Volume (vph)	480	0	0	844	1134	790
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.97
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2690
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2690
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	495	0	0	870	1169	814
RTOR Reduction (vph)	0	0	0	0	0	117
Lane Group Flow (vph)	495	0	0	870	1169	697
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	41.3			52.1	34.8	40.9
Effective Green, g (s)	41.3			52.1	34.8	40.9
Actuated g/C Ratio	0.41			0.52	0.35	0.41
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1461			3338	1194	1100
v/s Ratio Prot	c0.14			0.14	c0.34	c0.04
v/s Ratio Perm						0.22
v/c Ratio	0.34			0.26	0.98	0.63
Uniform Delay, d1	20.0			13.3	32.2	23.6
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.6			0.2	20.8	0.9
Delay (s)	20.8			13.5	53.0	24.5
Level of Service	C			B	D	C
Approach Delay (s)	20.8			13.5	41.3	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	29	198	69	43	37	163	3014	143	19	929	64
Future Volume (veh/h)	43	29	198	69	43	37	163	3014	143	19	929	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	133	145	74	46	40	175	3241	154	20	999	69
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	307	373	132	81	58	197	2135	100	51	1806	125
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.15	0.82	0.82	0.03	0.54	0.54
Sat Flow, veh/h	326	1259	1533	388	332	240	1781	3447	162	1781	3363	232
Grp Volume(v), veh/h	179	0	145	160	0	0	175	1654	1741	20	528	540
Grp Sat Flow(s),veh/h/ln	1586	0	1533	959	0	0	1781	1777	1832	1781	1777	1818
Q Serve(g_s), s	0.0	0.0	11.1	12.5	0.0	0.0	13.5	86.7	86.7	1.5	27.4	27.4
Cycle Q Clear(g_c), s	13.0	0.0	11.1	25.5	0.0	0.0	13.5	86.7	86.7	1.5	27.4	27.4
Prop In Lane	0.26		1.00	0.46		0.25	1.00		0.09	1.00		0.13
Lane Grp Cap(c), veh/h	419	0	373	271	0	0	197	1100	1135	51	954	977
V/C Ratio(X)	0.43	0.00	0.39	0.59	0.00	0.00	0.89	1.50	1.53	0.39	0.55	0.55
Avail Cap(c_a), veh/h	419	0	373	271	0	0	198	1100	1135	771	954	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	0.0	44.2	52.4	0.0	0.0	58.8	12.3	12.3	66.8	21.3	21.3
Incr Delay (d2), s/veh	3.2	0.0	3.0	9.1	0.0	0.0	4.7	226.8	240.9	1.8	2.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	4.6	6.0	0.0	0.0	6.0	82.6	89.6	0.7	11.4	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	0.0	47.3	61.5	0.0	0.0	63.5	239.2	253.3	68.6	23.6	23.6
LnGrp LOS	D	A	D	E	A	A	E	F	F	E	C	C
Approach Vol, veh/h		324			160			3570			1088	
Approach Delay, s/veh		47.6			61.5			237.4			24.4	
Approach LOS		D			E			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	81.1		39.0	8.4	92.6		39.0				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	5.6	75.1		34.1	60.6	* 30		34.1				
Max Q Clear Time (g_c+I1), s	15.5	29.4		27.5	3.5	88.7		15.0				
Green Ext Time (p_c), s	0.0	10.8		0.3	0.0	0.0		0.9				

Intersection Summary		
HCM 6th Ctrl Delay	174.9	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	787	324	168	270	247	406	94	1988	239	289	738	426
Future Volume (veh/h)	787	324	168	270	247	406	94	1988	239	289	738	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	894	368	191	307	281	461	107	2259	272	328	839	484
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1232	501	138	1232	535	71	1319	579	138	1319	584
Arrive On Green	0.04	0.35	0.35	0.04	0.35	0.35	0.04	0.37	0.37	0.04	0.37	0.37
Sat Flow, veh/h	3456	3554	1444	3456	3554	1543	1781	3554	1559	3456	3554	1572
Grp Volume(v), veh/h	894	368	191	307	281	461	107	2259	272	328	839	484
Grp Sat Flow(s),veh/h/ln	1728	1777	1444	1728	1777	1543	1781	1777	1559	1728	1777	1572
Q Serve(g_s), s	4.0	7.5	10.0	4.0	5.6	27.8	4.0	37.1	13.3	4.0	19.4	28.0
Cycle Q Clear(g_c), s	4.0	7.5	10.0	4.0	5.6	27.8	4.0	37.1	13.3	4.0	19.4	28.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1232	501	138	1232	535	71	1319	579	138	1319	584
V/C Ratio(X)	6.47	0.30	0.38	2.22	0.23	0.86	1.50	1.71	0.47	2.37	0.64	0.83
Avail Cap(c_a), veh/h	138	1411	573	138	1386	602	71	1319	579	138	1319	584
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	23.8	24.6	48.0	23.2	30.4	48.0	31.4	23.9	48.0	25.9	28.6
Incr Delay (d2), s/veh	2475.7	0.3	1.0	572.2	0.2	12.7	285.6	323.8	2.7	639.5	2.3	12.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	49.2	3.2	3.5	12.7	2.4	11.9	7.4	73.9	5.2	13.9	8.1	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2523.7	24.1	25.6	620.2	23.3	43.1	333.6	355.2	26.7	687.5	28.2	41.4
LnGrp LOS	F	C	C	F	C	D	F	F	C	F	C	D
Approach Vol, veh/h		1453			1049			2638			1651	
Approach Delay, s/veh		1562.2			206.7			320.5			163.1	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	42.8	8.4	40.4	8.4	42.8	8.4	40.4
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7
Max Green Setting (Gmax), s	4.0	32.8	4.0	* 40	4.0	* 33	4.0	39.0
Max Q Clear Time (g_c+I1), s	6.0	39.1	6.0	12.0	6.0	30.0	6.0	29.8
Green Ext Time (p_c), s	0.0	0.0	0.0	6.5	0.0	2.9	0.0	4.2

Intersection Summary	
HCM 6th Ctrl Delay	530.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	171	0	0	1019	454	1223	0	0	1068	140
Future Vol, veh/h	0	0	171	0	0	1019	454	1223	0	0	1068	140
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	186	0	0	1108	493	1329	0	0	1161	152

Major/Minor	Minor2					Major1			Major2			
Conflicting Flow All	-	-	581			1161	0	-	-	-	0	
Stage 1	-	-	-			-	-	-	-	-	-	
Stage 2	-	-	-			-	-	-	-	-	-	
Critical Hdwy	-	-	6.94			4.3	-	-	-	-	-	
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-	
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-	
Pot Cap-1 Maneuver	0	0	457			567	-	0	0	-	-	
Stage 1	0	0	-			-	-	0	0	-	-	
Stage 2	0	0	-			-	-	0	0	-	-	
Platoon blocked, %							-			-	-	
Mov Cap-1 Maneuver	-	0	457			567	-	-	-	-	-	
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-	
Stage 1	-	0	-			-	-	-	-	-	-	
Stage 2	-	0	-			-	-	-	-	-	-	

Approach	EB	NB	SB
HCM Control Delay, s	18.2	10.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	567	-	457	-	-
HCM Lane V/C Ratio	0.87	-	0.407	-	-
HCM Control Delay (s)	39.9	-	18.2	-	-
HCM Lane LOS	E	-	C	-	-
HCM 95th %tile Q(veh)	9.8	-	1.9	-	-

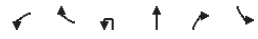
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	147	264	1528	808	454	758
Future Volume (veh/h)	147	264	1528	808	454	758
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	287	1661	0	493	824
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	368	327	1393		357	2300
Arrive On Green	0.21	0.21	0.39	0.00	0.20	0.65
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	160	287	1661	0	493	824
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.8	15.1	33.8	0.0	17.3	9.2
Cycle Q Clear(g_c), s	6.8	15.1	33.8	0.0	17.3	9.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	368	327	1393		357	2300
V/C Ratio(X)	0.43	0.88	1.19		1.38	0.36
Avail Cap(c_a), veh/h	661	588	1393		357	2300
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	33.1	26.2	0.0	34.5	7.0
Incr Delay (d2), s/veh	0.3	3.0	93.8	0.0	187.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	5.9	30.8	0.0	25.6	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.1	36.1	120.0	0.0	221.7	7.4
LnGrp LOS	C	D	F		F	A
Approach Vol, veh/h	447		1661	A		1317
Approach Delay, s/veh	34.0		120.0			87.6
Approach LOS	C		F			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	41.3		22.9		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		* 56
Max Q Clear Time (g_c+I1), s	19.3	35.8		17.1		11.2
Green Ext Time (p_c), s	0.0	0.0		0.7		3.7

Intersection Summary	
HCM 6th Ctrl Delay	96.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	337	225	0	2934	299	188	1002
Future Volume (veh/h)	337	225	0	2934	299	188	1002
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	366	245		3189	325	204	1089
Peak Hour Factor	0.92	0.92		0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	390	347		2157	954	232	2489
Arrive On Green	0.22	0.22		0.61	0.61	0.07	0.70
Sat Flow, veh/h	1781	1585		3647	1572	3456	3647
Grp Volume(v), veh/h	366	245		3189	325	204	1089
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1572	1728	1777
Q Serve(g_s), s	28.3	20.0		85.0	14.3	8.2	18.5
Cycle Q Clear(g_c), s	28.3	20.0		85.0	14.3	8.2	18.5
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	390	347		2157	954	232	2489
V/C Ratio(X)	0.94	0.71		1.48	0.34	0.88	0.44
Avail Cap(c_a), veh/h	397	353		2157	954	232	2489
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	50.5		27.5	13.6	64.7	9.1
Incr Delay (d2), s/veh	30.3	7.0		218.0	1.0	28.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.9	17.6		97.5	5.1	4.5	6.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	84.0	57.5		245.5	14.6	93.5	9.6
LnGrp LOS	F	E		F	B	F	A
Approach Vol, veh/h	611			3514			1293
Approach Delay, s/veh	73.4			224.1			22.8
Approach LOS	E			F			C
Timer - Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	13.8	90.7		35.5		104.5	
Change Period (Y+Rc), s	4.4	5.7		4.9		6.4	
Max Green Setting (Gmax), s	9.4	84.4		31.2		89.1	
Max Q Clear Time (g_c+I1), s	10.3	87.0		30.3		20.5	
Green Ext Time (p_c), s	0.0	0.0		0.4		5.4	

Intersection Summary	
HCM 6th Ctrl Delay	159.1
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
33: Genesee Avenue & Executive Drive

LT + P AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	110	51	113	64	87	101	2045	528	86	627	65
Future Volume (veh/h)	37	110	51	113	64	87	101	2045	528	86	627	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	118	55	122	69	94	109	2199	568	92	674	70
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	301	130	139	246	205	84	2588	621	97	3004	309
Arrive On Green	0.03	0.13	0.13	0.04	0.14	0.14	0.05	0.63	0.63	0.05	0.64	0.64
Sat Flow, veh/h	1781	2361	1021	3456	1777	1479	1781	4093	981	1781	4693	483
Grp Volume(v), veh/h	40	87	86	122	69	94	109	1801	966	92	487	257
Grp Sat Flow(s),veh/h/ln	1781	1777	1605	1728	1777	1479	1781	1702	1670	1781	1702	1772
Q Serve(g_s), s	2.9	5.9	6.6	4.6	4.6	7.7	6.2	54.5	66.7	6.8	7.9	8.1
Cycle Q Clear(g_c), s	2.9	5.9	6.6	4.6	4.6	7.7	6.2	54.5	66.7	6.8	7.9	8.1
Prop In Lane	1.00		0.64	1.00		1.00	1.00		0.59	1.00		0.27
Lane Grp Cap(c), veh/h	51	226	205	139	246	205	84	2153	1056	97	2179	1134
V/C Ratio(X)	0.78	0.38	0.42	0.88	0.28	0.46	1.30	0.84	0.92	0.95	0.22	0.23
Avail Cap(c_a), veh/h	103	530	479	139	499	416	84	2153	1056	97	2179	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	52.8	53.1	63.0	50.9	52.3	62.9	18.9	21.2	62.2	10.0	10.0
Incr Delay (d2), s/veh	9.0	0.4	0.5	41.6	0.2	0.6	199.5	4.0	13.6	77.7	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	2.7	2.7	2.8	2.1	2.9	7.4	20.2	26.8	5.1	2.8	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	53.2	53.6	104.6	51.2	52.9	262.4	23.0	34.7	139.9	10.2	10.5
LnGrp LOS	E	D	D	F	D	D	F	C	C	F	B	B
Approach Vol, veh/h		213			285			2876			836	
Approach Delay, s/veh		57.1			74.6			36.0			24.6	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	89.0	9.7	21.7	10.6	90.0	8.2	23.2
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	7.2	60.9	5.3	39.4	6.2	* 62	7.6	37.1
Max Q Clear Time (g_c+I1), s	9.9	68.7	6.6	8.6	8.2	10.1	4.9	9.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.7	0.0	7.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
34: Lombard Place & Nobel Drive

LT + P AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	1283	19	9	788	46	44	4	25	63	2	79
Future Volume (veh/h)	138	1283	19	9	788	46	44	4	25	63	2	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	150	1395	21	10	857	50	48	4	27	68	2	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	2233	34	18	1792	105	158	30	45	309	4	183
Arrive On Green	0.11	0.62	0.62	0.01	0.53	0.53	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1781	3584	54	1781	3412	199	483	252	381	1378	36	1554
Grp Volume(v), veh/h	150	691	725	10	446	461	79	0	0	68	0	88
Grp Sat Flow(s),veh/h/ln	1781	1777	1861	1781	1777	1835	1116	0	0	1378	0	1591
Q Serve(g_s), s	4.7	13.8	13.8	0.3	9.2	9.2	1.5	0.0	0.0	0.0	0.0	3.0
Cycle Q Clear(g_c), s	4.7	13.8	13.8	0.3	9.2	9.2	4.5	0.0	0.0	2.2	0.0	3.0
Prop In Lane	1.00		0.03	1.00		0.11	0.61		0.34	1.00		0.98
Lane Grp Cap(c), veh/h	193	1107	1160	18	933	964	232	0	0	309	0	187
V/C Ratio(X)	0.78	0.62	0.62	0.55	0.48	0.48	0.34	0.00	0.00	0.22	0.00	0.47
Avail Cap(c_a), veh/h	514	2009	2103	235	1734	1790	880	0	0	940	0	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	6.7	6.7	28.3	8.7	8.7	24.3	0.0	0.0	23.3	0.0	23.7
Incr Delay (d2), s/veh	2.6	0.7	0.7	9.1	0.6	0.6	0.3	0.0	0.0	0.1	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.8	4.0	0.2	3.0	3.0	1.0	0.0	0.0	0.8	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	7.4	7.4	37.4	9.3	9.3	24.6	0.0	0.0	23.5	0.0	24.4
LnGrp LOS	C	A	A	D	A	A	C	A	A	C	A	C
Approach Vol, veh/h		1566			917			79			156	
Approach Delay, s/veh		9.3			9.6			24.6			24.0	
Approach LOS		A			A			C			C	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	5.0	40.8	11.7	10.6	35.2	11.7
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	7.6	65.0	33.1	16.6	* 56	33.1
Max Q Clear Time (g_c+I1), s	2.3	15.8	5.0	6.7	11.2	6.5
Green Ext Time (p_c), s	0.0	20.0	0.4	0.1	12.4	0.3

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
1: Genesee Avenue & Eastgate Mall

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	280	120	214	410	520	170	795	150	630	1313	70
Future Volume (veh/h)	50	280	120	214	410	520	170	795	150	630	1313	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.92	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	301	129	230	441	559	183	855	161	677	1412	75
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	585	242	170	537	439	157	1369	256	652	2090	111
Arrive On Green	0.04	0.25	0.25	0.10	0.30	0.30	0.09	0.32	0.32	0.19	0.42	0.42
Sat Flow, veh/h	1781	2379	984	1781	1777	1451	1781	4259	795	3456	4949	263
Grp Volume(v), veh/h	54	222	208	230	441	559	183	682	334	677	971	516
Grp Sat Flow(s),veh/h/ln	1781	1777	1586	1781	1777	1451	1781	1702	1650	1728	1702	1808
Q Serve(g_s), s	4.0	14.2	15.0	12.6	30.4	39.9	11.6	22.4	22.7	24.9	30.4	30.4
Cycle Q Clear(g_c), s	4.0	14.2	15.0	12.6	30.4	39.9	11.6	22.4	22.7	24.9	30.4	30.4
Prop In Lane	1.00		0.62	1.00		1.00	1.00		0.48	1.00		0.15
Lane Grp Cap(c), veh/h	70	437	390	170	537	439	157	1095	530	652	1438	763
V/C Ratio(X)	0.78	0.51	0.53	1.35	0.82	1.27	1.17	0.62	0.63	1.04	0.68	0.68
Avail Cap(c_a), veh/h	143	513	458	170	537	439	157	1095	530	652	1438	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.9	42.9	43.2	59.7	42.7	46.1	60.2	38.0	38.1	53.5	30.8	30.8
Incr Delay (d2), s/veh	6.7	0.3	0.4	192.2	9.3	140.3	116.9	2.1	4.4	45.6	2.6	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.3	6.0	14.8	14.7	31.4	10.3	9.7	9.9	14.9	12.9	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.6	43.2	43.6	251.9	52.0	186.4	177.1	40.1	42.5	99.2	33.4	35.6
LnGrp LOS	E	D	D	F	D	F	F	D	D	F	C	D
Approach Vol, veh/h		484			1230			1199			2164	
Approach Delay, s/veh		46.3			150.5			61.7			54.5	
Approach LOS		D			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.3	48.1	17.0	37.6	16.0	61.4	9.6	45.0
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.1	4.4	5.7	4.4	5.1
Max Green Setting (Gmax), s	24.9	37.0	12.6	* 38	11.6	50.3	10.6	39.9
Max Q Clear Time (g_c+I1), s	26.9	24.7	14.6	17.0	13.6	32.4	6.0	41.9
Green Ext Time (p_c), s	0.0	7.1	0.0	1.7	0.0	12.9	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay	78.7		
HCM 6th LOS	E		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
2: La Jolla Village Drive & I-5 SB Off Ramp

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2639	950	0	1646	1450	0	0	0	849	0	760
Future Volume (vph)	0	2639	950	0	1646	1450	0	0	0	849	0	760
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0				4.6		4.2
Lane Util. Factor		0.86	1.00		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.97				1.00		0.98
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		6408	1538		5085	1533				3433		2733
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		6408	1538		5085	1533				3433		2733
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2693	969	0	1680	1480	0	0	0	866	0	776
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	9
Lane Group Flow (vph)	0	2693	969	0	1680	1480	0	0	0	866	0	767
Confl. Peds. (#/hr)	16		10	10		16	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free					Prot	custom
Protected Phases		2			6						4	5
Permitted Phases			Free			Free						4
Actuated Green, G (s)		52.3	138.0		42.1	138.0					75.4	81.4
Effective Green, g (s)		52.3	138.0		42.1	138.0					75.4	81.4
Actuated g/C Ratio		0.38	1.00		0.31	1.00					0.55	0.59
Clearance Time (s)		5.7			5.7						4.6	4.2
Vehicle Extension (s)		2.0			2.0						2.0	2.0
Lane Grp Cap (vph)		2428	1538		1551	1533					1875	1612
v/s Ratio Prot		c0.42			0.33						0.25	0.02
v/s Ratio Perm			0.63			c0.97						0.26
v/c Ratio		1.11	0.63		1.08	0.97					0.46	0.48
Uniform Delay, d1		42.9	0.0		48.0	0.0					19.0	16.1
Progression Factor		1.00	1.00		0.97	1.00					1.00	1.00
Incremental Delay, d2		55.8	2.0		42.5	8.1					0.8	0.1
Delay (s)		98.6	2.0		89.1	8.1					19.8	16.2
Level of Service		F	A		F	A					B	B
Approach Delay (s)		73.0			51.2			0.0			18.1	
Approach LOS		E			D			A			B	

Intersection Summary					
HCM 2000 Control Delay	54.2	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	1.11				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		14.5	
Intersection Capacity Utilization	71.0%	ICU Level of Service		C	
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1928	1560	0	2726	780	360	0	490	0	0	0
Future Volume (vph)	0	1928	1560	0	2726	780	360	0	490	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	4.0		5.7	4.0	4.6		4.2			
Lane Util. Factor		0.91	1.00		0.91	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.97		1.00	0.97	1.00		0.98			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1538		5085	1538	3433		2734			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1538		5085	1538	3433		2734			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1988	1608	0	2810	804	371	0	505	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	11	0	0	0
Lane Group Flow (vph)	0	1988	1608	0	2810	804	371	0	494	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	Free	Prot		custom			
Protected Phases		2			6		8		1			
Permitted Phases			Free			Free			8			
Actuated Green, G (s)		60.0	138.0		76.0	138.0	51.7		63.5			
Effective Green, g (s)		60.0	138.0		76.0	138.0	51.7		63.5			
Actuated g/C Ratio		0.43	1.00		0.55	1.00	0.37		0.46			
Clearance Time (s)		5.7			5.7		4.6		4.2			
Vehicle Extension (s)		2.0			2.0		2.0		2.0			
Lane Grp Cap (vph)		2210	1538		2800	1538	1286		1258			
v/s Ratio Prot		0.39			0.55		0.11		0.03			
v/s Ratio Perm			c1.05			0.52			0.15			
v/c Ratio		0.90	1.05		1.00	0.52	0.29		0.39			
Uniform Delay, d1		36.2	69.0		31.0	0.0	30.3		24.5			
Progression Factor		0.60	1.00		1.00	1.00	1.00		1.00			
Incremental Delay, d2		2.4	27.3		17.9	1.3	0.6		0.9			
Delay (s)		23.9	96.3		48.9	1.3	30.8		25.5			
Level of Service		C	F		D	A	C		C			
Approach Delay (s)		56.3			38.3			27.7			0.0	
Approach LOS		E			D			C			A	

Intersection Summary				
HCM 2000 Control Delay	45.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.17			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	71.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2345	343	350	2897	8	599	10	160	18	10	10
Future Volume (veh/h)	20	2345	343	350	2897	8	599	10	160	18	10	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	2468	361	368	3049	8	631	0	175	19	11	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	2371	1123	422	3002	8	914	0	782	28	16	29
Arrive On Green	0.02	0.46	0.46	0.12	0.57	0.57	0.26	0.00	0.26	0.02	0.02	0.02
Sat Flow, veh/h	1781	5106	1544	3456	5257	14	3563	0	3047	1148	665	1194
Grp Volume(v), veh/h	21	2468	361	368	1973	1084	631	0	175	30	0	11
Grp Sat Flow(s),veh/h/ln	1781	1702	1544	1728	1702	1867	1781	0	1524	1813	0	1194
Q Serve(g_s), s	1.8	69.7	12.8	15.7	85.6	85.6	24.0	0.0	6.8	2.5	0.0	1.4
Cycle Q Clear(g_c), s	1.8	69.7	12.8	15.7	85.6	85.6	24.0	0.0	6.8	2.5	0.0	1.4
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.63		1.00
Lane Grp Cap(c), veh/h	28	2371	1123	422	1944	1066	914	0	782	44	0	29
V/C Ratio(X)	0.76	1.04	0.32	0.87	1.02	1.02	0.69	0.00	0.22	0.68	0.00	0.38
Avail Cap(c_a), veh/h	447	2371	1123	728	1944	1066	1451	0	1241	50	0	33
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.50	0.50	0.50	0.09	0.09	0.09	0.86	0.00	0.86	1.00	0.00	1.00
Uniform Delay (d), s/veh	73.6	40.2	7.6	64.7	32.2	32.2	50.4	0.0	44.0	72.6	0.0	72.1
Incr Delay (d2), s/veh	7.6	25.3	0.4	0.2	10.4	12.9	3.7	0.0	0.6	20.7	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	34.3	9.3	6.9	36.8	41.1	11.2	0.0	2.7	1.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.2	65.5	8.0	64.9	42.6	45.1	54.1	0.0	44.6	93.3	0.0	75.0
LnGrp LOS	F	F	A	E	F	F	D	A	D	F	A	E
Approach Vol, veh/h		2850			3425			806			41	
Approach Delay, s/veh		58.3			45.8			52.0			88.4	
Approach LOS		E			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	22.7	75.4		8.6	6.7	91.3		43.4
Change Period (Y+Rc), s	4.4	* 5.7		4.9	4.4	5.7		4.9
Max Green Setting (Gmax), s	31.6	* 34		4.1	37.6	27.3		61.1
Max Q Clear Time (g_c+I1), s	17.3	71.7		4.5	3.8	87.6		26.0
Green Ext Time (p_c), s	0.6	0.0		0.0	0.0	0.0		12.5

Intersection Summary		
HCM 6th Ctrl Delay	51.8	
HCM 6th LOS	D	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

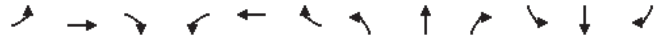
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	1858	146	538	2147	137	338	280	198	325	960	1110
Future Volume (veh/h)	510	1858	146	538	2147	137	338	280	198	325	960	1110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.89	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	531	1935	152	560	2236	143	352	292	206	339	1000	1156
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	551	1933	151	405	1759	111	221	964	383	340	1414	581
Arrive On Green	0.16	0.40	0.40	0.04	0.12	0.12	0.02	0.09	0.09	0.19	0.40	0.40
Sat Flow, veh/h	3456	4815	376	3456	4895	310	3456	3554	1411	1781	3554	1460
Grp Volume(v), veh/h	531	1365	722	560	1548	831	352	292	206	339	1000	1156
Grp Sat Flow(s),veh/h/ln	1728	1702	1787	1728	1702	1801	1728	1777	1411	1781	1777	1460
Q Serve(g_s), s	22.9	60.1	60.2	17.6	53.9	53.9	9.6	11.5	21.0	28.5	35.4	59.7
Cycle Q Clear(g_c), s	22.9	60.1	60.2	17.6	53.9	53.9	9.6	11.5	21.0	28.5	35.4	59.7
Prop In Lane	1.00		0.21	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	551	1366	717	405	1223	647	221	964	383	340	1414	581
V/C Ratio(X)	0.96	1.00	1.01	1.38	1.27	1.28	1.59	0.30	0.54	1.00	0.71	1.99
Avail Cap(c_a), veh/h	551	1366	717	405	1223	647	221	964	383	340	1414	581
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.6	44.9	44.9	72.1	66.1	66.1	73.4	55.0	59.3	60.7	37.8	45.2
Incr Delay (d2), s/veh	5.5	7.0	11.8	186.3	126.1	139.5	283.1	0.2	1.5	48.3	1.8	451.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	26.4	28.8	18.7	46.2	51.3	13.2	5.6	8.2	17.5	15.8	94.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.2	51.9	56.7	258.4	192.2	205.6	356.5	55.2	60.7	109.0	39.6	496.7
LnGrp LOS	E	D	F	F	F	F	F	E	E	F	D	F
Approach Vol, veh/h		2618			2939			850			2495	
Approach Delay, s/veh		56.5			208.6			181.3			260.8	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	66.1	14.0	65.4	28.3	59.8	33.0	46.4
Change Period (Y+Rc), s	4.4	* 5.4	4.4	* 5.7	4.4	5.4	4.4	5.7
Max Green Setting (Gmax), s	17.6	* 44	9.6	* 60	23.9	37.3	28.6	40.3
Max Q Clear Time (g_c+I1), s	13.6	62.2	11.6	61.7	24.9	55.9	30.5	23.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1

Intersection Summary		
HCM 6th Ctrl Delay		175.9
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2095	296	0	2512	80	0	0	126	0	0	280
Future Volume (Veh/h)	0	2095	296	0	2512	80	0	0	126	0	0	280
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2277	322	0	2730	87	0	0	137	0	0	304
Pedestrians		10			10			10			18	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		700			700							
pX, platoon unblocked	0.66			0.72			0.80	0.80	0.72	0.80	0.80	0.66
vC, conflicting volume	2835			2609			3672	5283	940	3698	5400	982
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1969			1877			1099	3120	0	1131	3267	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	82	100	100	56
cM capacity (veh/h)	189			226			72	9	769	99	7	697

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	911	911	777	1092	1092	633	137	304
Volume Left	0	0	0	0	0	0	0	0
Volume Right	0	0	322	0	0	87	137	304
cSH	1700	1700	1700	1700	1700	1700	769	697
Volume to Capacity	0.54	0.54	0.46	0.64	0.64	0.37	0.18	0.44
Queue Length 95th (ft)	0	0	0	0	0	0	16	56
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.7	14.1
Lane LOS							B	B
Approach Delay (s)	0.0			0.0			10.7	14.1
Approach LOS							B	B

Intersection Summary				
Average Delay		1.0		
Intersection Capacity Utilization		75.4%	ICU Level of Service	D
Analysis Period (min)		15		

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	1460	525	658	1720	220	386	499	353	660	1399	480
Future Volume (veh/h)	226	1460	525	658	1720	220	386	499	353	660	1399	480
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.92	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	1553	559	700	1830	234	411	531	376	702	1488	511
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	280	2219	661	544	2609	1117	359	899	258	733	1450	427
Arrive On Green	0.16	0.87	0.87	0.05	0.17	0.17	0.03	0.06	0.06	0.21	0.28	0.28
Sat Flow, veh/h	3456	5106	1522	3456	5106	1528	3456	5106	1466	3456	5106	1503
Grp Volume(v), veh/h	240	1553	559	700	1830	234	411	531	376	702	1488	511
Grp Sat Flow(s),veh/h/ln	1728	1702	1522	1728	1702	1528	1728	1702	1466	1728	1702	1503
Q Serve(g_s), s	10.1	15.2	27.1	23.6	50.7	11.4	15.6	15.2	26.4	30.1	42.6	42.6
Cycle Q Clear(g_c), s	10.1	15.2	27.1	23.6	50.7	11.4	15.6	15.2	26.4	30.1	42.6	42.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	2219	661	544	2609	1117	359	899	258	733	1450	427
V/C Ratio(X)	0.86	0.70	0.85	1.29	0.70	0.21	1.14	0.59	1.46	0.96	1.03	1.20
Avail Cap(c_a), veh/h	290	2219	661	544	2609	1117	359	899	258	733	1450	427
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.73	0.73	0.73	0.44	0.44	0.44
Uniform Delay (d), s/veh	62.0	6.5	7.3	71.1	51.6	12.5	72.4	65.4	70.6	58.4	53.7	53.7
Incr Delay (d2), s/veh	20.0	1.9	12.6	130.7	0.1	0.0	86.4	0.8	221.0	13.4	22.8	98.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	3.0	5.3	20.9	23.3	4.6	11.6	7.1	26.3	14.5	21.2	27.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.0	8.4	19.9	201.8	51.7	12.5	158.8	66.2	291.7	71.8	76.5	152.4
LnGrp LOS	F	A	B	F	D	B	F	E	F	E	F	F
Approach Vol, veh/h		2352			2764			1318			2701	
Approach Delay, s/veh		18.6			86.4			159.4			89.6	
Approach LOS		B			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	71.2	20.0	48.3	16.6	82.6	36.2	32.1
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	23.6	* 49	15.6	* 43	12.6	59.5	31.8	26.1
Max Q Clear Time (g_c+I1), s	25.6	29.1	17.6	44.6	12.1	52.7	32.1	28.4
Green Ext Time (p_c), s	0.0	18.5	0.0	0.0	0.0	6.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	80.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Executive Way & La Jolla Village Drive

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	2113	260	400	2318	120	220	90	370	420	140	280
Future Volume (veh/h)	100	2113	260	400	2318	120	220	90	370	420	140	280
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.92	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	2546	313	482	2793	145	186	218	446	337	405	337
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	1750	529	267	1848	94	424	445	691	378	397	324
Arrive On Green	0.06	0.46	0.46	0.05	0.25	0.25	0.24	0.24	0.24	0.21	0.21	0.21
Sat Flow, veh/h	1781	5106	1542	3456	4967	253	1781	1870	2902	1781	1870	1528
Grp Volume(v), veh/h	120	2546	313	482	1896	1042	186	218	446	337	405	337
Grp Sat Flow(s),veh/h/ln	1781	1702	1542	1728	1702	1816	1781	1870	1451	1781	1870	1528
Q Serve(g_s), s	7.2	51.4	22.7	11.6	55.8	55.8	13.3	15.1	20.8	27.6	31.8	31.8
Cycle Q Clear(g_c), s	7.2	51.4	22.7	11.6	55.8	55.8	13.3	15.1	20.8	27.6	31.8	31.8
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	1750	529	267	1266	676	424	445	691	378	397	324
V/C Ratio(X)	1.40	1.46	0.59	1.80	1.50	1.54	0.44	0.49	0.65	0.89	1.02	1.04
Avail Cap(c_a), veh/h	86	1750	529	267	1266	676	500	525	815	378	397	324
HCM Platoon Ratio	1.33	1.33	1.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.24	0.24	0.24	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.2	40.8	33.0	71.1	56.3	56.3	48.6	49.3	51.5	57.4	59.1	59.1
Incr Delay (d2), s/veh	197.7	205.6	1.2	363.0	224.2	244.6	0.3	0.3	0.8	25.1	50.7	60.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	53.5	8.2	18.8	64.2	72.3	6.0	7.2	7.7	15.1	20.7	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	267.9	246.4	34.2	434.1	280.5	300.9	48.9	49.6	52.3	82.5	109.8	120.0
LnGrp LOS	F	F	C	F	F	F	D	D	D	F	F	F
Approach Vol, veh/h		2979			3420			850			1079	
Approach Delay, s/veh		224.9			308.4			50.8			104.5	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	56.7		36.7	11.6	61.1		40.6
Change Period (Y+Rc), s	4.4	5.3		4.9	4.4	5.3		4.9
Max Green Setting (Gmax), s	11.6	45.0		31.8	7.2	49.4		42.1
Max Q Clear Time (g_c+I1), s	13.3	53.4		33.8	9.2	57.8		22.8
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		2.2

Intersection Summary	
HCM 6th Ctrl Delay	225.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

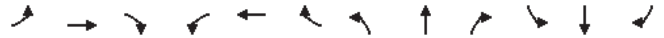
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	2513	118	400	2112	500	228	220	550	1350	560	497
Future Volume (veh/h)	272	2513	118	400	2112	500	228	220	550	1350	560	497
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	320	2956	139	471	2485	588	268	259	647	1588	659	585
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	1985	600	256	2053	1072	299	869	867	705	1286	559
Arrive On Green	0.09	0.52	0.52	0.07	0.40	0.40	0.09	0.24	0.24	0.20	0.36	0.36
Sat Flow, veh/h	3456	5106	1543	3456	5106	2668	3456	3554	2698	3456	3554	1544
Grp Volume(v), veh/h	320	2956	139	471	2485	588	268	259	647	1588	659	585
Grp Sat Flow(s),veh/h/ln	1728	1702	1543	1728	1702	1334	1728	1777	1349	1728	1777	1544
Q Serve(g_s), s	9.6	58.3	7.4	11.1	60.3	25.4	11.5	8.9	32.2	30.6	21.8	54.3
Cycle Q Clear(g_c), s	9.6	58.3	7.4	11.1	60.3	25.4	11.5	8.9	32.2	30.6	21.8	54.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	221	1985	600	256	2053	1072	299	869	867	705	1286	559
V/C Ratio(X)	1.45	1.49	0.23	1.84	1.21	0.55	0.89	0.30	0.75	2.25	0.51	1.05
Avail Cap(c_a), veh/h	221	1985	600	256	2053	1072	299	877	872	705	1286	559
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.20	0.20	0.20	0.64	0.64	0.64	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.6	36.2	23.9	69.4	44.9	34.4	67.8	46.2	45.8	59.7	37.5	47.8
Incr Delay (d2), s/veh	203.4	220.5	0.1	381.9	95.8	0.4	18.9	0.3	2.9	568.2	0.6	50.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	62.8	2.7	18.5	43.4	8.4	5.9	4.0	11.2	69.0	9.7	28.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.1	256.8	24.0	451.3	140.6	34.8	86.7	46.4	48.7	627.9	38.1	98.8
LnGrp LOS	F	F	C	F	F	C	F	D	D	F	D	F
Approach Vol, veh/h		3415			3544			1174			2832	
Approach Delay, s/veh		248.7			164.4			56.9			381.4	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	64.0	17.4	59.6	14.0	66.0	35.0	42.0
Change Period (Y+Rc), s	4.9	5.5	4.4	5.3	4.4	* 5.5	4.4	* 5.3
Max Green Setting (Gmax), s	11.1	51.5	13.0	54.3	9.6	* 54	30.6	* 37
Max Q Clear Time (g_c+I1), s	13.1	60.3	13.5	56.3	11.6	62.3	32.6	34.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9

Intersection Summary			
HCM 6th Ctrl Delay	235.2		
HCM 6th LOS	F		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	2867	1546	0	2324	1010	0	0	0	240	0	688
Future Volume (vph)	0	2867	1546	0	2324	1010	0	0	0	240	0	688
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1544				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1544				3433		2787
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	3295	1777	0	2671	1161	0	0	0	276	0	791
RTOR Reduction (vph)	0	0	0	0	0	185	0	0	0	0	0	22
Lane Group Flow (vph)	0	3295	1777	0	2671	976	0	0	0	276	0	769
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov				Prot		custom
Protected Phases		2			6	4				4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		81.2	138.0		70.9	114.6				43.7		54.9
Effective Green, g (s)		81.2	138.0		70.9	114.6				43.7		54.9
Actuated g/C Ratio		0.59	1.00		0.51	0.83				0.32		0.40
Clearance Time (s)		7.5			7.5	5.6				5.6		
Vehicle Extension (s)		2.0			2.0	2.0				2.0		
Lane Grp Cap (vph)		2992	2707		2612	1282				1087		1108
v/s Ratio Prot		c0.65			0.53	c0.24				0.08		0.28
v/s Ratio Perm			0.66			0.39						
v/c Ratio		1.10	0.66		1.02	0.76				0.25		0.69
Uniform Delay, d1		28.4	0.0		33.5	5.4				35.0		34.6
Progression Factor		1.00	1.00		0.57	61.05				1.00		1.00
Incremental Delay, d2		51.4	1.3		16.2	0.8				0.0		1.5
Delay (s)		79.8	1.3		35.5	330.1				35.1		36.1
Level of Service		E	A		D	F				D		D
Approach Delay (s)		52.3			124.7			0.0			35.8	
Approach LOS		D			F			A			D	

Intersection Summary					
HCM 2000 Control Delay	78.4	HCM 2000 Level of Service		E	
HCM 2000 Volume to Capacity ratio	1.02				
Actuated Cycle Length (s)	138.0	Sum of lost time (s)		17.8	
Intersection Capacity Utilization	80.9%	ICU Level of Service		D	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: I-805 NB Ramps & Miramar Road

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1431	1676	0	2556	1110	779	0	320	0	0	0
Future Volume (vph)	0	1431	1676	0	2556	1110	779	0	320	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1564		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1564		6408	1538	3433		2787			
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	1626	1905	0	2905	1261	885	0	364	0	0	0
RTOR Reduction (vph)	0	0	181	0	0	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	1626	1724	0	2905	1261	885	0	347	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		46.8	115.1		56.6	138.0	68.3		79.0			
Effective Green, g (s)		46.8	115.1		56.6	138.0	68.3		73.4			
Actuated g/C Ratio		0.34	0.83		0.41	1.00	0.49		0.53			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		1724	1304		2628	1538	1699		1482			
v/s Ratio Prot		0.32	c0.65		c0.45		0.26		0.12			
v/s Ratio Perm			0.45			0.82						
v/c Ratio		0.94	1.32		1.11	0.82	0.52		0.23			
Uniform Delay, d1		44.3	11.5		40.7	0.0	23.7		17.3			
Progression Factor		1.36	9.33		1.00	1.00	1.00		1.00			
Incremental Delay, d2		1.5	145.4		53.8	5.0	0.1		0.0			
Delay (s)		61.9	252.3		94.5	5.0	23.8		17.3			
Level of Service		E	F		F	A	C		B			
Approach Delay (s)		164.6			67.4			21.9			0.0	
Approach LOS		F			E			C			A	

Intersection Summary				
HCM 2000 Control Delay	99.4	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.33			
Actuated Cycle Length (s)	138.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	109.5%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
12: Costa Verde Blvd & Costa Verde Shopping Center Entrance (North)

LT + P PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	90	36	90	110	96	200
Future Volume (Veh/h)	90	36	90	110	96	200
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	106	42	106	129	113	235
Pedestrians	11		13			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	656	138			246	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	656	138			246	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	95			91	
cM capacity (veh/h)	357	869			1305	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1
Volume Total	106	42	71	164	348
Volume Left	106	0	0	0	113
Volume Right	0	42	0	129	0
cSH	357	869	1700	1700	1305
Volume to Capacity	0.30	0.05	0.04	0.10	0.09
Queue Length 95th (ft)	30	4	0	0	7
Control Delay (s)	19.3	9.4	0.0	0.0	3.1
Lane LOS	C	A			A
Approach Delay (s)	16.5		0.0		3.1
Approach LOS	C				

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	41.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	283	90	310	223	90	310
Future Volume (Veh/h)	283	90	310	223	90	310
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	301	96	330	237	96	330
Pedestrians	16		10			10
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			313			
pX, platoon unblocked						
vC, conflicting volume	832	310			583	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	832	310			583	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	86			90	
cM capacity (veh/h)	272	672			974	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	397	220	347	206	220
Volume Left	301	0	0	96	0
Volume Right	96	0	237	0	0
cSH	317	1700	1700	974	1700
Volume to Capacity	1.25	0.13	0.20	0.10	0.13
Queue Length 95th (ft)	454	0	0	8	0
Control Delay (s)	170.9	0.0	0.0	4.8	0.0
Lane LOS	F			A	
Approach Delay (s)	170.9	0.0		2.3	
Approach LOS	F				

Intersection Summary				
Average Delay		49.5		
Intersection Capacity Utilization		59.0%	ICU Level of Service	B
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	337	122	257	330	131	260	289	680	330	420	1783	489
Future Volume (veh/h)	337	122	257	330	131	260	289	680	330	420	1783	489
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.73	1.00		0.87	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	242	287	271	347	240	206	304	716	347	442	1877	515
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	201	124	854	449	330	197	1287	581	484	1623	425
Arrive On Green	0.11	0.11	0.11	0.24	0.24	0.24	0.15	0.50	0.50	0.14	0.41	0.41
Sat Flow, veh/h	1781	1870	1152	3563	1870	1377	1781	3404	1537	3456	3983	1042
Grp Volume(v), veh/h	242	287	271	347	240	206	304	716	347	442	1591	801
Grp Sat Flow(s),veh/h/ln	1781	1870	1152	1781	1870	1377	1781	1702	1537	1728	1702	1621
Q Serve(g_s), s	16.1	16.1	16.1	12.3	16.8	20.1	16.6	21.8	24.1	18.9	61.1	61.1
Cycle Q Clear(g_c), s	16.1	16.1	16.1	12.3	16.8	20.1	16.6	21.8	24.1	18.9	61.1	61.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	191	201	124	854	449	330	197	1287	581	484	1387	660
V/C Ratio(X)	1.27	1.43	2.19	0.41	0.53	0.62	1.54	0.56	0.60	0.91	1.15	1.21
Avail Cap(c_a), veh/h	191	201	124	929	488	359	197	1287	581	498	1387	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	66.9	67.0	66.9	48.0	49.7	51.0	64.0	28.6	29.2	63.6	44.4	44.4
Incr Delay (d2), s/veh	154.3	219.6	561.8	0.1	0.4	1.9	267.6	1.7	4.5	2.6	67.0	97.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	20.0	24.0	5.5	8.0	7.1	22.0	8.7	9.1	8.5	38.4	42.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	221.3	286.5	628.7	48.1	50.1	52.9	331.6	30.3	33.6	66.2	111.5	141.7
LnGrp LOS	F	F	F	D	D	D	F	C	C	E	F	F
Approach Vol, veh/h		800			793			1367			2834	
Approach Delay, s/veh		382.7			50.0			98.2			112.9	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.4	62.7		21.0	21.0	67.1		40.9				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	21.6	53.0		16.1	16.6	* 58		39.1				
Max Q Clear Time (g_c+I1), s	20.9	26.1		18.1	18.6	63.1		22.1				
Green Ext Time (p_c), s	0.1	10.7		0.0	0.0	0.0		2.0				

Intersection Summary			
HCM 6th Ctrl Delay		138.1	
HCM 6th LOS		F	

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	216	0	1179	2257	93
Future Volume (Veh/h)	0	216	0	1179	2257	93
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	223	0	1215	2327	96
Pedestrians	33			10	10	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	3			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				400	700	
pX, platoon unblocked	0.69	0.63	0.63			
vC, conflicting volume	2823	867	2456			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	921	0	1250			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	66	100			
cM capacity (veh/h)	179	658	338			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	223	405	405	405	931	931	561
Volume Left	0	0	0	0	0	0	0
Volume Right	223	0	0	0	0	0	96
cSH	658	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.34	0.24	0.24	0.24	0.55	0.55	0.33
Queue Length 95th (ft)	37	0	0	0	0	0	0
Control Delay (s)	13.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	13.3	0.0			0.0		
Approach LOS	B						

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		66.9%	ICU Level of Service	C
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1151	510	1086	1843	0	0
Future Volume (veh/h)	1151	510	1086	1843	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.89	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1238	548	1168	1982		
Peak Hour Factor	0.93	0.93	0.93	0.93		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1606	647	1168	3756		
Arrive On Green	0.68	0.68	0.68	1.00		
Sat Flow, veh/h	2466	956	3456	3647		
Grp Volume(v), veh/h	897	889	1168	1982		
Grp Sat Flow(s),veh/h/ln	1777	1552	1728	1777		
Q Serve(g_s), s	32.9	43.3	33.8	0.0		
Cycle Q Clear(g_c), s	32.9	43.3	33.8	0.0		
Prop In Lane		0.62	1.00			
Lane Grp Cap(c), veh/h	1203	1050	1168	3756		
V/C Ratio(X)	0.75	0.85	1.00	0.53		
Avail Cap(c_a), veh/h	1203	1050	1168	3756		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.25	0.25		
Uniform Delay (d), s/veh	10.5	12.2	16.2	0.0		
Incr Delay (d2), s/veh	4.2	8.4	13.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.4	15.1	7.9	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.8	20.6	29.4	0.1		
LnGrp LOS	B	C	C	A		
Approach Vol, veh/h	1786			3150		
Approach Delay, s/veh	17.7			11.0		
Approach LOS	B			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	38.0	72.5				110.5
Change Period (Y+Rc), s	* 4.2	4.5				* 4.5
Max Green Setting (Gmax), s	* 34	57.5				* 96
Max Q Clear Time (g_c+I1), s	35.8	45.3				2.0
Green Ext Time (p_c), s	0.0	11.7				20.9

Intersection Summary				
HCM 6th Ctrl Delay		13.4		
HCM 6th LOS		B		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
17: I-5 NB Off Ramp/University Ctr Ln & Nobel Drive

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1151	0	0	2059	20	480	120	496	0	0	390
Future Volume (vph)	0	1151	0	0	2059	20	480	120	496	0	0	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Lane Util. Factor		0.95			0.86		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.92			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.97	1.00			1.00
Satd. Flow (prot)		3539			6391		1681	1718	1459			1611
Flt Permitted		1.00			1.00		0.95	0.97	1.00			1.00
Satd. Flow (perm)		3539			6391		1681	1718	1459			1611
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1279	0	0	2288	22	533	133	551	0	0	433
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	45	0	0	58
Lane Group Flow (vph)	0	1279	0	0	2309	0	330	336	506	0	0	375
Confl. Peds. (#/hr)	35		85	85		35	51		57	57		51
Confl. Bikes (#/hr)			53			13			10			10
Turn Type		NA			NA		Split	NA	Perm			Prot
Protected Phases		2			6		8	8				5
Permitted Phases									8			
Actuated Green, G (s)		60.5			44.5		30.5	30.5	30.5			11.5
Effective Green, g (s)		60.5			44.5		30.5	30.5	30.5			11.5
Actuated g/C Ratio		0.60			0.44		0.30	0.30	0.30			0.12
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5			4.5
Vehicle Extension (s)		6.5			6.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2141			2843		512	523	444			185
v/s Ratio Prot		0.36			c0.36		0.20	0.20				c0.23
v/s Ratio Perm									c0.35			
v/c Ratio		0.60			0.81		0.64	0.64	1.14			2.03
Uniform Delay, d1		12.2			24.1		30.1	30.0	34.8			44.2
Progression Factor		0.21			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.4			2.7		2.1	2.0	86.6			481.8
Delay (s)		3.0			26.8		32.1	32.1	121.4			526.0
Level of Service		A			C		C	C	F			F
Approach Delay (s)		3.0			26.8			72.5			526.0	
Approach LOS		A			C			E			F	

Intersection Summary				
HCM 2000 Control Delay	72.9	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.09			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5	
Intersection Capacity Utilization	91.9%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
18: Lebon Drive & Nobel Drive

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	936	180	168	1219	152	170	260	132	182	340	230
Future Volume (veh/h)	130	936	180	168	1219	152	170	260	132	182	340	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.83	1.00		0.85	1.00		0.86	1.00		0.87
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	140	1006	194	181	1311	163	183	280	142	196	366	247
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	1873	360	205	2310	287	232	836	322	247	851	414
Arrive On Green	0.05	0.45	0.45	0.08	0.34	0.34	0.07	0.24	0.24	0.02	0.08	0.08
Sat Flow, veh/h	3456	4141	795	1781	4500	560	3456	3554	1368	3456	3554	1371
Grp Volume(v), veh/h	140	826	374	181	992	482	183	280	142	196	366	247
Grp Sat Flow(s),veh/h/ln	1728	1702	1532	1781	1702	1656	1728	1777	1368	1728	1777	1371
Q Serve(g_s), s	6.0	26.3	26.5	15.1	35.6	35.6	7.8	9.8	13.3	8.5	14.7	24.6
Cycle Q Clear(g_c), s	6.0	26.3	26.5	15.1	35.6	35.6	7.8	9.8	13.3	8.5	14.7	24.6
Prop In Lane	1.00		0.52	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	1540	693	205	1747	850	232	836	322	247	851	414
V/C Ratio(X)	0.75	0.54	0.54	0.88	0.57	0.57	0.79	0.34	0.44	0.79	0.43	0.60
Avail Cap(c_a), veh/h	429	1540	693	304	1747	850	498	974	375	498	974	462
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.19	0.19	0.19	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	69.9	29.7	29.8	68.2	35.6	35.6	68.9	47.6	49.0	72.1	59.3	55.8
Incr Delay (d2), s/veh	2.2	1.3	3.0	3.1	0.3	0.5	2.3	1.1	4.3	1.8	0.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	11.2	10.4	7.3	15.7	15.4	3.6	4.5	5.0	4.0	7.2	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	31.0	32.8	71.3	35.9	36.2	71.2	48.7	53.2	73.9	60.1	59.0
LnGrp LOS	E	C	C	E	D	D	E	D	D	E	E	E
Approach Vol, veh/h		1340			1655			605			809	
Approach Delay, s/veh		35.8			39.9			56.6			63.1	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.6	73.1	14.5	40.8	12.5	82.2	15.1	40.2
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	25.6	42.8	21.6	41.1	18.6	49.8	21.6	41.1
Max Q Clear Time (g_c+I1), s	17.1	28.5	9.8	26.6	8.0	37.6	10.5	15.3
Green Ext Time (p_c), s	0.2	9.6	0.2	5.8	0.2	9.7	0.3	6.5

Intersection Summary		
HCM 6th Ctrl Delay	45.2	
HCM 6th LOS	D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	962	170	413	1193	173	90	190	216	377	660	380
Future Volume (veh/h)	220	962	170	413	1193	173	90	190	216	377	660	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.81	1.00		0.83	1.00		0.73	1.00		0.83
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	1046	185	449	1297	188	98	207	235	410	717	413
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	284	1412	249	452	1369	507	78	817	279	422	1538	570
Arrive On Green	0.03	0.11	0.11	0.09	0.26	0.26	0.04	0.24	0.24	0.24	0.43	0.43
Sat Flow, veh/h	3456	4194	739	3456	3554	1318	1781	3404	1164	1781	3554	1317
Grp Volume(v), veh/h	239	848	383	449	1297	188	98	207	235	410	717	413
Grp Sat Flow(s),veh/h/ln	1728	1702	1528	1728	1777	1318	1781	1702	1164	1781	1777	1317
Q Serve(g_s), s	10.3	36.2	36.4	19.5	53.8	17.6	6.6	7.4	28.8	34.2	21.5	38.9
Cycle Q Clear(g_c), s	10.3	36.2	36.4	19.5	53.8	17.6	6.6	7.4	28.8	34.2	21.5	38.9
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	1146	515	452	1369	507	78	817	279	422	1538	570
V/C Ratio(X)	0.84	0.74	0.74	0.99	0.95	0.37	1.25	0.25	0.84	0.97	0.47	0.72
Avail Cap(c_a), veh/h	290	1146	515	452	1369	507	78	819	280	422	1538	570
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.09	0.09	0.09	1.00	1.00	1.00	0.19	0.19	0.19
Uniform Delay (d), s/veh	72.0	60.3	60.4	68.4	54.2	40.7	71.7	46.1	54.3	56.8	30.2	35.2
Incr Delay (d2), s/veh	15.4	3.6	7.9	11.4	2.0	0.2	183.2	0.5	23.0	13.2	0.2	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	17.2	16.2	9.6	25.3	6.0	7.0	3.2	10.3	16.9	9.4	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.4	63.9	68.3	79.8	56.1	40.9	254.9	46.6	77.3	70.0	30.4	36.6
LnGrp LOS	F	E	E	E	E	D	F	D	E	E	C	D
Approach Vol, veh/h		1470			1934			540			1540	
Approach Delay, s/veh		68.9			60.2			97.8			42.6	
Approach LOS		E			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	41.5	24.0	56.5	11.0	70.4	16.7	63.8
Change Period (Y+Rc), s	4.4	* 5.5	4.4	5.7	4.4	5.5	4.4	* 5.7
Max Green Setting (Gmax), s	5.5	* 36	19.6	39.1	6.6	64.7	12.6	* 47
Max Q Clear Time (g_c+I1), s	6.3	30.8	21.5	38.4	8.6	40.9	12.3	55.8
Green Ext Time (p_c), s	0.0	2.3	0.0	0.6	0.0	16.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	61.3
HCM 6th LOS	E

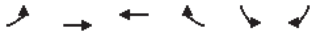
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	997	240	220	1460	190	70	76	70	170	164	269
Future Volume (veh/h)	278	997	240	220	1460	190	70	76	70	170	164	269
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.92	1.00		0.91	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	296	1061	255	234	1553	202	74	81	74	181	174	286
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	1514	363	252	1550	201	93	204	186	203	182	298
Arrive On Green	0.06	0.13	0.13	0.28	0.69	0.69	0.05	0.24	0.24	0.11	0.30	0.30
Sat Flow, veh/h	1781	3979	955	1781	4524	587	1781	857	783	1781	605	994
Grp Volume(v), veh/h	296	907	409	234	1167	588	74	0	155	181	0	460
Grp Sat Flow(s),veh/h/ln	1781	1702	1530	1781	1702	1707	1781	0	1640	1781	0	1599
Q Serve(g_s), s	24.8	38.3	38.4	19.2	51.4	51.4	6.2	0.0	11.9	15.0	0.0	42.4
Cycle Q Clear(g_c), s	24.8	38.3	38.4	19.2	51.4	51.4	6.2	0.0	11.9	15.0	0.0	42.4
Prop In Lane	1.00		0.62	1.00		0.34	1.00		0.48	1.00		0.62
Lane Grp Cap(c), veh/h	320	1295	582	252	1166	585	93	0	390	203	0	480
V/C Ratio(X)	0.93	0.70	0.70	0.93	1.00	1.00	0.80	0.00	0.40	0.89	0.00	0.96
Avail Cap(c_a), veh/h	340	1295	582	268	1166	585	126	0	406	245	0	502
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.34	0.34	0.34	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	69.6	57.4	57.4	53.0	23.6	23.6	70.3	0.0	48.1	65.5	0.0	51.6
Incr Delay (d2), s/veh	13.2	1.1	2.4	34.3	26.7	38.4	15.9	0.0	0.2	25.0	0.0	28.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.1	17.9	16.3	10.0	17.9	19.9	3.2	0.0	5.0	8.3	0.0	20.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.7	58.5	59.9	87.4	50.3	62.0	86.2	0.0	48.3	90.5	0.0	80.4
LnGrp LOS	F	E	E	F	F	F	F	A	D	F	A	F
Approach Vol, veh/h		1612			1989			229			641	
Approach Delay, s/veh		63.3			58.1			60.6			83.3	
Approach LOS		E			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.6	62.3	12.2	49.9	31.3	56.6	21.5	40.6
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9
Max Green Setting (Gmax), s	22.6	50.8	10.6	47.1	28.6	44.8	20.6	37.1
Max Q Clear Time (g_c+I1), s	21.3	40.4	8.2	44.4	26.8	53.4	17.0	13.9
Green Ext Time (p_c), s	0.1	7.9	0.0	0.6	0.1	0.0	0.1	0.6

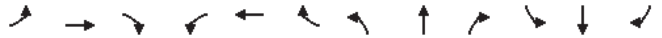
Intersection Summary	
HCM 6th Ctrl Delay	63.7
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1377	1743	180	0	117
Future Volume (Veh/h)	0	1377	1743	180	0	117
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	1420	1797	186	0	121
Pedestrians		10	10		37	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		500	400			
pX, platoon unblocked	0.72				0.83	0.72
vC, conflicting volume	2020				2410	739
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1054				243	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	84
cM capacity (veh/h)	458				575	750

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	473	473	473	719	719	545	121
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	186	121
cSH	1700	1700	1700	1700	1700	1700	750
Volume to Capacity	0.28	0.28	0.28	0.42	0.42	0.32	0.16
Queue Length 95th (ft)	0	0	0	0	0	0	14
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.7
Lane LOS							B
Approach Delay (s)	0.0			0.0			10.7
Approach LOS							B

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		54.4%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	347	680	280	560	1197	159	413	673	150	345	1866	313
Future Volume (veh/h)	347	680	280	560	1197	159	413	673	150	345	1866	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	354	694	286	571	1221	162	421	687	153	352	1904	319
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	874	373	567	1111	478	452	1538	667	244	1903	573
Arrive On Green	0.03	0.08	0.08	0.16	0.31	0.31	0.13	0.43	0.43	0.14	0.75	0.75
Sat Flow, veh/h	3456	3554	1518	3456	3554	1528	3456	3554	1542	3456	5106	1538
Grp Volume(v), veh/h	354	694	286	571	1221	162	421	687	153	352	1904	319
Grp Sat Flow(s),veh/h/ln	1728	1777	1518	1728	1777	1528	1728	1777	1542	1728	1702	1538
Q Serve(g_s), s	14.6	28.8	27.7	24.6	46.9	12.2	18.1	20.4	9.4	10.6	55.9	13.5
Cycle Q Clear(g_c), s	14.6	28.8	27.7	24.6	46.9	12.2	18.1	20.4	9.4	10.6	55.9	13.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	336	874	373	567	1111	478	452	1538	667	244	1903	573
V/C Ratio(X)	1.05	0.79	0.77	1.01	1.10	0.34	0.93	0.45	0.23	1.44	1.00	0.56
Avail Cap(c_a), veh/h	336	879	375	567	1111	478	452	1538	667	244	1903	573
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.6	65.2	64.7	62.7	51.6	39.6	64.5	29.9	26.8	64.4	19.1	13.7
Incr Delay (d2), s/veh	63.5	5.3	9.7	39.7	58.3	0.4	26.0	0.9	0.8	220.3	20.8	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	14.5	12.4	13.9	29.8	4.7	9.6	9.0	3.7	11.8	15.7	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	136.1	70.5	74.4	102.4	109.8	40.1	90.5	30.9	27.6	284.7	39.9	17.6
LnGrp LOS	F	E	E	F	F	D	F	C	C	F	F	B
Approach Vol, veh/h		1334			1954			1261			2575	
Approach Delay, s/veh		88.7			101.9			50.4			70.6	
Approach LOS		F			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	71.0	29.0	42.0	24.0	62.0	19.0	52.0
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	10.6	* 58	24.6	* 37	19.6	49.1	14.6	46.9
Max Q Clear Time (g_c+I1), s	12.6	22.4	26.6	30.8	20.1	57.9	16.6	48.9
Green Ext Time (p_c), s	0.0	9.8	0.0	3.7	0.0	0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		79.0
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
23: Towne Center Drive & Nobel Drive

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	414	691	30	200	1030	80	20	40	40	100	250	746
Future Volume (veh/h)	414	691	30	200	1030	80	20	40	40	100	250	746
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.95	1.00		0.93	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	427	712	31	206	1062	82	21	41	41	103	258	769
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	865	38	235	1345	954	61	118	113	628	660	544
Arrive On Green	0.12	0.25	0.25	0.13	0.26	0.26	0.09	0.09	0.09	0.35	0.35	0.35
Sat Flow, veh/h	3456	3452	150	1781	5106	1499	701	1357	1299	1781	1870	1543
Grp Volume(v), veh/h	427	366	377	206	1062	82	55	0	48	103	258	769
Grp Sat Flow(s),veh/h/ln	1728	1777	1825	1781	1702	1499	1835	0	1522	1781	1870	1543
Q Serve(g_s), s	13.6	22.2	22.2	12.9	22.0	2.5	3.2	0.0	3.4	4.5	11.8	40.2
Cycle Q Clear(g_c), s	13.6	22.2	22.2	12.9	22.0	2.5	3.2	0.0	3.4	4.5	11.8	40.2
Prop In Lane	1.00		0.08	1.00		1.00	0.38		0.85	1.00		1.00
Lane Grp Cap(c), veh/h	412	445	457	235	1345	954	160	0	133	628	660	544
V/C Ratio(X)	1.04	0.82	0.82	0.88	0.79	0.09	0.34	0.00	0.36	0.16	0.39	1.41
Avail Cap(c_a), veh/h	412	445	457	322	1389	967	564	0	467	628	660	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	40.3	40.3	48.5	39.0	8.9	48.9	0.0	49.0	25.3	27.7	36.9
Incr Delay (d2), s/veh	53.7	12.9	12.7	14.4	3.1	0.0	0.5	0.0	0.6	0.2	0.5	196.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	11.2	11.5	6.7	9.5	1.8	1.5	0.0	1.3	2.0	5.4	44.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.9	53.2	53.0	62.9	42.2	8.9	49.4	0.0	49.6	25.5	28.2	233.3
LnGrp LOS	F	D	D	E	D	A	D	A	D	C	C	F
Approach Vol, veh/h		1170			1350			103			1130	
Approach Delay, s/veh		71.6			43.3			49.5			167.5	
Approach LOS		E			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	34.6		45.1	18.0	36.0		14.8
Change Period (Y+Rc), s	4.4	* 6		4.9	4.4	6.0		4.9
Max Green Setting (Gmax), s	20.6	* 24		40.2	13.6	31.0		35.0
Max Q Clear Time (g_c+I1), s	14.8	24.2		42.2	15.6	24.0		5.4
Green Ext Time (p_c), s	0.1	0.0		0.0	0.0	4.3		0.4

Intersection Summary		
HCM 6th Ctrl Delay		89.7
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
24: Shoreline Drive & Nobel Drive

LT + P PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	718	50	100	1260	230	20	10	20	80	10	49
Future Volume (veh/h)	63	718	50	100	1260	230	20	10	20	80	10	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.91	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	733	51	102	1286	235	20	10	20	89	0	50
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	2307	159	132	2164	395	24	12	24	330	0	274
Arrive On Green	0.05	0.48	0.48	0.07	0.50	0.50	0.04	0.04	0.04	0.09	0.00	0.09
Sat Flow, veh/h	1781	4856	336	1781	4297	785	657	329	657	3563	0	2959
Grp Volume(v), veh/h	64	512	272	102	1019	502	50	0	0	89	0	50
Grp Sat Flow(s),veh/h/ln	1781	1702	1787	1781	1702	1678	1643	0	0	1781	0	1480
Q Serve(g_s), s	2.2	5.8	5.9	3.5	13.3	13.3	1.9	0.0	0.0	1.5	0.0	1.0
Cycle Q Clear(g_c), s	2.2	5.8	5.9	3.5	13.3	13.3	1.9	0.0	0.0	1.5	0.0	1.0
Prop In Lane	1.00		0.19	1.00		0.47	0.40		0.40	1.00		1.00
Lane Grp Cap(c), veh/h	81	1618	849	132	1714	845	61	0	0	330	0	274
V/C Ratio(X)	0.79	0.32	0.32	0.77	0.59	0.59	0.82	0.00	0.00	0.27	0.00	0.18
Avail Cap(c_a), veh/h	216	1860	977	330	2072	1021	134	0	0	1657	0	1376
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.6	10.1	10.2	28.5	11.0	11.0	29.9	0.0	0.0	26.4	0.0	26.2
Incr Delay (d2), s/veh	6.3	0.2	0.4	3.6	0.5	1.1	9.7	0.0	0.0	0.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.9	2.1	1.6	4.3	4.4	0.9	0.0	0.0	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	10.3	10.5	32.1	11.5	12.1	39.6	0.0	0.0	26.8	0.0	26.5
LnGrp LOS	D	B	B	C	B	B	D	A	A	C	A	C
Approach Vol, veh/h		848			1623			50			139	
Approach Delay, s/veh		12.3			13.0			39.6			26.7	
Approach LOS		B			B			D			C	

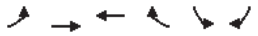
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	35.6		10.7	7.2	37.4		7.2
Change Period (Y+Rc), s	4.4	* 5.9		4.9	4.4	5.9		4.9
Max Green Setting (Gmax), s	11.6	* 34		29.1	7.6	38.1		5.1
Max Q Clear Time (g_c+I1), s	5.5	7.9		3.5	4.2	15.3		3.9
Green Ext Time (p_c), s	0.1	9.2		0.4	0.0	16.2		0.0

Intersection Summary		
HCM 6th Ctrl Delay		14.0
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	108	740	1292	350	830	328
Future Volume (veh/h)	108	740	1292	350	830	328
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.96	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	747	1305	354	838	331
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	174	2747	1729	468	1143	524
Arrive On Green	0.05	0.54	0.44	0.44	0.33	0.33
Sat Flow, veh/h	3456	5274	4126	1071	3456	1585
Grp Volume(v), veh/h	109	747	1122	537	838	331
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1625	1728	1585
Q Serve(g_s), s	2.7	6.8	23.9	24.0	18.5	15.2
Cycle Q Clear(g_c), s	2.7	6.8	23.9	24.0	18.5	15.2
Prop In Lane	1.00			0.66	1.00	1.00
Lane Grp Cap(c), veh/h	174	2747	1487	710	1143	524
V/C Ratio(X)	0.63	0.27	0.75	0.76	0.73	0.63
Avail Cap(c_a), veh/h	224	2902	1540	735	1591	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	10.8	20.4	20.4	25.5	24.4
Incr Delay (d2), s/veh	1.4	0.1	2.8	5.7	1.7	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.4	9.4	9.6	7.5	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.5	10.9	23.2	26.2	27.1	26.5
LnGrp LOS	D	B	C	C	C	C
Approach Vol, veh/h		856	1659		1169	
Approach Delay, s/veh		14.8	24.1		27.0	
Approach LOS		B	C		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		52.4		33.8	8.7	43.7
Change Period (Y+Rc), s		6.0		5.3	4.4	6.0
Max Green Setting (Gmax), s		49.0		39.7	5.6	39.0
Max Q Clear Time (g_c+I1), s		8.8		20.5	4.7	26.0
Green Ext Time (p_c), s		12.9		8.1	0.0	11.7

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	614	857	420	1532	0	0
Future Volume (veh/h)	614	857	420	1532	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	653	912	447	1630		
Peak Hour Factor	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6294	4818	456	9957		
Arrive On Green	1.00	1.00	0.26	1.00		
Sat Flow, veh/h	3647	2720	3456	5274		
Grp Volume(v), veh/h	653	912	447	1630		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	12.8	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	12.8	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6294	4818	456	9957		
V/C Ratio(X)	0.10	0.19	0.98	0.16		
Avail Cap(c_a), veh/h	6294	4818	456	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.86	0.86	0.78	0.78		
Uniform Delay (d), s/veh	0.0	0.0	36.7	0.0		
Incr Delay (d2), s/veh	0.0	0.1	31.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.1	6.5	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	68.6	0.0		
LnGrp LOS	A	A	E	A		
Approach Vol, veh/h	1565			2077		
Approach Delay, s/veh	0.1			14.8		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.9	187.1				205.0
Change Period (Y+Rc), s	4.7	7.0				* 7
Max Green Setting (Gmax), s	13	75.1				* 96
Max Q Clear Time (g_c+I1), s	14.8	2.0				2.0
Green Ext Time (p_c), s	0.0	6.5				12.3

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	584	0	0	1099	853	630
Future Volume (vph)	584	0	0	1099	853	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2682
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2682
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	642	0	0	1208	937	692
RTOR Reduction (vph)	0	0	0	0	0	117
Lane Group Flow (vph)	642	0	0	1208	937	575
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	47.4			57.7	29.2	34.8
Effective Green, g (s)	47.4			57.7	29.2	34.8
Actuated g/C Ratio	0.47			0.58	0.29	0.35
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1677			3697	1002	933
v/s Ratio Prot	c0.18			0.19	c0.27	c0.03
v/s Ratio Perm						0.18
v/c Ratio	0.38			0.33	0.94	0.62
Uniform Delay, d1	16.9			11.0	34.5	27.1
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.7			0.2	15.0	0.9
Delay (s)	17.5			11.3	49.4	27.9
Level of Service	B			B	D	C
Approach Delay (s)	17.5			11.3	40.3	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	32	227	256	38	34	192	1289	44	27	3269	81
Future Volume (veh/h)	43	32	227	256	38	34	192	1289	44	27	3269	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	151	156	264	39	35	198	1329	45	28	3370	84
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	514	555	300	38	34	162	1785	60	51	1585	39
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.18	1.00	1.00	0.03	0.45	0.45
Sat Flow, veh/h	347	1427	1542	715	106	95	1781	3502	118	1781	3539	88
Grp Volume(v), veh/h	195	0	156	338	0	0	198	673	701	28	1683	1771
Grp Sat Flow(s),veh/h/ln	1773	0	1542	916	0	0	1781	1777	1844	1781	1777	1850
Q Serve(g_s), s	0.0	0.0	10.8	42.5	0.0	0.0	13.6	0.0	0.0	2.3	67.2	67.2
Cycle Q Clear(g_c), s	11.5	0.0	10.8	54.0	0.0	0.0	13.6	0.0	0.0	2.3	67.2	67.2
Prop In Lane	0.23		1.00	0.78		0.10	1.00		0.06	1.00		0.05
Lane Grp Cap(c), veh/h	668	0	555	372	0	0	162	906	940	51	796	829
V/C Ratio(X)	0.29	0.00	0.28	0.91	0.00	0.00	1.23	0.74	0.75	0.54	2.11	2.14
Avail Cap(c_a), veh/h	668	0	555	372	0	0	162	906	940	68	796	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	0.0	34.2	54.3	0.0	0.0	61.4	0.0	0.0	71.9	41.4	41.4
Incr Delay (d2), s/veh	1.1	0.0	1.3	28.2	0.0	0.0	137.8	4.5	4.4	3.3	505.5	515.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	4.3	15.8	0.0	0.0	11.6	1.1	1.1	1.1	139.8	147.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	0.0	35.4	82.5	0.0	0.0	199.2	4.5	4.4	75.2	546.9	557.3
LnGrp LOS	D	A	D	F	A	A	F	A	A	E	F	F
Approach Vol, veh/h		351			338			1572			3482	
Approach Delay, s/veh		35.4			82.5			29.0			548.4	
Approach LOS		D			F			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	73.1		58.9	8.7	82.4		58.9				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	13.6	67.2		54.0	5.7	* 75		54.0				
Max Q Clear Time (g_c+I1), s	15.6	69.2		56.0	4.3	2.0		13.5				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	23.7		1.0				

Intersection Summary			
HCM 6th Ctrl Delay	347.5		
HCM 6th LOS	F		

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	348	305	122	339	382	186	193	778	268	589	2041	794
Future Volume (veh/h)	348	305	122	339	382	186	193	778	268	589	2041	794
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	324	130	361	406	198	205	828	285	627	2171	845
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	523	221	355	570	243	184	1281	567	955	1921	852
Arrive On Green	0.09	0.15	0.15	0.10	0.16	0.16	0.10	0.36	0.36	0.28	0.54	0.54
Sat Flow, veh/h	3456	3554	1499	3456	3554	1516	1781	3554	1572	3456	3554	1576
Grp Volume(v), veh/h	370	324	130	361	406	198	205	828	285	627	2171	845
Grp Sat Flow(s),veh/h/ln	1728	1777	1499	1728	1777	1516	1781	1777	1572	1728	1777	1576
Q Serve(g_s), s	17.6	16.3	12.6	19.5	20.6	14.5	19.6	36.9	26.9	30.5	102.7	100.9
Cycle Q Clear(g_c), s	17.6	16.3	12.6	19.5	20.6	14.5	19.6	36.9	26.9	30.5	102.7	100.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	523	221	355	570	243	184	1281	567	955	1921	852
V/C Ratio(X)	1.16	0.62	0.59	1.02	0.71	0.81	1.12	0.65	0.50	0.66	1.13	0.99
Avail Cap(c_a), veh/h	320	733	309	355	729	311	184	1281	567	955	1921	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.2	76.0	51.0	85.2	75.6	28.0	85.2	50.6	47.5	60.8	43.6	43.2
Incr Delay (d2), s/veh	99.5	2.5	5.3	52.1	3.7	15.8	100.8	2.5	3.2	1.3	65.8	28.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	7.7	5.2	11.4	9.8	6.5	14.1	16.7	11.2	13.4	60.8	45.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	185.7	78.6	56.2	137.3	79.3	43.8	186.0	53.2	50.6	62.1	109.5	72.1
LnGrp LOS	F	E	E	F	E	D	F	D	D	E	F	E
Approach Vol, veh/h		824			965			1318			3643	
Approach Delay, s/veh		123.2			93.7			73.3			92.7	
Approach LOS		F			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	74.2	25.2	33.0	24.0	107.8	22.0	36.2
Change Period (Y+Rc), s	5.1	* 5.7	5.7	* 5	4.4	5.1	4.4	5.7
Max Green Setting (Gmax), s	44.3	* 69	18.1	* 39	19.6	94.2	17.6	39.0
Max Q Clear Time (g_c+I1), s	12.5	38.9	21.5	18.3	21.6	104.7	19.6	22.6
Green Ext Time (p_c), s	1.0	12.9	0.0	4.7	0.0	0.0	0.0	5.3

Intersection Summary	
HCM 6th Ctrl Delay	92.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	108

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	460	0	0	440	337	579	0	0	2006	397
Future Vol, veh/h	0	0	460	0	0	440	337	579	0	0	2006	397
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	500	0	0	478	366	629	0	0	2180	432

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	-	-	1090			2180	0	-	-	-	0
Stage 1	-	-	-			-	-	-	-	-	-
Stage 2	-	-	-			-	-	-	-	-	-
Critical Hdwy	-	-	6.94			4.14	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	~ 210			~ 240	-	0	0	-	-
Stage 1	0	0	-			-	-	0	0	-	-
Stage 2	0	0	-			-	-	0	0	-	-
Platoon blocked, %							-			-	-
Mov Cap-1 Maneuver	-	0	~ 210			~ 240	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-
Stage 1	-	0	-			-	-	-	-	-	-
Stage 2	-	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 671.8	108.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	~ 240	- 210	-	-
HCM Lane V/C Ratio	1.526	- 2.381	-	-
HCM Control Delay (s)	294.4	-$ 671.8	-	-
HCM Lane LOS	F	- F	-	-
HCM 95th %tile Q(veh)	22	- 40.8	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

LT + P PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	380	290	729	338	872	1603
Future Volume (veh/h)	380	290	729	338	872	1603
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	413	315	792	0	948	1742
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	475	423	1243		351	2123
Arrive On Green	0.27	0.27	0.35	0.00	0.20	0.60
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	413	315	792	0	948	1742
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	20.6	16.9	17.3	0.0	18.3	35.9
Cycle Q Clear(g_c), s	20.6	16.9	17.3	0.0	18.3	35.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	475	423	1243		351	2123
V/C Ratio(X)	0.87	0.74	0.64		2.70	0.82
Avail Cap(c_a), veh/h	708	630	1243		351	2123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	31.2	25.3	0.0	37.3	14.8
Incr Delay (d2), s/veh	7.7	2.6	2.5	0.0	773.6	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	6.6	7.2	0.0	82.9	12.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.2	33.8	27.8	0.0	810.8	18.5
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	728		792	A		2690
Approach Delay, s/veh	37.4		27.8			297.7
Approach LOS	D		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.0	40.0		29.9		63.0
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 18	32.5		36.9		55.5
Max Q Clear Time (g_c+I1), s	20.3	19.3		22.6		37.9
Green Ext Time (p_c), s	0.0	4.1		2.2		11.5

Intersection Summary	
HCM 6th Ctrl Delay	201.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
32: Genesee Avenue & Centurion Square

LT + P PM
10/10/2019

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	89	23	0	1425	46	46	3606
Future Volume (veh/h)	89	23	0	1425	46	46	3606
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.99	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1870	1870		1870	1870	1870	1870
Adj Flow Rate, veh/h	93	24		1484	48	48	3756
Peak Hour Factor	0.96	0.96		0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2		2	2	2	2
Cap, veh/h	116	103		2364	1047	539	3054
Arrive On Green	0.07	0.07		0.67	0.67	0.16	0.86
Sat Flow, veh/h	1781	1585		3647	1573	3456	3647
Grp Volume(v), veh/h	93	24		1484	48	48	3756
Grp Sat Flow(s),veh/h/ln	1781	1585		1777	1573	1728	1777
Q Serve(g_s), s	7.7	2.2		36.0	1.6	1.8	128.9
Cycle Q Clear(g_c), s	7.7	2.2		36.0	1.6	1.8	128.9
Prop In Lane	1.00	1.00			1.00	1.00	
Lane Grp Cap(c), veh/h	116	103		2364	1047	539	3054
V/C Ratio(X)	0.80	0.23		0.63	0.05	0.09	1.23
Avail Cap(c_a), veh/h	356	317		2364	1047	539	3054
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.1	66.5		14.4	8.7	54.2	10.5
Incr Delay (d2), s/veh	4.7	0.4		1.3	0.1	0.3	106.5
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	1.9		13.6	0.5	0.8	70.2
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	73.9	67.0		15.7	8.7	54.5	117.0
LnGrp LOS	E	E		B	A	D	F
Approach Vol, veh/h	117			1532			3804
Approach Delay, s/veh	72.5			15.5			116.2
Approach LOS	E			B			F
Timer - Assigned Phs		2		4	5	6	
Phs Duration (G+Y+Rc), s		135.3		14.7	29.8	105.5	
Change Period (Y+Rc), s		6.4		4.9	6.4	* 5.7	
Max Green Setting (Gmax), s		100.3		30.0	5.2	* 1E2	
Max Q Clear Time (g_c+I1), s		130.9		9.7	3.8	38.0	
Green Ext Time (p_c), s		0.0		0.1	0.0	27.3	

Intersection Summary	
HCM 6th Ctrl Delay	87.0
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	95	98	322	198	102	114	616	187	101	2193	78
Future Volume (veh/h)	34	95	98	322	198	102	114	616	187	101	2193	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.96	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	101	104	343	211	109	121	655	199	107	2333	83
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	46	199	168	359	432	213	67	2235	666	143	3129	111
Arrive On Green	0.03	0.11	0.11	0.10	0.19	0.19	0.04	0.58	0.58	0.08	0.62	0.62
Sat Flow, veh/h	1781	1777	1494	3456	2274	1118	1781	3881	1156	1781	5058	179
Grp Volume(v), veh/h	36	101	104	343	163	157	121	573	281	107	1566	850
Grp Sat Flow(s),veh/h/ln	1781	1777	1494	1728	1777	1616	1781	1702	1633	1781	1702	1833
Q Serve(g_s), s	3.0	8.0	10.0	14.8	12.2	13.1	5.6	12.9	13.2	8.8	48.7	49.5
Cycle Q Clear(g_c), s	3.0	8.0	10.0	14.8	12.2	13.1	5.6	12.9	13.2	8.8	48.7	49.5
Prop In Lane	1.00		1.00	1.00		0.69	1.00		0.71	1.00		0.10
Lane Grp Cap(c), veh/h	46	199	168	359	338	307	67	1960	940	143	2106	1134
V/C Ratio(X)	0.78	0.51	0.62	0.95	0.48	0.51	1.82	0.29	0.30	0.75	0.74	0.75
Avail Cap(c_a), veh/h	139	428	360	359	474	431	67	1960	940	143	2106	1134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.6	62.7	63.5	66.8	54.2	54.5	72.2	16.2	16.3	67.5	20.2	20.4
Incr Delay (d2), s/veh	9.9	0.7	1.4	35.3	0.4	0.5	421.4	0.4	0.8	30.0	2.4	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.7	3.9	8.3	5.6	5.4	10.3	5.0	5.0	5.1	18.6	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.5	63.4	64.9	102.1	54.5	55.0	493.6	16.6	17.1	97.6	22.6	24.9
LnGrp LOS	F	E	E	F	D	E	F	B	B	F	C	C
Approach Vol, veh/h		241			663			975			2523	
Approach Delay, s/veh		66.9			79.3			75.9			26.6	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	91.9	20.0	21.7	10.0	98.3	8.3	33.4
Change Period (Y+Rc), s	4.4	5.5	4.4	4.9	4.4	* 5.5	4.4	4.9
Max Green Setting (Gmax), s	12.0	67.1	15.6	36.1	5.6	* 74	11.7	40.0
Max Q Clear Time (g_c+I1), s	10.8	15.2	16.8	12.0	7.6	51.5	5.0	15.1
Green Ext Time (p_c), s	0.0	7.9	0.0	0.8	0.0	19.3	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	477	964	37	27	1794	140	27	17	9	90	10	481
Future Volume (veh/h)	477	964	37	27	1794	140	27	17	9	90	10	481
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	518	1048	40	29	1950	152	29	18	10	98	11	523
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	2180	83	37	1528	118	45	24	5	285	8	367
Arrive On Green	0.19	0.62	0.62	0.02	0.46	0.46	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1781	3490	133	1781	3344	257	0	102	22	1382	33	1557
Grp Volume(v), veh/h	518	534	554	29	1024	1078	57	0	0	98	0	534
Grp Sat Flow(s),veh/h/ln	1781	1777	1846	1781	1777	1824	124	0	0	1382	0	1590
Q Serve(g_s), s	22.6	19.3	19.3	1.9	54.9	54.9	0.0	0.0	0.0	0.0	0.0	28.3
Cycle Q Clear(g_c), s	22.6	19.3	19.3	1.9	54.9	54.9	28.3	0.0	0.0	10.5	0.0	28.3
Prop In Lane	1.00		0.07	1.00		0.14	0.51		0.18	1.00		0.98
Lane Grp Cap(c), veh/h	335	1110	1153	37	812	834	74	0	0	285	0	375
V/C Ratio(X)	1.55	0.48	0.48	0.79	1.26	1.29	0.77	0.00	0.00	0.34	0.00	1.43
Avail Cap(c_a), veh/h	335	1110	1153	88	812	834	74	0	0	285	0	375
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	12.1	12.1	58.5	32.6	32.6	46.1	0.0	0.0	39.1	0.0	45.9
Incr Delay (d2), s/veh	259.8	1.5	1.4	12.9	127.2	140.7	34.2	0.0	0.0	0.3	0.0	206.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.2	7.8	8.1	1.0	51.5	56.0	2.4	0.0	0.0	2.5	0.0	32.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	308.5	13.6	13.5	71.4	159.8	173.3	80.2	0.0	0.0	39.4	0.0	252.2
LnGrp LOS	F	B	B	E	F	F	F	A	A	D	A	F
Approach Vol, veh/h		1606			2131			57			632	
Approach Delay, s/veh		108.7			165.4			80.2			219.2	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	4	5	6	8
Phs Duration (G+Y+Rc), s	6.9	80.0	33.2	27.0	59.9	33.2
Change Period (Y+Rc), s	4.4	5.0	4.9	4.4	* 5	4.9
Max Green Setting (Gmax), s	5.9	71.5	28.3	22.6	* 55	28.3
Max Q Clear Time (g_c+I1), s	3.9	21.3	30.3	24.6	56.9	30.3
Green Ext Time (p_c), s	0.0	12.9	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	151.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX N

YEAR 2035 (COMMUNITY BUILDOUT) WITHOUT AND WITH PROJECT FREEWAY ANALYSIS CALCULATION SHEETS

HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7679	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	2000
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9151	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2434
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2296
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2296
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.06
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.6		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6724	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1733
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.76
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	29.5
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8012	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	2086
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	7995	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2060
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary
Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		
Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000
Demand and Capacity			
Demand Volume veh/h	9527	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.85	Flow Rate (V_p), pc/h/ln	2802
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.22
Passenger Car Equivalent (E_T)	2.000		
Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	14818	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	3055
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5982	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1246
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.5
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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Project Information

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Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	12839	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2620
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.25
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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Project Information

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Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5185	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1336
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2284
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.9
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	11873	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2423
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.15
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4792	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1009
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2105
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5114	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2780
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.20
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – LT AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4814	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2560
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.11
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9623	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2455
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.07
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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Project Information

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Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.280
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7732	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	2148
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	16.7		

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Project Information

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Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8428	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2172
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.95
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	40.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.240
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6772	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1946
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	14.2		

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Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10020	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	2610
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.14
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.430
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8047	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.89	Flow Rate (V_p), pc/h/ln	2260
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	25.5		

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Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8970	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1849
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.6
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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Project Information

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Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.520
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	13588	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	3020
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.49
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	30.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7777	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1604
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.76
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	57.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.9
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.330
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	11776	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	3384
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.54
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	19.3		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7188	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1482
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.290
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10883	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2366
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	17.1		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6075	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	3302
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.43
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – LT PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3943	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2032
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.8
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7726	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	2012
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	35.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9159	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2436
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2296
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2296
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.06
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.6		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6724	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1733
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.76
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	29.5
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8012	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	2086
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	8001	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2062
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	55.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	37.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue SB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	9559	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.85	Flow Rate (V_p), pc/h/ln	2812
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.23
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	14865	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	3065
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5990	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1248
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.5
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	12850	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2622
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.25
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5187	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1337
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2284
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.9
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	11881	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2425
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.15
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4834	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1018
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2105
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.3
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	5124	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2785
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.21
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – LT + P AM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	4872	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	2592
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.13
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive NB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	9636	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	2458
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.07
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-5 from Gilman Drive to Nobel Drive SB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.83
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.280
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7773	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	2159
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.98
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.4	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	16.7		

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Project Information

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Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive NB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8428	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2172
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2288
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2288
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.95
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	40.6
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.8		

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Project Information

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Jurisdiction	I-5 from Nobel Drive to La Jolla Village Drive SB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.240
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6772	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	1946
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	14.2		

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Project Information

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Jurisdiction	I-5 from La Jolla Village Drive to Genesee Avenue NB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10047	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	2616
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2292
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.14
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.430
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8055	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.89	Flow Rate (V_p), pc/h/ln	2263
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.03
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	25.5		

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Project Information

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Jurisdiction	I-805 from Governor Drive to Nobel Drive NB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	8983	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1852
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2280
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2098
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	53.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	34.7
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.0		

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Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Governor Drive to Nobel Drive SB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.520
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	13629	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	3029
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	7.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	30.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive NB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7780	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1604
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2284
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2101
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.76
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	57.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.9
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	58.4		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from Nobel Drive to La Jolla Village Drive SB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.33
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.330
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	11785	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	3386
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2200
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.54
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.6	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	19.3		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard NB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	59.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	7224	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1489
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2292
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2109
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	59.2		

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HCS7 Basic Freeway Report

Project Information

Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	I-805 from La Jolla Village Drive to Mira Mesa Boulevard SB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	2.17
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	58.8
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	0.290
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	0.920
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	10894	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2368
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2200
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2024
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.17
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	6.2	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	17.1		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 EB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.40
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.7
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	6125	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	3329
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2307
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2307
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.44
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	4.3	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.7		

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HCS7 Basic Freeway Report

Project Information			
Analyst		Date	2/22/2019
Agency		Analysis Year	2019
Jurisdiction	SR52 from Genesee Avenue to I-805 WB – LT + P PM	Time Period Analyzed	
Project Description	Costa Verde	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	65.0	Total Ramp Density (TRD), ramps/mi	1.60
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	3958	Heavy Vehicle Adjustment Factor (f_{HV})	1.000
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	2040
Total Trucks, %	0.00	Capacity (c), pc/h/ln	2302
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.89
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	56.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	36.0
Total Ramp Density Adjustment	4.8	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.2		

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APPENDIX O

POST MITIGATION INTERSECTION ANALYSIS CALCULATION SHEETS, CONCEPTUAL DRAWINGS, AND SIGNAL WARRANT ANALYSIS WORKSHEETS

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

Ex + P with Mitigation AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	14	54	51	46	82	215	1431	136	90	300	214
Future Volume (veh/h)	129	14	54	51	46	82	215	1431	136	90	300	214
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.75	1.00		0.91	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	15	59	56	80	70	236	1573	149	99	330	235
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	92	289	591	310	240	259	1885	176	115	976	677
Arrive On Green	0.05	0.05	0.05	0.17	0.17	0.17	0.19	0.77	0.77	0.11	0.83	0.83
Sat Flow, veh/h	3456	1870	1189	3563	1870	1449	1781	3272	306	1781	1971	1367
Grp Volume(v), veh/h	142	15	59	56	80	70	236	846	876	99	297	268
Grp Sat Flow(s),veh/h/ln	1728	1870	1189	1781	1870	1449	1781	1777	1801	1781	1777	1562
Q Serve(g_s), s	5.7	1.1	5.9	1.9	5.2	5.9	18.2	42.4	45.1	7.7	5.6	5.9
Cycle Q Clear(g_c), s	5.7	1.1	5.9	1.9	5.2	5.9	18.2	42.4	45.1	7.7	5.6	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.88
Lane Grp Cap(c), veh/h	170	92	289	591	310	240	259	1024	1038	115	879	773
V/C Ratio(X)	0.83	0.16	0.20	0.09	0.26	0.29	0.91	0.83	0.84	0.86	0.34	0.35
Avail Cap(c_a), veh/h	170	92	289	970	509	394	377	1024	1038	115	879	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	66.0	63.8	47.7	49.5	50.9	51.2	55.5	11.9	12.2	61.9	6.6	6.6
Incr Delay (d2), s/veh	27.0	0.3	0.1	0.0	0.2	0.2	15.8	7.6	8.4	37.0	0.8	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.5	1.8	0.8	2.5	2.2	9.0	14.3	15.4	4.5	2.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.0	64.1	47.9	49.5	51.0	51.4	71.3	19.5	20.6	98.9	7.4	7.6
LnGrp LOS	F	E	D	D	D	D	E	B	C	F	A	A
Approach Vol, veh/h		216			206			1958			664	
Approach Delay, s/veh		78.7			50.7			26.2			21.2	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.4	86.7		11.8	24.8	75.3		28.1				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	9.0	65.8		6.9	29.6	* 46		38.1				
Max Q Clear Time (g_c+I1), s	9.7	47.1		7.9	20.2	7.9		7.9				
Green Ext Time (p_c), s	0.0	14.4		0.0	0.2	6.1		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
29: Governor Drive & Genesee Avenue

Ex + P with Mitigation AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	306	142	247	236	260	71	1439	223	183	515	259
Future Volume (veh/h)	471	306	142	247	236	260	71	1439	223	183	515	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	535	348	161	281	268	295	81	1635	253	208	585	294
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	363	1012	404	336	984	425	103	1480	651	115	1394	783
Arrive On Green	0.10	0.28	0.28	0.10	0.28	0.28	0.06	0.42	0.42	0.03	0.39	0.39
Sat Flow, veh/h	3456	3554	1418	3456	3554	1537	1781	3554	1562	3456	3554	1573
Grp Volume(v), veh/h	535	348	161	281	268	295	81	1635	253	208	585	294
Grp Sat Flow(s),veh/h/ln	1728	1777	1418	1728	1777	1537	1781	1777	1562	1728	1777	1573
Q Serve(g_s), s	12.6	9.3	11.0	9.6	7.1	20.6	5.4	50.0	13.5	4.0	14.4	13.9
Cycle Q Clear(g_c), s	12.6	9.3	11.0	9.6	7.1	20.6	5.4	50.0	13.5	4.0	14.4	13.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	363	1012	404	336	984	425	103	1480	651	115	1394	783
V/C Ratio(X)	1.47	0.34	0.40	0.84	0.27	0.69	0.79	1.10	0.39	1.81	0.42	0.38
Avail Cap(c_a), veh/h	363	1173	468	366	1155	499	180	1480	651	115	1394	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	34.0	34.6	53.2	33.9	38.8	55.8	35.0	24.4	58.0	26.5	18.7
Incr Delay (d2), s/veh	227.9	0.4	1.4	13.3	0.3	4.9	5.0	57.6	1.7	394.7	0.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.9	4.1	4.0	4.8	3.1	8.3	2.5	32.0	5.3	8.0	6.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	281.6	34.5	36.0	66.6	34.2	43.7	60.8	92.6	26.1	452.7	27.5	20.0
LnGrp LOS	F	C	D	E	C	D	E	F	C	F	C	C
Approach Vol, veh/h		1044			844			1969			1087	
Approach Delay, s/veh		161.4			48.3			82.8			106.8	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	55.7	16.1	39.9	11.3	52.8	17.0	38.9				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7				
Max Green Setting (Gmax), s	4.0	44.2	12.7	* 40	12.1	* 37	12.6	39.0				
Max Q Clear Time (g_c+I1), s	6.0	52.0	11.6	13.0	7.4	16.4	14.6	22.6				
Green Ext Time (p_c), s	0.0	0.0	0.1	5.8	0.0	9.0	0.0	4.6				

Intersection Summary	
HCM 6th Ctrl Delay	98.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

Ex + P with Mitigation PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	72	162	249	66	169	143	354	215	300	1055	321
Future Volume (veh/h)	262	72	162	249	66	169	143	354	215	300	1055	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.68	1.00		0.86	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	276	76	171	262	151	124	151	373	226	316	1111	338
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	168	249	823	432	316	171	744	442	338	1194	357
Arrive On Green	0.09	0.09	0.09	0.23	0.23	0.23	0.16	0.59	0.59	0.25	0.60	0.60
Sat Flow, veh/h	3456	1870	1079	3563	1870	1370	1781	2097	1245	1781	2662	797
Grp Volume(v), veh/h	276	76	171	262	151	124	151	315	284	316	736	713
Grp Sat Flow(s),veh/h/ln	1728	1870	1079	1781	1870	1370	1781	1777	1565	1781	1777	1682
Q Serve(g_s), s	11.8	5.8	13.5	9.2	10.1	11.5	12.4	15.4	15.9	26.0	55.8	58.9
Cycle Q Clear(g_c), s	11.8	5.8	13.5	9.2	10.1	11.5	12.4	15.4	15.9	26.0	55.8	58.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.47
Lane Grp Cap(c), veh/h	311	168	249	823	432	316	171	631	555	338	797	754
V/C Ratio(X)	0.89	0.45	0.69	0.32	0.35	0.39	0.88	0.50	0.51	0.94	0.92	0.95
Avail Cap(c_a), veh/h	311	168	249	905	475	348	171	631	555	470	797	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.34	0.34	0.34
Uniform Delay (d), s/veh	67.5	64.7	58.5	47.9	48.3	48.8	62.2	22.8	23.0	55.2	28.0	28.6
Incr Delay (d2), s/veh	24.4	0.7	6.4	0.1	0.2	0.3	36.7	2.8	3.3	8.2	7.6	10.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	2.8	6.6	4.1	4.8	4.0	7.0	5.9	5.5	12.1	22.9	23.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.9	65.4	64.8	48.0	48.4	49.1	98.9	25.7	26.3	63.4	35.5	38.7
LnGrp LOS	F	E	E	D	D	D	F	C	C	E	D	D
Approach Vol, veh/h		523			537			750			1765	
Approach Delay, s/veh		79.2			48.3			40.6			41.8	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.8	59.2		18.4	18.8	73.3		39.5				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	39.6	38.6		13.5	14.4	* 64		38.1				
Max Q Clear Time (g_c+I1), s	28.0	17.9		15.5	14.4	60.9		13.5				
Green Ext Time (p_c), s	0.4	4.9		0.0	0.0	2.8		1.3				

Intersection Summary	
HCM 6th Ctrl Delay	48.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
30: Genesee Ave & SR-52 WB Ramp

Ex + P with Mitigation PM
10/03/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	331	829	1626	347
Future Volume (veh/h)	0	0	331	829	1626	347
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			360	901	1767	377
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			417	3355	2325	1037
Arrive On Green			0.23	0.94	0.65	0.65
Sat Flow, veh/h			1781	3647	3647	1585
Grp Volume(v), veh/h			360	901	1767	377
Grp Sat Flow(s),veh/h/ln			1781	1777	1777	1585
Q Serve(g_s), s			13.9	1.4	24.5	7.7
Cycle Q Clear(g_c), s			13.9	1.4	24.5	7.7
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			417	3355	2325	1037
V/C Ratio(X)			0.86	0.27	0.76	0.36
Avail Cap(c_a), veh/h			745	4758	3073	1371
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			26.3	0.1	8.5	5.6
Incr Delay (d2), s/veh			5.4	0.0	0.8	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			5.9	0.0	6.1	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			31.7	0.2	9.3	5.8
LnGrp LOS			C	A	A	A
Approach Vol, veh/h				1261	2144	
Approach Delay, s/veh				9.2	8.7	
Approach LOS				A	A	
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		71.7			20.8	50.9
Change Period (Y+Rc), s		4.0			4.0	4.0
Max Green Setting (Gmax), s		96.0			30.0	62.0
Max Q Clear Time (g_c+I1), s		3.4			15.9	26.5
Green Ext Time (p_c), s		7.0			0.9	20.4

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

Ex + P with Mitigation PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	228	567	300	810	1238
Future Volume (veh/h)	352	228	567	300	810	1238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	248	616	0	880	1346
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	435	786	1155		448	2221
Arrive On Green	0.24	0.24	0.32	0.00	0.25	0.63
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	383	248	616	0	880	1346
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	20.0	9.0	13.7	0.0	24.3	22.1
Cycle Q Clear(g_c), s	20.0	9.0	13.7	0.0	24.3	22.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	435	786	1155		448	2221
V/C Ratio(X)	0.88	0.32	0.53		1.96	0.61
Avail Cap(c_a), veh/h	590	924	1155		448	2221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	14.5	26.6	0.0	36.2	10.9
Incr Delay (d2), s/veh	11.2	0.2	1.8	0.0	442.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	0.0	5.7	0.0	64.9	7.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.4	14.8	28.4	0.0	478.1	12.2
LnGrp LOS	D	B	C		F	B
Approach Vol, veh/h	631		616	A		2226
Approach Delay, s/veh	34.0		28.4			196.4
Approach LOS	C		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	29.0	38.9		28.7		67.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 24	31.4		32.0		60.4
Max Q Clear Time (g_c+I1), s	26.3	15.7		22.0		24.1
Green Ext Time (p_c), s	0.0	3.4		1.6		12.0

Intersection Summary	
HCM 6th Ctrl Delay	137.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
29: Governor Drive & Genesee Avenue

NT + P with Mitigation AM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	647	316	156	260	242	341	84	1686	232	242	626	352
Future Volume (veh/h)	647	316	156	260	242	341	84	1686	232	242	626	352
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	735	359	177	295	275	388	95	1916	264	275	711	400
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	334	1041	417	328	1035	448	119	1411	620	161	1340	746
Arrive On Green	0.10	0.29	0.29	0.09	0.29	0.29	0.07	0.40	0.40	0.05	0.38	0.38
Sat Flow, veh/h	3456	3554	1422	3456	3554	1538	1781	3554	1561	3456	3554	1572
Grp Volume(v), veh/h	735	359	177	295	275	388	95	1916	264	275	711	400
Grp Sat Flow(s),veh/h/ln	1728	1777	1422	1728	1777	1538	1781	1777	1561	1728	1777	1572
Q Serve(g_s), s	11.6	9.5	12.1	10.1	7.1	28.7	6.3	47.7	14.7	5.6	18.7	21.5
Cycle Q Clear(g_c), s	11.6	9.5	12.1	10.1	7.1	28.7	6.3	47.7	14.7	5.6	18.7	21.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	334	1041	417	328	1035	448	119	1411	620	161	1340	746
V/C Ratio(X)	2.20	0.34	0.42	0.90	0.27	0.87	0.80	1.36	0.43	1.71	0.53	0.54
Avail Cap(c_a), veh/h	334	1182	473	328	1155	500	193	1411	620	161	1340	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	33.4	34.3	53.7	32.7	40.3	55.2	36.2	26.2	57.2	29.1	22.3
Incr Delay (d2), s/veh	549.8	0.4	1.5	25.4	0.3	15.4	4.6	165.7	2.1	342.4	1.5	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	30.5	4.2	4.3	5.6	3.1	12.7	2.9	51.8	5.8	10.1	7.9	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	604.0	33.8	35.7	79.1	32.9	55.7	59.9	201.9	28.4	399.6	30.6	25.0
LnGrp LOS	F	C	D	E	C	E	E	F	C	F	C	C
Approach Vol, veh/h		1271			958			2275			1386	
Approach Delay, s/veh		363.8			56.4			175.8			102.2	
Approach LOS		F			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	53.4	15.8	40.8	12.4	51.0	16.0	40.6				
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7				
Max Green Setting (Gmax), s	5.6	43.6	11.4	* 40	13.0	* 37	11.6	39.0				
Max Q Clear Time (g_c+I1), s	7.6	49.7	12.1	14.1	8.3	23.5	13.6	30.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	6.1	0.0	8.4	0.0	3.5				

Intersection Summary	
HCM 6th Ctrl Delay	179.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

NT + P with Mitigation AM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	205	1373	769	444	679
Future Volume (veh/h)	140	205	1373	769	444	679
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	223	1492	0	483	738
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	243	587	1451		417	2497
Arrive On Green	0.14	0.14	0.41	0.00	0.23	0.70
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	152	223	1492	0	483	738
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.3	8.1	31.9	0.0	18.3	6.1
Cycle Q Clear(g_c), s	6.3	8.1	31.9	0.0	18.3	6.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	243	587	1451		417	2497
V/C Ratio(X)	0.63	0.38	1.03		1.16	0.30
Avail Cap(c_a), veh/h	750	1039	1451		417	2497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	18.0	23.1	0.0	29.9	4.4
Incr Delay (d2), s/veh	1.0	0.2	31.2	0.0	94.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	17.7	0.0	18.1	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.9	18.2	54.3	0.0	124.7	4.7
LnGrp LOS	C	B	F		F	A
Approach Vol, veh/h	375		1492	A		1221
Approach Delay, s/veh	24.1		54.3			52.1
Approach LOS	C		D			D
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.0	39.4		15.7		62.4
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 18	31.5		32.9		* 55
Max Q Clear Time (g_c+I1), s	20.3	33.9		10.1		8.1
Green Ext Time (p_c), s	0.0	0.0		0.6		3.2

Intersection Summary	
HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

NT + P with Mitigation PM
10/03/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	91	213	275	104	196	254	591	241	327	1545	428
Future Volume (veh/h)	299	91	213	275	104	196	254	591	241	327	1545	428
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.68	1.00		0.86	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	315	96	66	289	109	48	267	622	254	344	1626	30
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	163	312	817	429	314	245	1552	618	388	2120	39
Arrive On Green	0.09	0.09	0.09	0.23	0.23	0.23	0.05	0.14	0.14	0.22	0.82	0.82
Sat Flow, veh/h	3456	1870	1076	3563	1870	1369	1781	3556	1416	3456	5157	95
Grp Volume(v), veh/h	315	96	66	289	109	48	267	595	281	344	1073	583
Grp Sat Flow(s),veh/h/ln	1728	1870	1076	1781	1870	1369	1781	1702	1568	1728	1702	1848
Q Serve(g_s), s	13.1	7.4	7.6	10.2	7.2	4.2	20.6	23.8	24.5	14.5	22.7	22.8
Cycle Q Clear(g_c), s	13.1	7.4	7.6	10.2	7.2	4.2	20.6	23.8	24.5	14.5	22.7	22.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.90	1.00		0.05
Lane Grp Cap(c), veh/h	302	163	312	817	429	314	245	1485	684	388	1400	760
V/C Ratio(X)	1.04	0.59	0.21	0.35	0.25	0.15	1.09	0.40	0.41	0.89	0.77	0.77
Avail Cap(c_a), veh/h	302	163	312	903	474	347	245	1485	684	511	1400	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.45	0.45	0.45
Uniform Delay (d), s/veh	68.4	65.9	48.0	48.5	47.3	46.1	71.6	46.4	46.7	57.3	9.9	9.9
Incr Delay (d2), s/veh	63.7	3.7	0.1	0.1	0.1	0.1	84.1	0.8	1.8	5.9	1.9	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	3.7	2.1	4.6	3.4	1.5	15.7	11.1	10.7	6.0	4.2	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.1	69.6	48.2	48.6	47.4	46.2	155.7	47.2	48.5	63.1	11.7	13.3
LnGrp LOS	F	E	D	D	D	D	F	D	D	E	B	B
Approach Vol, veh/h		477			446			1143			2000	
Approach Delay, s/veh		107.9			48.0			72.9			21.0	
Approach LOS		F			D			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.2	71.5		18.0	25.0	67.7		39.3				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	22.2	56.5		13.1	20.6	* 58		38.0				
Max Q Clear Time (g_c+I1), s	16.5	26.5		15.1	22.6	24.8		12.2				
Green Ext Time (p_c), s	0.4	8.8		0.0	0.0	21.7		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
28: Genesee Avenue & Decoro St

NT + P with Mitigation PM
02/22/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	29	219	251	38	26	186	1030	37	22	2621	67
Future Volume (veh/h)	33	29	219	251	38	26	186	1030	37	22	2621	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	152	145	259	39	27	192	1062	38	23	2702	69
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	96	305	45	0	306	150	2382	85	29	2172	55
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.17	1.00	1.00	0.02	0.61	0.61
Sat Flow, veh/h	0	479	1522	0	0	1526	1781	3495	125	1781	3537	90
Grp Volume(v), veh/h	186	0	145	298	0	27	192	540	560	23	1350	1421
Grp Sat Flow(s),veh/h/ln	479	0	1522	0	0	1526	1781	1777	1843	1781	1777	1850
Q Serve(g_s), s	0.0	0.0	12.6	0.0	0.0	2.2	12.6	0.0	0.0	1.9	92.1	92.1
Cycle Q Clear(g_c), s	30.1	0.0	12.6	30.1	0.0	2.2	12.6	0.0	0.0	1.9	92.1	92.1
Prop In Lane	0.18		1.00	0.87		1.00	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	124	0	305	45	0	306	150	1211	1256	29	1091	1136
V/C Ratio(X)	1.49	0.00	0.47	6.64	0.00	0.09	1.28	0.45	0.45	0.79	1.24	1.25
Avail Cap(c_a), veh/h	124	0	305	45	0	306	150	1211	1256	74	1091	1136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	0.0	53.0	75.0	0.0	48.8	62.4	0.0	0.0	73.5	28.9	29.0
Incr Delay (d2), s/veh	260.1	0.0	0.4	2585.7	0.0	0.0	164.9	1.1	1.0	15.6	114.8	120.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.8	0.0	4.9	34.0	0.0	0.8	11.9	0.4	0.4	1.0	70.2	74.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	314.9	0.0	53.4	2660.7	0.0	48.8	227.3	1.1	1.0	89.1	143.8	149.3
LnGrp LOS	F	A	D	F	A	D	F	A	A	F	F	F
Approach Vol, veh/h		331			325			1292			2794	
Approach Delay, s/veh		200.3			2443.8			34.7			146.1	
Approach LOS		F			F			C			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.0	98.0		35.0	6.9	108.1		35.0				
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9				
Max Green Setting (Gmax), s	12.6	92.1		30.1	6.2	* 99		30.1				
Max Q Clear Time (g_c+I1), s	14.6	94.1		32.1	3.9	2.0		32.1				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	15.8		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	277.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
30: Genesee Ave & SR-52 WB Ramp

NT + P with Mitigation PM
10/03/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	334	913	1798	351
Future Volume (veh/h)	0	0	334	913	1798	351
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			363	992	1954	382
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			411	3380	2388	1065
Arrive On Green			0.23	0.95	0.67	0.67
Sat Flow, veh/h			1781	3647	3647	1585
Grp Volume(v), veh/h			363	992	1954	382
Grp Sat Flow(s),veh/h/ln			1781	1777	1777	1585
Q Serve(g_s), s			16.2	1.5	32.9	8.6
Cycle Q Clear(g_c), s			16.2	1.5	32.9	8.6
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			411	3380	2388	1065
V/C Ratio(X)			0.88	0.29	0.82	0.36
Avail Cap(c_a), veh/h			608	4156	2771	1236
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			30.5	0.1	9.8	5.8
Incr Delay (d2), s/veh			10.2	0.0	1.8	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			7.5	0.0	9.1	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			40.7	0.2	11.6	6.0
LnGrp LOS			D	A	B	A
Approach Vol, veh/h				1355	2336	
Approach Delay, s/veh				11.0	10.7	
Approach LOS				B	B	
Timer - Assigned Phs		2			5	6
Phs Duration (G+Y+Rc), s		82.1			22.9	59.1
Change Period (Y+Rc), s		4.0			4.0	4.0
Max Green Setting (Gmax), s		96.0			28.0	64.0
Max Q Clear Time (g_c+I1), s		3.5			18.2	34.9
Green Ext Time (p_c), s		8.1			0.8	20.2

Intersection Summary	
HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

NT + P with Mitigation PM
10/03/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	368	255	651	321	821	1425
Future Volume (veh/h)	368	255	651	321	821	1425
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	277	708	0	892	1549
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	452	788	1159		433	2195
Arrive On Green	0.25	0.25	0.33	0.00	0.24	0.62
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	400	277	708	0	892	1549
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	21.1	10.4	16.4	0.0	23.8	28.9
Cycle Q Clear(g_c), s	21.1	10.4	16.4	0.0	23.8	28.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	452	788	1159		433	2195
V/C Ratio(X)	0.89	0.35	0.61		2.06	0.71
Avail Cap(c_a), veh/h	583	904	1159		433	2195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	15.0	27.7	0.0	37.0	12.7
Incr Delay (d2), s/veh	12.6	0.3	2.4	0.0	484.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	0.1	6.9	0.0	68.0	10.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.7	15.3	30.1	0.0	521.0	14.6
LnGrp LOS	D	B	C		F	B
Approach Vol, veh/h	677		708	A		2441
Approach Delay, s/veh	34.4		30.1			199.7
Approach LOS	C		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.5	39.4		29.9		67.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 24	31.9		32.0		60.4
Max Q Clear Time (g_c+I1), s	25.8	18.4		23.1		30.9
Green Ext Time (p_c), s	0.0	3.7		1.7		13.6

Intersection Summary	
HCM 6th Ctrl Delay	139.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

LT + P with Mitigation AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	550	1920	166	334	1900	560	340	1689	420	330	495	100
Future Volume (veh/h)	550	1920	166	334	1900	560	340	1689	420	330	495	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	641	2259	195	393	2235	659	400	1987	494	384	582	118
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	459	2155	652	311	1937	1222	410	1659	501	237	1404	423
Arrive On Green	0.27	0.84	0.84	0.06	0.25	0.25	0.16	0.43	0.43	0.07	0.27	0.27
Sat Flow, veh/h	3456	5106	1546	3456	5106	2716	3456	5106	1541	3456	5106	1537
Grp Volume(v), veh/h	641	2259	195	393	2235	659	400	1987	494	384	582	118
Grp Sat Flow(s),veh/h/ln	1728	1702	1546	1728	1702	1358	1728	1702	1541	1728	1702	1537
Q Serve(g_s), s	18.6	59.1	3.7	12.6	53.1	26.9	16.1	45.5	44.4	9.6	13.1	8.4
Cycle Q Clear(g_c), s	18.6	59.1	3.7	12.6	53.1	26.9	16.1	45.5	44.4	9.6	13.1	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	459	2155	652	311	1937	1222	410	1659	501	237	1404	423
V/C Ratio(X)	1.40	1.05	0.30	1.26	1.15	0.54	0.98	1.20	0.99	1.62	0.41	0.28
Avail Cap(c_a), veh/h	459	2155	652	311	1937	1222	410	1659	501	237	1415	426
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.31	0.31	0.31	0.63	0.63	0.63
Uniform Delay (d), s/veh	51.4	10.9	6.6	65.8	52.2	34.6	58.8	39.7	39.4	65.2	41.5	39.9
Incr Delay (d2), s/veh	191.2	33.4	1.2	121.1	69.9	0.2	19.2	90.8	19.2	291.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.3	10.9	1.3	11.0	36.0	9.4	7.9	31.7	18.4	13.8	5.6	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	242.6	44.3	7.8	186.8	122.2	34.7	77.9	130.6	58.6	356.4	41.7	40.2
LnGrp LOS	F	F	A	F	F	C	E	F	E	F	D	D
Approach Vol, veh/h		3095			3287			2881			1084	
Approach Delay, s/veh		83.1			112.4			110.9			153.0	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	64.8	21.0	44.2	23.0	58.8	14.0	51.2				
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7				
Max Green Setting (Gmax), s	12.6	* 53	16.6	* 39	18.6	46.3	9.6	45.5				
Max Q Clear Time (g_c+I1), s	14.6	61.1	18.1	15.1	20.6	55.1	11.6	47.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	6.6	0.0	0.0	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	107.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

LT + P with Mitigation AM
10/04/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	63	210	80	69	110	248	2190	170	130	635	261
Future Volume (veh/h)	239	63	210	80	69	110	248	2190	170	130	635	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.82	1.00		0.92	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	69	231	88	110	98	273	2407	187	143	698	287
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	135	358	625	328	255	297	2744	209	138	1556	628
Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.17	0.57	0.57	0.01	0.15	0.15
Sat Flow, veh/h	3456	1870	1303	3563	1870	1455	1781	4829	369	3456	3525	1424
Grp Volume(v), veh/h	263	69	231	88	110	98	273	1684	910	143	674	311
Grp Sat Flow(s),veh/h/ln	1728	1870	1303	1781	1870	1455	1781	1702	1794	1728	1702	1545
Q Serve(g_s), s	10.1	5.0	10.1	2.9	7.2	8.3	21.1	59.2	62.2	5.6	25.3	25.8
Cycle Q Clear(g_c), s	10.1	5.0	10.1	2.9	7.2	8.3	21.1	59.2	62.2	5.6	25.3	25.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.92
Lane Grp Cap(c), veh/h	249	135	358	625	328	255	297	1934	1019	138	1502	682
V/C Ratio(X)	1.05	0.51	0.64	0.14	0.34	0.38	0.92	0.87	0.89	1.03	0.45	0.46
Avail Cap(c_a), veh/h	249	135	358	967	508	395	383	1934	1019	138	1502	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Uniform Delay (d), s/veh	65.0	62.6	48.7	48.8	50.6	51.0	57.4	25.8	26.5	69.1	44.2	44.4
Incr Delay (d2), s/veh	72.2	1.4	3.1	0.0	0.2	0.4	20.6	5.7	11.8	72.0	0.7	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	2.4	7.7	1.3	3.4	3.1	11.2	24.7	29.0	3.9	11.8	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	137.1	64.0	51.8	48.8	50.8	51.4	78.0	31.5	38.3	141.0	44.9	45.9
LnGrp LOS	F	E	D	D	D	D	E	C	D	F	D	D
Approach Vol, veh/h		563			296			2867			1128	
Approach Delay, s/veh		93.2			50.4			38.1			57.4	
Approach LOS		F			D			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	85.6		15.0	27.8	67.8		29.4				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	5.6	66.1		10.1	30.1	* 42		38.0				
Max Q Clear Time (g_c+I1), s	7.6	64.2		12.1	23.1	27.8		10.3				
Green Ext Time (p_c), s	0.0	1.8		0.0	0.2	7.5		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	49.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
20: Cargill Drive/Costa Verde Blvd & Nobel Drive

LT + P with Mitigation AM
10/04/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	842	50	40	824	140	100	138	80	130	39	132
Future Volume (veh/h)	210	842	50	40	824	140	100	138	80	130	39	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.95	1.00		0.92	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	231	925	55	44	905	154	110	152	88	143	43	145
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	2255	134	57	1533	259	128	282	163	159	523	417
Arrive On Green	0.14	0.46	0.46	0.03	0.35	0.35	0.07	0.26	0.26	0.09	0.28	0.28
Sat Flow, veh/h	1781	4908	291	1781	4356	737	1781	1076	623	1781	1870	1493
Grp Volume(v), veh/h	231	641	339	44	706	353	110	0	240	143	43	145
Grp Sat Flow(s),veh/h/ln	1781	1702	1795	1781	1702	1689	1781	0	1698	1781	1870	1493
Q Serve(g_s), s	15.4	15.0	15.1	2.9	20.4	20.5	7.3	0.0	14.6	9.5	2.0	9.3
Cycle Q Clear(g_c), s	15.4	15.0	15.1	2.9	20.4	20.5	7.3	0.0	14.6	9.5	2.0	9.3
Prop In Lane	1.00		0.16	1.00		0.44	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	248	1564	824	57	1198	595	128	0	445	159	523	417
V/C Ratio(X)	0.93	0.41	0.41	0.78	0.59	0.59	0.86	0.00	0.54	0.90	0.08	0.35
Avail Cap(c_a), veh/h	248	1564	824	107	1198	595	128	0	551	159	639	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	21.6	21.6	57.7	31.8	31.8	55.1	0.0	38.0	54.1	31.9	34.5
Incr Delay (d2), s/veh	31.9	0.6	1.1	8.3	2.1	4.3	39.9	0.0	0.4	42.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	6.1	6.6	1.5	8.7	9.1	4.7	0.0	6.1	6.2	0.9	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.0	22.2	22.8	66.0	33.9	36.2	95.0	0.0	38.4	96.9	31.9	34.7
LnGrp LOS	F	C	C	E	C	D	F	A	D	F	C	C
Approach Vol, veh/h		1211			1103			350			331	
Approach Delay, s/veh		34.0			35.9			56.2			61.2	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	60.3	13.0	38.5	21.1	47.4	15.1	36.4				
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9				
Max Green Setting (Gmax), s	7.2	44.3	8.6	41.0	16.7	34.8	10.7	38.9				
Max Q Clear Time (g_c+I1), s	4.9	17.1	9.3	11.3	17.4	22.5	11.5	16.6				
Green Ext Time (p_c), s	0.0	11.7	0.0	0.4	0.0	7.7	0.0	0.9				

Intersection Summary	
HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
22: Genesee Avenue & Nobel Drive

LT + P with Mitigation AM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	342	730	220	140	561	208	458	2028	280	182	482	163
Future Volume (veh/h)	342	730	220	140	561	208	458	2028	280	182	482	163
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.95	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	785	237	151	603	224	492	2181	301	196	518	175
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	286	904	638	200	816	345	554	1773	773	163	1970	596
Arrive On Green	0.08	0.25	0.25	0.06	0.23	0.23	0.16	0.50	0.50	0.09	0.77	0.77
Sat Flow, veh/h	3456	3554	1511	3456	3554	1502	3456	3554	1550	3456	5106	1545
Grp Volume(v), veh/h	368	785	237	151	603	224	492	2181	301	196	518	175
Grp Sat Flow(s),veh/h/ln	1728	1777	1511	1728	1777	1502	1728	1777	1550	1728	1702	1545
Q Serve(g_s), s	11.6	29.6	15.2	6.0	22.0	18.9	19.5	69.9	16.9	6.6	4.1	4.7
Cycle Q Clear(g_c), s	11.6	29.6	15.2	6.0	22.0	18.9	19.5	69.9	16.9	6.6	4.1	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	286	904	638	200	816	345	554	1773	773	163	1970	596
V/C Ratio(X)	1.29	0.87	0.37	0.75	0.74	0.65	0.89	1.23	0.39	1.20	0.26	0.29
Avail Cap(c_a), veh/h	286	904	638	336	888	375	1002	1773	773	163	1970	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.2	49.9	28.4	65.0	50.0	48.8	57.6	35.1	21.8	63.4	10.3	10.4
Incr Delay (d2), s/veh	152.2	9.3	0.5	2.2	3.1	3.5	2.0	108.7	1.5	135.5	0.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	14.3	5.7	2.7	10.2	7.5	8.7	56.1	6.5	5.8	1.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	216.4	59.2	28.9	67.1	53.1	52.4	59.5	143.7	23.3	198.9	10.6	11.6
LnGrp LOS	F	E	C	E	D	D	E	F	C	F	B	B
Approach Vol, veh/h		1390			978			2974			889	
Approach Delay, s/veh		95.7			55.1			117.6			52.3	
Approach LOS		F			E			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	75.8	12.5	40.7	26.8	59.9	16.0	37.2
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	6.6	* 67	13.6	* 33	40.6	33.0	11.6	35.0
Max Q Clear Time (g_c+I1), s	8.6	71.9	8.0	31.6	21.5	6.7	13.6	24.0
Green Ext Time (p_c), s	0.0	0.0	0.1	1.1	0.9	6.3	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	93.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
28: Genesee Avenue & Decoro St

LT + P with Mitigation AM
02/22/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	29	198	69	43	37	163	3014	143	19	929	64
Future Volume (veh/h)	43	29	198	69	43	37	163	3014	143	19	929	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	133	145	74	46	40	175	3241	122	20	999	37
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	32	76	327	42	17	327	197	2307	86	28	1978	73
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.22	1.00	1.00	0.02	0.57	0.57
Sat Flow, veh/h	0	356	1528	0	78	1528	1781	3487	130	1781	3489	129
Grp Volume(v), veh/h	179	0	145	120	0	40	175	1638	1725	20	509	527
Grp Sat Flow(s),veh/h/ln	356	0	1528	78	0	1528	1781	1777	1840	1781	1777	1842
Q Serve(g_s), s	0.0	0.0	11.5	0.0	0.0	3.0	13.3	0.0	85.6	1.6	24.3	24.3
Cycle Q Clear(g_c), s	30.0	0.0	11.5	30.0	0.0	3.0	13.3	0.0	85.6	1.6	24.3	24.3
Prop In Lane	0.26		1.00	0.62		1.00	1.00		0.07	1.00		0.07
Lane Grp Cap(c), veh/h	109	0	327	58	0	327	197	1176	1217	28	1007	1044
V/C Ratio(X)	1.65	0.00	0.44	2.06	0.00	0.12	0.89	1.39	1.42	0.73	0.51	0.51
Avail Cap(c_a), veh/h	109	0	327	58	0	327	298	1176	1217	51	1007	1044
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	0.0	47.7	61.6	0.0	44.4	53.7	0.0	0.0	68.6	18.4	18.4
Incr Delay (d2), s/veh	328.5	0.0	0.3	532.1	0.0	0.1	1.6	177.6	187.9	12.7	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.8	0.0	4.5	10.7	0.0	1.1	5.3	58.0	63.5	0.8	10.0	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	379.5	0.0	48.1	593.7	0.0	44.4	55.3	177.6	187.9	81.3	20.2	20.2
LnGrp LOS	F	A	D	F	A	D	E	F	F	F	C	C
Approach Vol, veh/h		324			160			3538			1056	
Approach Delay, s/veh		231.2			456.4			176.5			21.3	
Approach LOS		F			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.9	85.2		34.9	6.6	98.5		34.9
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9
Max Green Setting (Gmax), s	23.4	71.4		30.0	4.0	* 91		30.0
Max Q Clear Time (g_c+I1), s	15.3	26.3		32.0	3.6	87.6		32.0
Green Ext Time (p_c), s	0.1	10.2		0.0	0.0	3.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	156.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
29: Governor Drive & Genesee Avenue

LT + P with Mitigation AM
10/04/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	787	324	168	270	247	406	94	1988	239	289	738	426
Future Volume (veh/h)	787	324	168	270	247	406	94	1988	239	289	738	426
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	894	368	191	307	281	461	107	2259	272	328	839	484
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	1115	449	323	1133	491	132	1343	590	161	1247	691
Arrive On Green	0.09	0.31	0.31	0.09	0.32	0.32	0.07	0.38	0.38	0.05	0.35	0.35
Sat Flow, veh/h	3456	3554	1432	3456	3554	1541	1781	3554	1560	3456	3554	1571
Grp Volume(v), veh/h	894	368	191	307	281	461	107	2259	272	328	839	484
Grp Sat Flow(s),veh/h/ln	1728	1777	1432	1728	1777	1541	1781	1777	1560	1728	1777	1571
Q Serve(g_s), s	10.6	9.5	12.7	10.6	7.0	34.9	7.1	45.4	15.8	5.6	24.1	30.0
Cycle Q Clear(g_c), s	10.6	9.5	12.7	10.6	7.0	34.9	7.1	45.4	15.8	5.6	24.1	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	1115	449	323	1133	491	132	1343	590	161	1247	691
V/C Ratio(X)	2.93	0.33	0.43	0.95	0.25	0.94	0.81	1.68	0.46	2.03	0.67	0.70
Avail Cap(c_a), veh/h	305	1158	466	323	1155	501	159	1343	590	161	1247	691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	31.5	32.6	54.1	30.2	39.7	54.8	37.3	28.1	57.2	33.1	27.3
Incr Delay (d2), s/veh	876.8	0.4	1.4	37.1	0.2	26.2	19.4	310.1	2.6	486.3	2.9	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	41.8	4.2	4.6	6.3	3.1	16.6	3.8	76.4	6.3	13.3	10.4	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	931.5	31.9	34.0	91.2	30.5	66.0	74.1	347.4	30.7	543.5	36.0	33.1
LnGrp LOS	F	C	C	F	C	E	E	F	C	F	D	C
Approach Vol, veh/h		1453			1049			2638			1651	
Approach Delay, s/veh		585.7			63.8			303.7			136.0	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	51.1	15.6	43.3	13.3	47.8	15.0	43.9
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7
Max Green Setting (Gmax), s	5.6	44.6	11.2	* 39	10.7	* 40	10.6	39.0
Max Q Clear Time (g_c+I1), s	7.6	47.4	12.6	14.7	9.1	32.0	12.6	36.9
Green Ext Time (p_c), s	0.0	0.0	0.0	6.2	0.0	6.3	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	286.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
31: SR-52 EB Ramp & Genesee Ave

LT + P with Mitigation AM
10/04/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	147	264	1528	808	454	758
Future Volume (veh/h)	147	264	1528	808	454	758
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	287	1661	0	493	824
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	303	602	1458		374	2406
Arrive On Green	0.17	0.17	0.41	0.00	0.21	0.68
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	160	287	1661	0	493	824
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.8	11.3	33.8	0.0	17.3	8.0
Cycle Q Clear(g_c), s	6.8	11.3	33.8	0.0	17.3	8.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	303	602	1458		374	2406
V/C Ratio(X)	0.53	0.48	1.14		1.32	0.34
Avail Cap(c_a), veh/h	692	948	1458		374	2406
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	19.3	24.3	0.0	32.6	5.6
Incr Delay (d2), s/veh	0.5	0.2	71.6	0.0	161.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	26.8	0.0	23.6	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.7	19.6	96.0	0.0	193.6	6.0
LnGrp LOS	C	B	F		F	A
Approach Vol, veh/h	447		1661	A		1317
Approach Delay, s/veh	23.9		96.0			76.2
Approach LOS	C		F			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	41.3		19.1		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		* 56
Max Q Clear Time (g_c+I1), s	19.3	35.8		13.3		10.0
Green Ext Time (p_c), s	0.0	0.0		0.7		3.7

Intersection Summary	
HCM 6th Ctrl Delay	79.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
7: Genesee Avenue & La Jolla Village Drive

LT + P with Mitigation PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	226	1460	525	658	1720	220	386	499	353	660	1399	480
Future Volume (veh/h)	226	1460	525	658	1720	220	386	499	353	660	1399	480
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	1553	559	700	1830	234	411	531	376	702	1473	511
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	2117	630	544	2495	1864	357	1076	312	682	1556	459
Arrive On Green	0.17	0.83	0.83	0.05	0.16	0.16	0.03	0.07	0.07	0.20	0.30	0.30
Sat Flow, veh/h	3456	5106	1520	3456	5106	2687	3456	5106	1482	3456	5106	1508
Grp Volume(v), veh/h	240	1553	559	700	1830	234	411	531	376	702	1473	511
Grp Sat Flow(s),veh/h/ln	1728	1702	1520	1728	1702	1343	1728	1702	1482	1728	1702	1508
Q Serve(g_s), s	10.1	19.9	35.6	23.6	51.1	6.9	15.5	15.0	31.6	29.6	42.3	45.7
Cycle Q Clear(g_c), s	10.1	19.9	35.6	23.6	51.1	6.9	15.5	15.0	31.6	29.6	42.3	45.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	288	2117	630	544	2495	1864	357	1076	312	682	1556	459
V/C Ratio(X)	0.83	0.73	0.89	1.29	0.73	0.13	1.15	0.49	1.20	1.03	0.95	1.11
Avail Cap(c_a), veh/h	728	2117	630	544	2495	1864	357	1076	312	682	1556	459
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.76	0.76	0.76	0.44	0.44	0.44
Uniform Delay (d), s/veh	61.5	9.2	10.5	71.1	53.6	13.9	72.4	62.1	69.8	60.2	51.0	52.2
Incr Delay (d2), s/veh	2.4	2.3	16.9	130.7	0.2	0.0	90.0	0.3	113.0	30.7	6.6	64.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	4.0	6.9	20.9	23.6	2.3	11.7	7.0	22.5	15.9	18.9	25.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.9	11.5	27.4	201.8	53.8	13.9	162.4	62.4	182.8	90.9	57.6	116.2
LnGrp LOS	E	B	C	F	D	B	F	E	F	F	E	F
Approach Vol, veh/h		2352			2764			1318			2686	
Approach Delay, s/veh		20.6			87.9			127.9			77.4	
Approach LOS		C			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.0	68.2	19.9	51.4	16.9	79.3	34.0	37.3
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	23.6	* 46	15.5	* 46	31.6	37.5	29.6	31.3
Max Q Clear Time (g_c+I1), s	25.6	37.6	17.5	47.7	12.1	53.1	31.6	33.6
Green Ext Time (p_c), s	0.0	7.8	0.0	0.0	0.4	0.0	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		73.3
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
13: Costa Verde Blvd & Costa Verde Shopping Center Entrance (South)

LT + P with Mitigation PM
10/04/2019

Intersection	
Int Delay, s/veh	18.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	283	90	310	223	90	310
Future Vol, veh/h	283	90	310	223	90	310
Conflicting Peds, #/hr	10	10	0	16	16	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	301	96	330	237	96	330

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	713	191	0	0	583	0
Stage 1	346	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	366	818	-	-	987	-
Stage 1	688	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	800	-	-	974	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	585	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	61.1	0	2.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	315	800	974	-
HCM Lane V/C Ratio	-	-	0.956	0.12	0.098	-
HCM Control Delay (s)	-	-	77.3	10.1	9.1	0.3
HCM Lane LOS	-	-	F	B	A	A
HCM 95th %tile Q(veh)	-	-	9.8	0.4	0.3	-

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

LT + P with Mitigation PM
10/04/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	337	122	257	330	131	260	289	680	330	420	1783	489
Future Volume (veh/h)	337	122	257	330	131	260	289	680	330	420	1783	489
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.69	1.00		0.83	1.00		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	355	128	113	347	138	116	304	716	347	442	1877	94
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	325	176	342	626	329	230	268	1544	699	491	2210	110
Arrive On Green	0.09	0.09	0.09	0.18	0.18	0.18	0.15	0.45	0.45	0.19	0.59	0.59
Sat Flow, veh/h	3456	1870	1096	3563	1870	1310	1781	3404	1542	3456	4968	248
Grp Volume(v), veh/h	355	128	113	347	138	116	304	716	347	442	1285	686
Grp Sat Flow(s),veh/h/ln	1728	1870	1096	1781	1870	1310	1781	1702	1542	1728	1702	1812
Q Serve(g_s), s	14.1	10.0	13.0	13.3	9.8	12.0	22.6	21.8	23.8	18.8	46.4	46.8
Cycle Q Clear(g_c), s	14.1	10.0	13.0	13.3	9.8	12.0	22.6	21.8	23.8	18.8	46.4	46.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	325	176	342	626	329	230	268	1544	699	491	1515	806
V/C Ratio(X)	1.09	0.73	0.33	0.55	0.42	0.50	1.13	0.46	0.50	0.90	0.85	0.85
Avail Cap(c_a), veh/h	325	176	342	665	349	244	268	1544	699	629	1515	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	67.9	66.1	47.7	56.5	55.0	55.9	63.7	28.4	28.9	59.8	26.5	26.5
Incr Delay (d2), s/veh	77.1	12.4	0.2	0.4	0.3	0.6	95.5	1.0	2.5	1.3	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	5.4	3.6	6.1	4.7	4.0	17.4	9.2	9.4	8.1	17.1	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	145.1	78.5	47.9	56.9	55.3	56.5	159.2	29.4	31.4	61.1	27.1	27.7
LnGrp LOS	F	E	D	E	E	E	F	C	C	E	C	C
Approach Vol, veh/h		596			601			1367			2413	
Approach Delay, s/veh		112.4			56.5			58.8			33.5	
Approach LOS		F			E			E			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.7	74.0		19.0	27.0	72.7		31.3				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	27.3	60.4		14.1	22.6	* 65		28.0				
Max Q Clear Time (g_c+I1), s	20.8	25.8		16.1	24.6	48.8		15.3				
Green Ext Time (p_c), s	0.6	11.8		0.0	0.0	14.3		1.3				

Intersection Summary	
HCM 6th Ctrl Delay	52.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
20: Cargill Drive/Costa Verde Blvd & Nobel Drive

LT + P with Mitigation PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	997	240	220	1460	190	70	76	70	170	164	269
Future Volume (veh/h)	278	997	240	220	1460	190	70	76	70	170	164	269
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.87	1.00		0.93	1.00		0.91	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	296	1061	255	234	1553	202	74	81	74	181	174	286
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	1563	375	253	1647	214	93	199	182	191	538	422
Arrive On Green	0.06	0.13	0.13	0.28	0.73	0.73	0.05	0.23	0.23	0.11	0.29	0.29
Sat Flow, veh/h	1781	3983	956	1781	4527	587	1781	856	782	1781	1870	1466
Grp Volume(v), veh/h	296	907	409	234	1167	588	74	0	155	181	174	286
Grp Sat Flow(s),veh/h/ln	1781	1702	1535	1781	1702	1710	1781	0	1638	1781	1870	1466
Q Serve(g_s), s	24.9	38.1	38.2	19.1	44.6	45.1	6.2	0.0	12.0	15.1	11.0	25.9
Cycle Q Clear(g_c), s	24.9	38.1	38.2	19.1	44.6	45.1	6.2	0.0	12.0	15.1	11.0	25.9
Prop In Lane	1.00		0.62	1.00		0.34	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	304	1336	602	253	1238	622	93	0	380	191	538	422
V/C Ratio(X)	0.97	0.68	0.68	0.92	0.94	0.95	0.80	0.00	0.41	0.95	0.32	0.68
Avail Cap(c_a), veh/h	304	1336	602	316	1238	622	114	0	404	191	542	425
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.34	0.34	0.34	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.4	56.3	56.3	52.9	19.1	19.1	70.3	0.0	48.8	66.5	42.0	47.3
Incr Delay (d2), s/veh	23.6	1.0	2.1	25.9	15.0	24.9	22.0	0.0	0.3	49.3	0.1	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	17.7	16.2	9.5	12.9	14.8	3.4	0.0	5.0	9.5	5.2	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.1	57.2	58.4	78.9	34.1	44.1	92.4	0.0	49.1	115.9	42.1	50.8
LnGrp LOS	F	E	E	E	C	D	F	A	D	F	D	D
Approach Vol, veh/h		1612			1989			229			641	
Approach Delay, s/veh		64.3			42.3			63.1			66.8	
Approach LOS		E			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.7	64.1	12.2	48.0	30.0	59.8	20.5	39.7				
Change Period (Y+Rc), s	4.4	5.2	4.4	4.9	4.4	5.2	4.4	4.9				
Max Green Setting (Gmax), s	26.6	51.4	9.6	43.5	25.6	52.4	16.1	37.0				
Max Q Clear Time (g_c+I1), s	21.1	40.2	8.2	27.9	26.9	47.1	17.1	14.0				
Green Ext Time (p_c), s	0.2	8.4	0.0	1.1	0.0	4.9	0.0	0.6				

Intersection Summary	
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
22: Genesee Avenue & Nobel Drive

LT + P with Mitigation PM
10/10/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	347	680	280	560	1197	159	413	673	150	345	1866	313
Future Volume (veh/h)	347	680	280	560	1197	159	413	673	150	345	1866	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	354	694	286	571	1221	162	421	687	153	352	1904	319
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	866	545	621	1159	499	382	1348	584	382	1937	584
Arrive On Green	0.03	0.08	0.08	0.18	0.33	0.33	0.11	0.38	0.38	0.11	0.38	0.38
Sat Flow, veh/h	3456	3554	1518	3456	3554	1530	3456	3554	1539	3456	5106	1539
Grp Volume(v), veh/h	354	694	286	571	1221	162	421	687	153	352	1904	319
Grp Sat Flow(s),veh/h/ln	1728	1777	1518	1728	1777	1530	1728	1777	1539	1728	1702	1539
Q Serve(g_s), s	14.6	28.8	23.7	24.4	48.9	12.0	16.6	22.3	10.3	15.1	55.4	24.4
Cycle Q Clear(g_c), s	14.6	28.8	23.7	24.4	48.9	12.0	16.6	22.3	10.3	15.1	55.4	24.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	336	866	545	621	1159	499	382	1348	584	382	1937	584
V/C Ratio(X)	1.05	0.80	0.52	0.92	1.05	0.32	1.10	0.51	0.26	0.92	0.98	0.55
Avail Cap(c_a), veh/h	336	866	545	705	1159	499	382	1348	584	382	1937	584
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.6	65.4	47.3	60.5	50.6	38.1	66.7	35.8	32.1	66.0	46.1	36.4
Incr Delay (d2), s/veh	63.5	5.7	1.2	15.2	41.9	0.4	76.0	1.4	1.1	26.6	16.8	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	14.5	9.9	12.0	28.4	4.6	11.4	10.0	4.1	8.1	26.3	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	136.1	71.1	48.5	75.7	92.4	38.5	142.7	37.2	33.2	92.7	62.9	40.1
LnGrp LOS	F	E	D	E	F	D	F	D	C	F	E	D
Approach Vol, veh/h		1334			1954			1261			2575	
Approach Delay, s/veh		83.5			83.1			71.9			64.1	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	63.0	31.3	41.7	21.0	63.0	19.0	54.0
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	16.6	* 50	30.6	* 33	16.6	50.1	14.6	48.9
Max Q Clear Time (g_c+I1), s	17.1	24.3	26.4	30.8	18.6	57.4	16.6	50.9
Green Ext Time (p_c), s	0.0	8.8	0.6	1.5	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	74.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
28: Genesee Avenue & Decoro St

LT + P with Mitigation PM
02/22/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	32	227	256	38	34	192	1289	44	27	3269	81
Future Volume (veh/h)	43	32	227	256	38	34	192	1289	44	27	3269	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	151	156	264	39	35	198	1329	4	28	3370	43
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	29	71	305	45	0	306	90	2464	7	36	2325	30
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.10	1.00	1.00	0.02	0.65	0.65
Sat Flow, veh/h	0	355	1522	0	0	1526	1781	3634	11	1781	3591	46
Grp Volume(v), veh/h	195	0	156	303	0	35	198	650	683	28	1663	1750
Grp Sat Flow(s),veh/h/ln	355	0	1522	0	0	1526	1781	1777	1868	1781	1777	1860
Q Serve(g_s), s	0.0	0.0	13.7	0.0	0.0	2.8	7.6	0.0	0.0	2.3	97.1	97.1
Cycle Q Clear(g_c), s	30.1	0.0	13.7	30.1	0.0	2.8	7.6	0.0	0.0	2.3	97.1	97.1
Prop In Lane	0.23		1.00	0.87		1.00	1.00		0.01	1.00		0.02
Lane Grp Cap(c), veh/h	101	0	305	45	0	306	90	1205	1267	36	1150	1204
V/C Ratio(X)	1.94	0.00	0.51	6.75	0.00	0.11	2.19	0.54	0.54	0.79	1.45	1.45
Avail Cap(c_a), veh/h	101	0	305	45	0	306	90	1205	1267	67	1150	1204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	53.4	75.0	0.0	49.0	67.4	0.0	0.0	73.2	26.5	26.5
Incr Delay (d2), s/veh	456.4	0.0	0.6	2632.2	0.0	0.1	565.4	1.4	1.3	13.2	205.5	208.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	0.0	5.3	34.6	0.0	1.1	17.4	0.5	0.5	1.2	102.0	107.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	512.1	0.0	54.0	2707.2	0.0	49.1	632.8	1.4	1.3	86.4	231.9	235.3
LnGrp LOS	F	A	D	F	A	D	F	A	A	F	F	F
Approach Vol, veh/h		351			338			1531			3441	
Approach Delay, s/veh		308.5			2432.0			83.0			232.4	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	103.0		35.0	7.4	107.6		35.0
Change Period (Y+Rc), s	4.4	5.9		4.9	4.4	* 5.9		4.9
Max Green Setting (Gmax), s	7.6	97.1		30.1	5.6	* 99		30.1
Max Q Clear Time (g_c+I1), s	9.6	99.1		32.1	4.3	2.0		32.1
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	23.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	328.1
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
29: Governor Drive & Genesee Avenue

LT + P with Mitigation PM
10/07/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	348	305	122	339	382	186	193	778	268	589	2041	794
Future Volume (veh/h)	348	305	122	339	382	186	193	778	268	589	2041	794
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	370	324	130	361	406	198	205	828	285	627	2171	845
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	528	223	351	570	243	165	1276	564	960	1958	1016
Arrive On Green	0.09	0.15	0.15	0.10	0.16	0.16	0.09	0.36	0.36	0.28	0.55	0.55
Sat Flow, veh/h	3456	3554	1500	3456	3554	1516	1781	3554	1572	3456	3554	1576
Grp Volume(v), veh/h	370	324	130	361	406	198	205	828	285	627	2171	845
Grp Sat Flow(s),veh/h/ln	1728	1777	1500	1728	1777	1516	1781	1777	1572	1728	1777	1576
Q Serve(g_s), s	17.6	16.2	12.8	19.3	20.6	14.4	17.6	37.0	27.0	30.4	104.7	78.2
Cycle Q Clear(g_c), s	17.6	16.2	12.8	19.3	20.6	14.4	17.6	37.0	27.0	30.4	104.7	78.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	528	223	351	570	243	165	1276	564	960	1958	1016
V/C Ratio(X)	1.16	0.61	0.58	1.03	0.71	0.81	1.24	0.65	0.51	0.65	1.11	0.83
Avail Cap(c_a), veh/h	320	817	345	351	729	311	165	1276	564	960	1958	1016
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	86.2	75.8	52.3	85.4	75.6	27.8	86.2	50.9	47.7	60.5	42.6	26.0
Incr Delay (d2), s/veh	99.5	2.5	5.1	55.9	3.7	15.8	149.8	2.6	3.2	1.3	56.9	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	7.7	5.2	11.4	9.8	6.5	14.9	16.8	11.3	13.4	59.4	31.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	185.7	78.3	57.4	141.3	79.3	43.6	236.0	53.5	50.9	61.8	99.6	33.9
LnGrp LOS	F	E	E	F	E	D	F	D	D	E	F	C
Approach Vol, veh/h		824			965			1318			3643	
Approach Delay, s/veh		123.2			95.1			81.3			77.9	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	57.9	73.9	25.0	33.2	22.0	109.8	22.0	36.2
Change Period (Y+Rc), s	5.1	* 5.7	5.7	* 5	4.4	5.1	4.4	5.7
Max Green Setting (Gmax), s	45.0	* 68	13.6	* 44	17.6	96.2	17.6	39.0
Max Q Clear Time (g_c+I1), s	32.4	39.0	21.3	18.2	19.6	106.7	19.6	22.6
Green Ext Time (p_c), s	1.0	12.8	0.0	5.1	0.0	0.0	0.0	5.3

Intersection Summary	
HCM 6th Ctrl Delay	86.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
30: Genesee Ave & SR-52 WB Ramp

LT + P with Mitigation PM
10/07/2019

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	337	1019	2006	397
Future Volume (veh/h)	0	0	337	1019	2006	397
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1870	1870	1870	1870
Adj Flow Rate, veh/h			366	1108	2180	432
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			2	2	2	2
Cap, veh/h			404	3401	2443	1090
Arrive On Green			0.23	0.96	0.69	0.69
Sat Flow, veh/h			1781	3647	3647	1585
Grp Volume(v), veh/h			366	1108	2180	432
Grp Sat Flow(s),veh/h/ln			1781	1777	1777	1585
Q Serve(g_s), s			18.6	1.8	46.2	10.9
Cycle Q Clear(g_c), s			18.6	1.8	46.2	10.9
Prop In Lane			1.00			1.00
Lane Grp Cap(c), veh/h			404	3401	2443	1090
V/C Ratio(X)			0.91	0.33	0.89	0.40
Avail Cap(c_a), veh/h			478	3664	2557	1141
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh			35.1	0.1	11.8	6.2
Incr Delay (d2), s/veh			18.9	0.1	4.3	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			9.7	0.0	14.2	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			54.0	0.2	16.1	6.5
LnGrp LOS			D	A	B	A
Approach Vol, veh/h				1474	2612	
Approach Delay, s/veh				13.5	14.5	
Approach LOS				B	B	

Timer - Assigned Phs	2	5	6
Phs Duration (G+Y+Rc), s	93.1	25.1	68.0
Change Period (Y+Rc), s	4.0	4.0	4.0
Max Green Setting (Gmax), s	96.0	25.0	67.0
Max Q Clear Time (g_c+I1), s	3.8	20.6	48.2
Green Ext Time (p_c), s	9.6	0.5	15.8

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	380	290	729	338	872	1603
Future Volume (veh/h)	380	290	729	338	872	1603
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	413	315	792	0	948	1742
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	465	803	1130		438	2174
Arrive On Green	0.26	0.26	0.32	0.00	0.25	0.61
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	413	315	792	0	948	1742
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	22.0	12.1	19.3	0.0	24.3	36.9
Cycle Q Clear(g_c), s	22.0	12.1	19.3	0.0	24.3	36.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	465	803	1130		438	2174
V/C Ratio(X)	0.89	0.39	0.70		2.16	0.80
Avail Cap(c_a), veh/h	577	904	1130		438	2174
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	15.0	29.6	0.0	37.2	14.6
Incr Delay (d2), s/veh	13.5	0.3	3.6	0.0	530.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	13.0	8.3	0.0	74.6	13.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.7	15.3	33.2	0.0	568.0	17.8
LnGrp LOS	D	B	C		F	B
Approach Vol, veh/h	728		792	A		2690
Approach Delay, s/veh	34.2		33.2			211.7
Approach LOS	C		C			F
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	29.0	38.9		30.9		67.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 24	31.4		32.0		60.4
Max Q Clear Time (g_c+I1), s	26.3	21.3		24.0		38.9
Green Ext Time (p_c), s	0.0	3.5		1.7		13.2

Intersection Summary	
HCM 6th Ctrl Delay	147.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

LEGEND:
XX' – EXISTING
YY' – PROPOSED

NORTH

1" = 40'

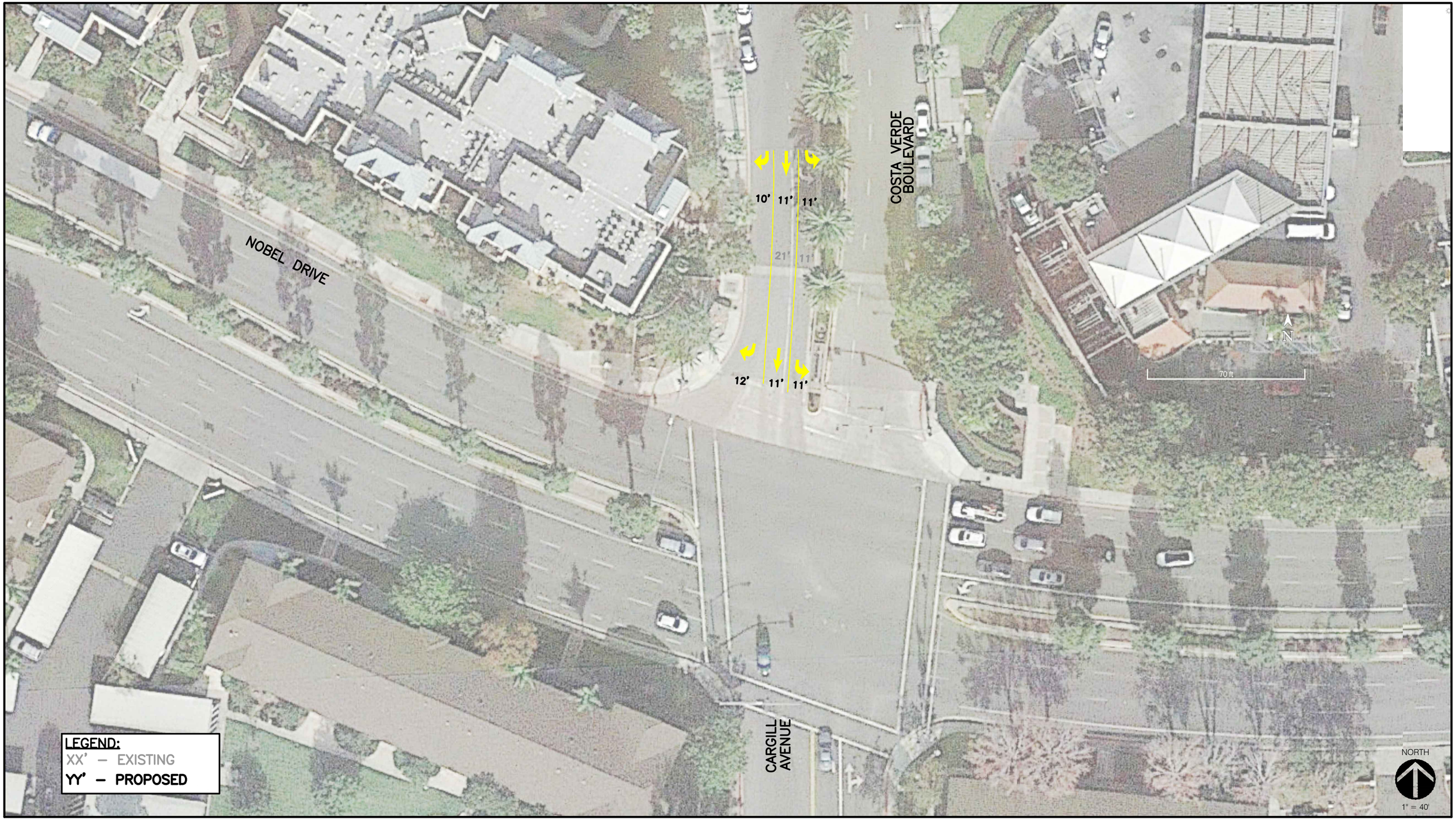
LINSCOTT LAW & GREENSPAN engineers

REV. 10/1/2019
N:\2408\Design\September 2019\1.Genesee Avenue & Decoro Street.dwg

Figure 1

Genesee Avenue & Decoro Street

COSTA VERDE CENTER REVITILIZATION PROJECT



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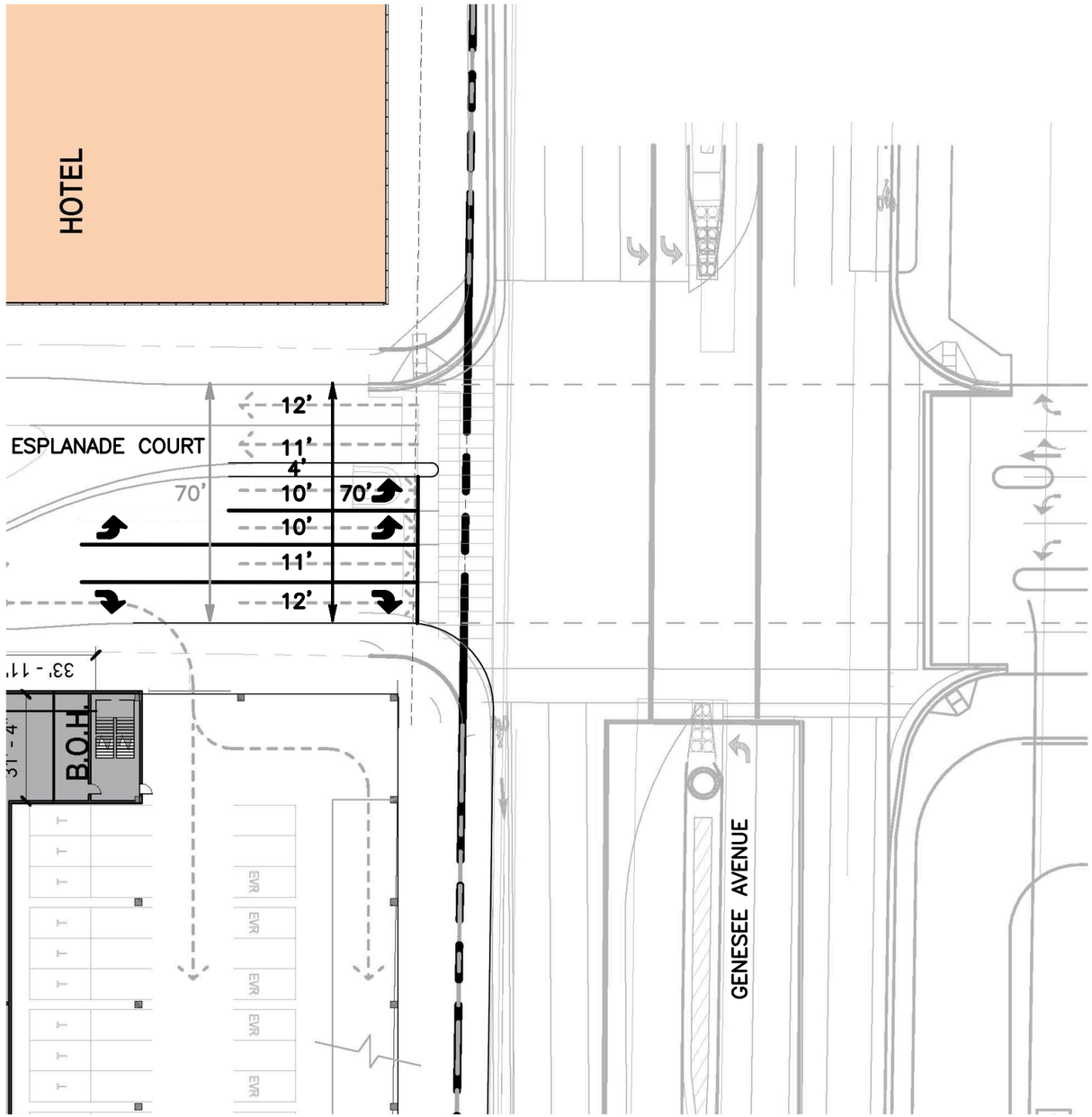
REV. 10/1/2019
N:\2408\Design\September 2019\2–A Nobel Drive & Costa Verde Boulevard.dwg

Figure 2

Nobel Drive & Costa Verde Boulevard

COSTA VERDE CENTER REVITILIZATION PROJECT



LEGEND:
XX' – EXISTING
YY' – PROPOSED

NORTH
1" = 40'

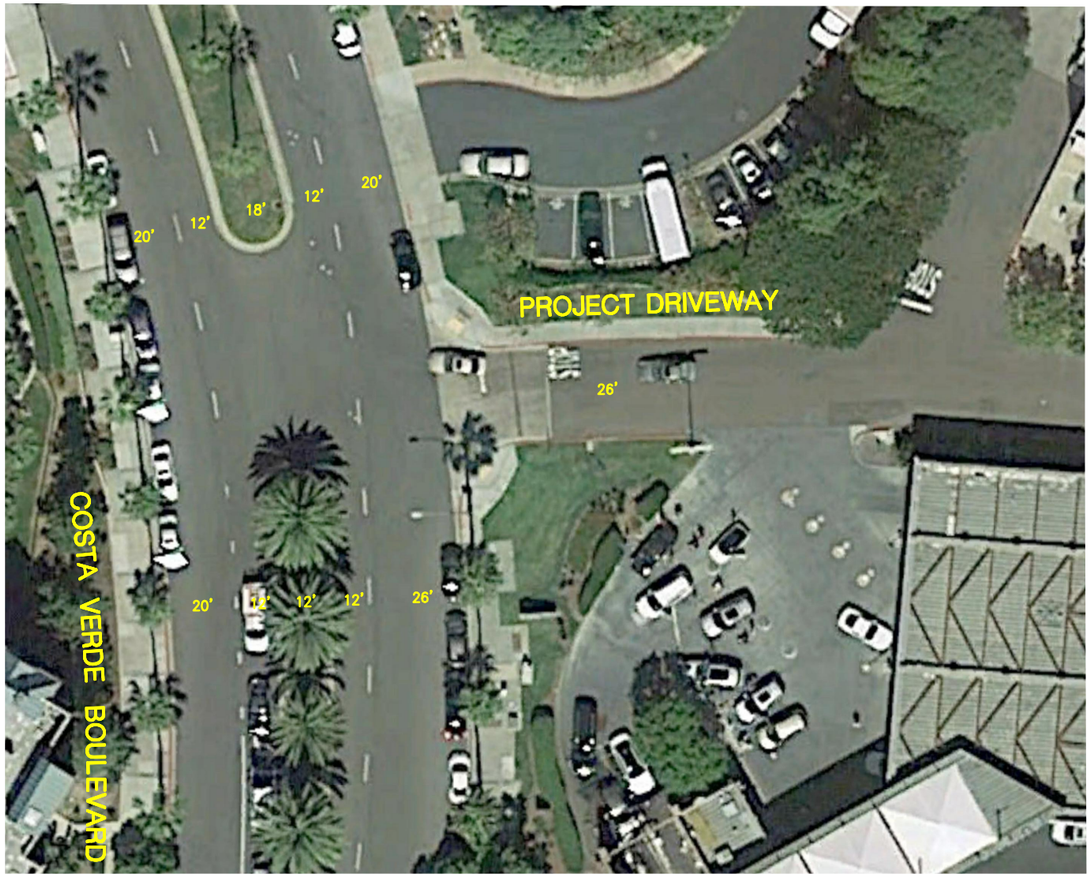
LINSCOTT LAW & GREENSPAN engineers

REV. 10/1/2019
N:\2408\Design\September 2019\3. Genesee Avenue & Esplanade Court.dwg

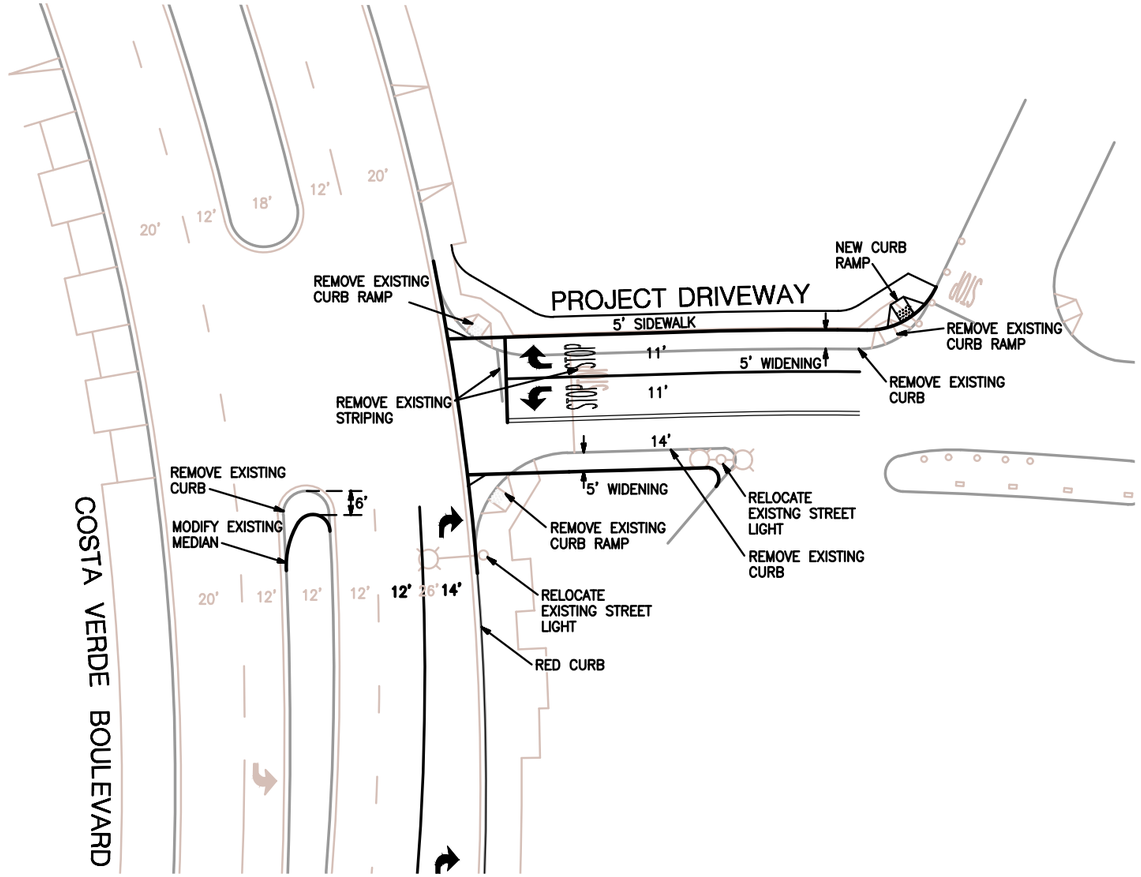
Figure 3

Genesee Avenue & Esplanade Court

COSTA VERDE CENTER REVITALIZATION PROJECT



EXISTING CONDITIONS



PROPOSED CONDITIONS

REV. 7/21/2016
N:\2408\Design\September 2019\4-Costa Verde Bvd Project Driveway.dwg

NOTE:
This figure is a conceptual design only.
The final design may vary.

NORTH

SCALE: 1"=40'

LINSCOTT LAW & GREENSPAN engineers

LEGEND

- EXISTING STRIPING
- PROPOSED STRIPING
- PROPOSED PAVEMENT ARROW
- PROPOSED CURB AND GUTTER
- PROPOSED PAVEMENT LEGEND

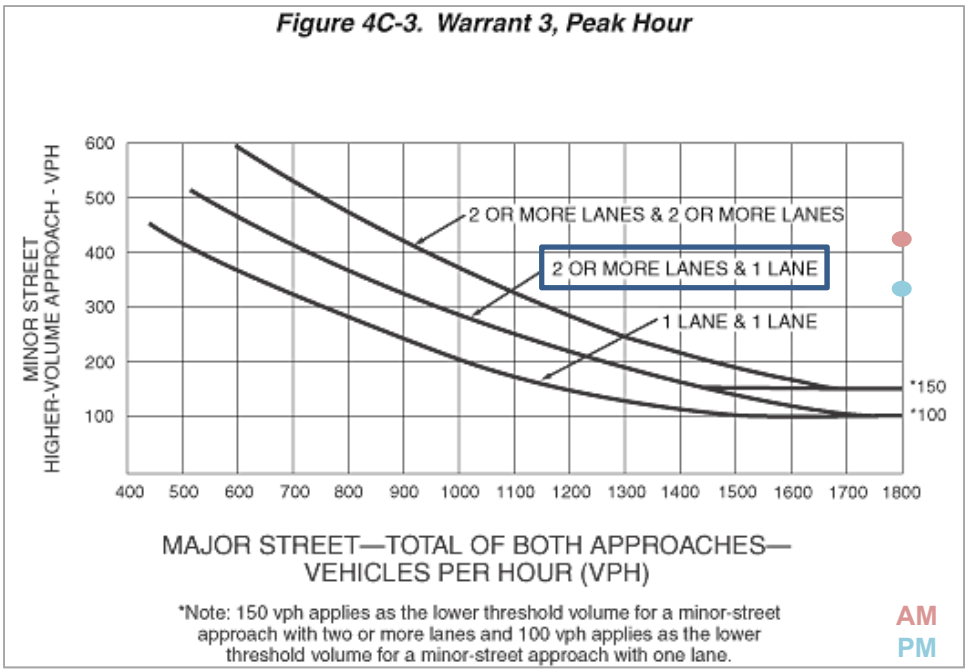
Figure 4

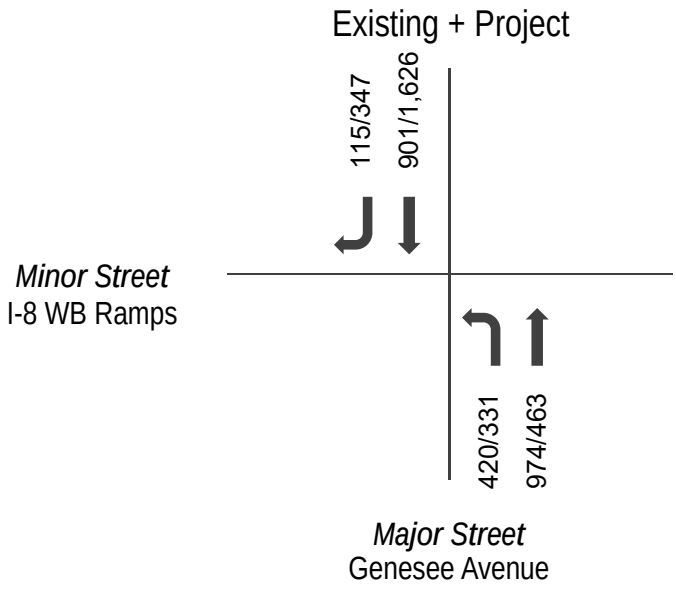
Conceptual Feasibility
Costa Verde Boulevard/Project Driveway

COSTA VERDE CENTER REVITALIZATION PROJECT

Intersection #30
Genesee Avenue / SR 52 WB Ramps

Existing + Project





AM Peak Hour

Minor Street: 420

Major Street: 1,875

PM Peak Hour

Minor Street: 331

Major Street: 2,089

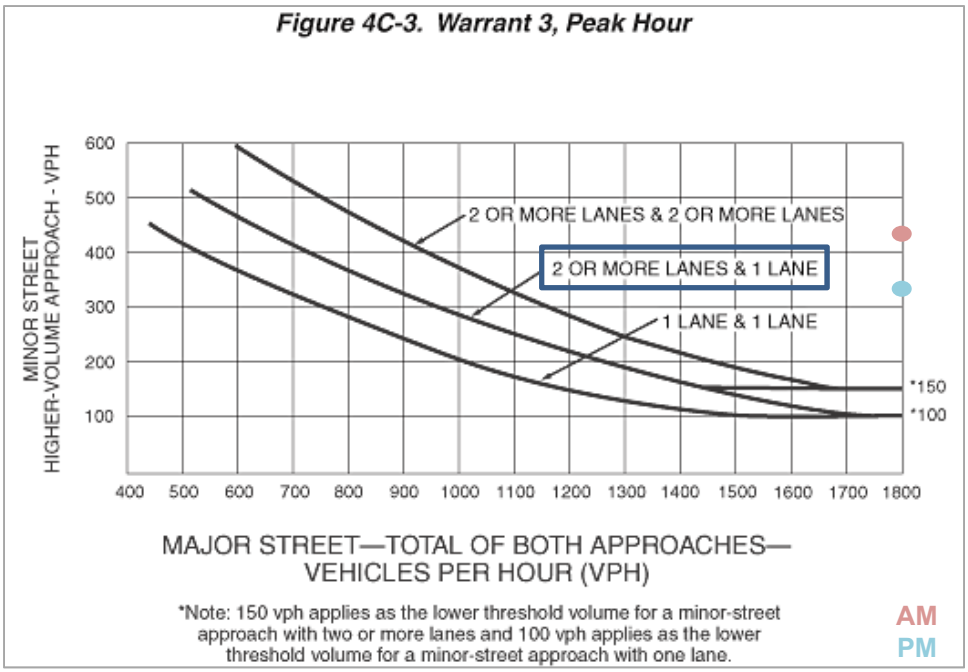
General Note:

1. Southbound right-turn volumes were discounted from the major street as they are operating as a free movement. Also, per MUTCD guidelines, at an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the high volume as the "minor street" volume.

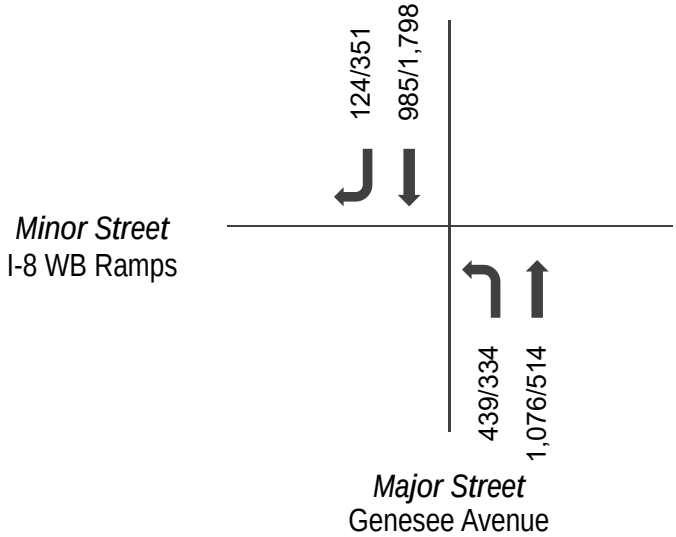
RESULT: SIGNAL WARRANTED

Intersection #30
Genesee Avenue / SR 52 WB Ramps

Near-Term (Opening Day 2023) + Project



Near-Term (Opening Day 2023) + Project



AM Peak Hour

Minor Street: 439

Major Street: 2,061

PM Peak Hour

Minor Street: 334

Major Street: 2,312

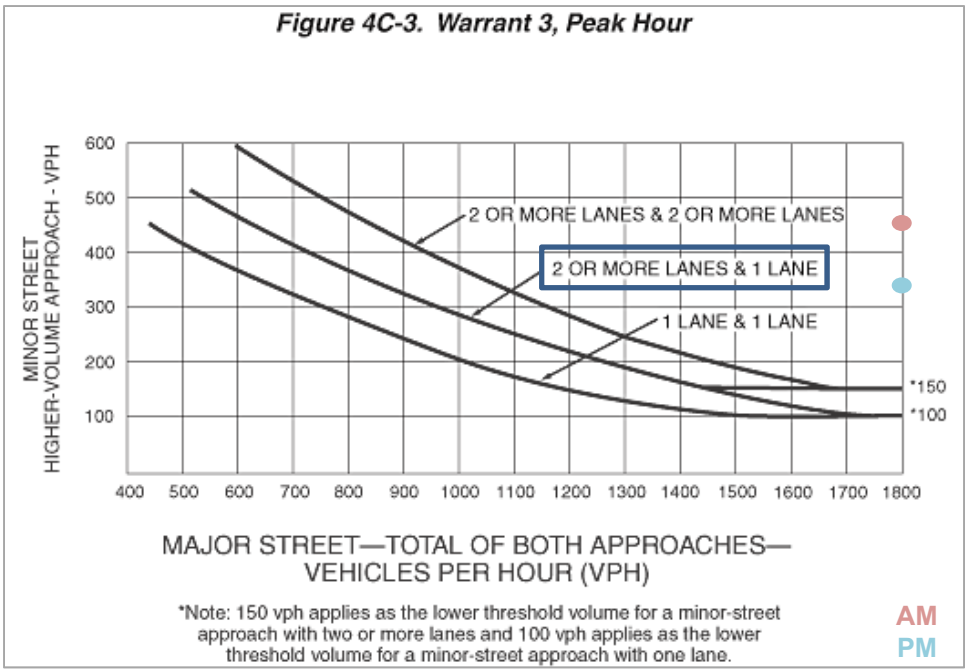
General Note:

1. Southbound right-turn volumes were discounted from the major street as they are operating as a free movement. Also, per MUTCD guidelines, at an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the high volume as the "minor street" volume.

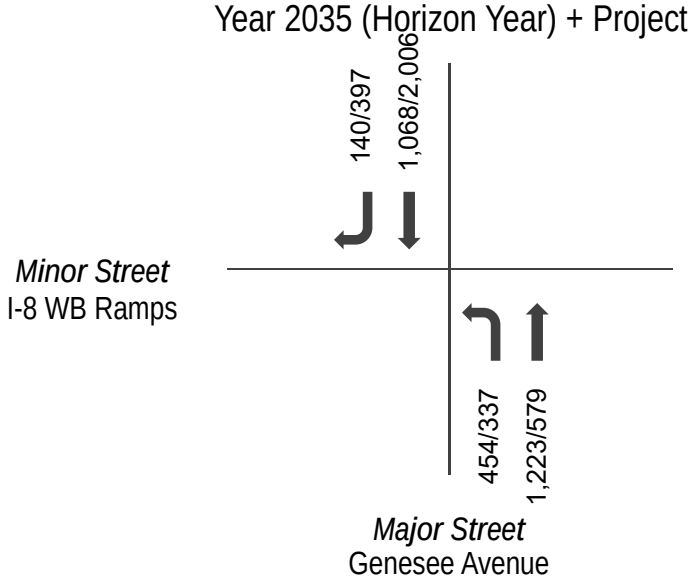
RESULT: SIGNAL WARRANTED

Intersection #30
Genesee Avenue / SR 52 WB Ramps

Year 2035 (Horizon Year) + Project



Year 2035 (Horizon Year) + Project



AM Peak Hour

Minor Street: 454

Major Street: 2,291

PM Peak Hour

Minor Street: 337

Major Street: 2,585

General Note:

1. Southbound right-turn volumes were discounted from the major street as they are operating as a free movement. Also, per MUTCD guidelines, at an intersection with a high volume of left-turn traffic from the major street, the signal warrant analysis may be performed in a manner that considers the high volume as the "minor street" volume.

RESULT: SIGNAL WARRANTED

APPENDIX P

LOCAL AND REGIONAL BICYCLE IMPROVEMENTS INFORMATION

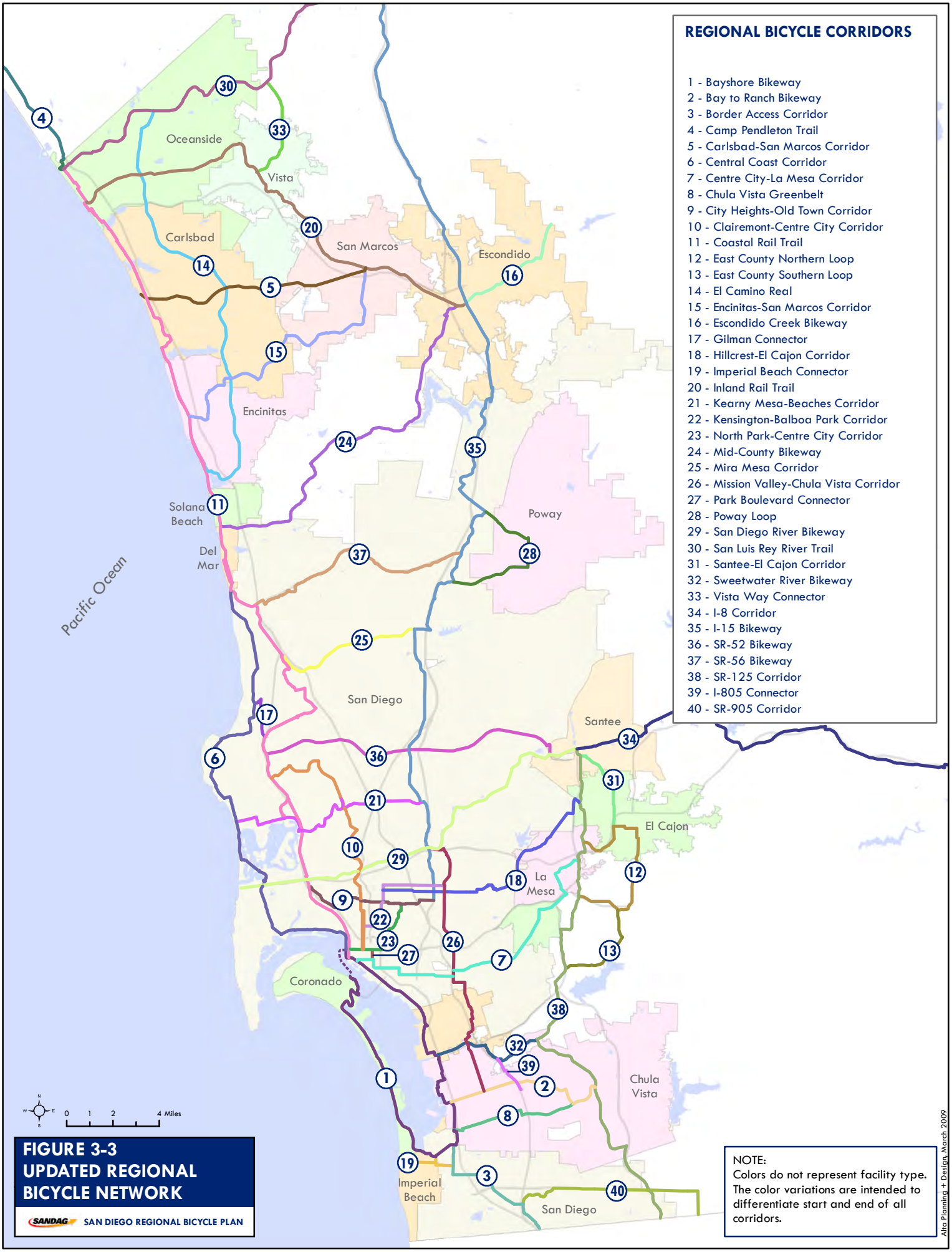


FIGURE 3-3
UPDATED REGIONAL BICYCLE NETWORK

SANDAG SAN DIEGO REGIONAL BICYCLE PLAN

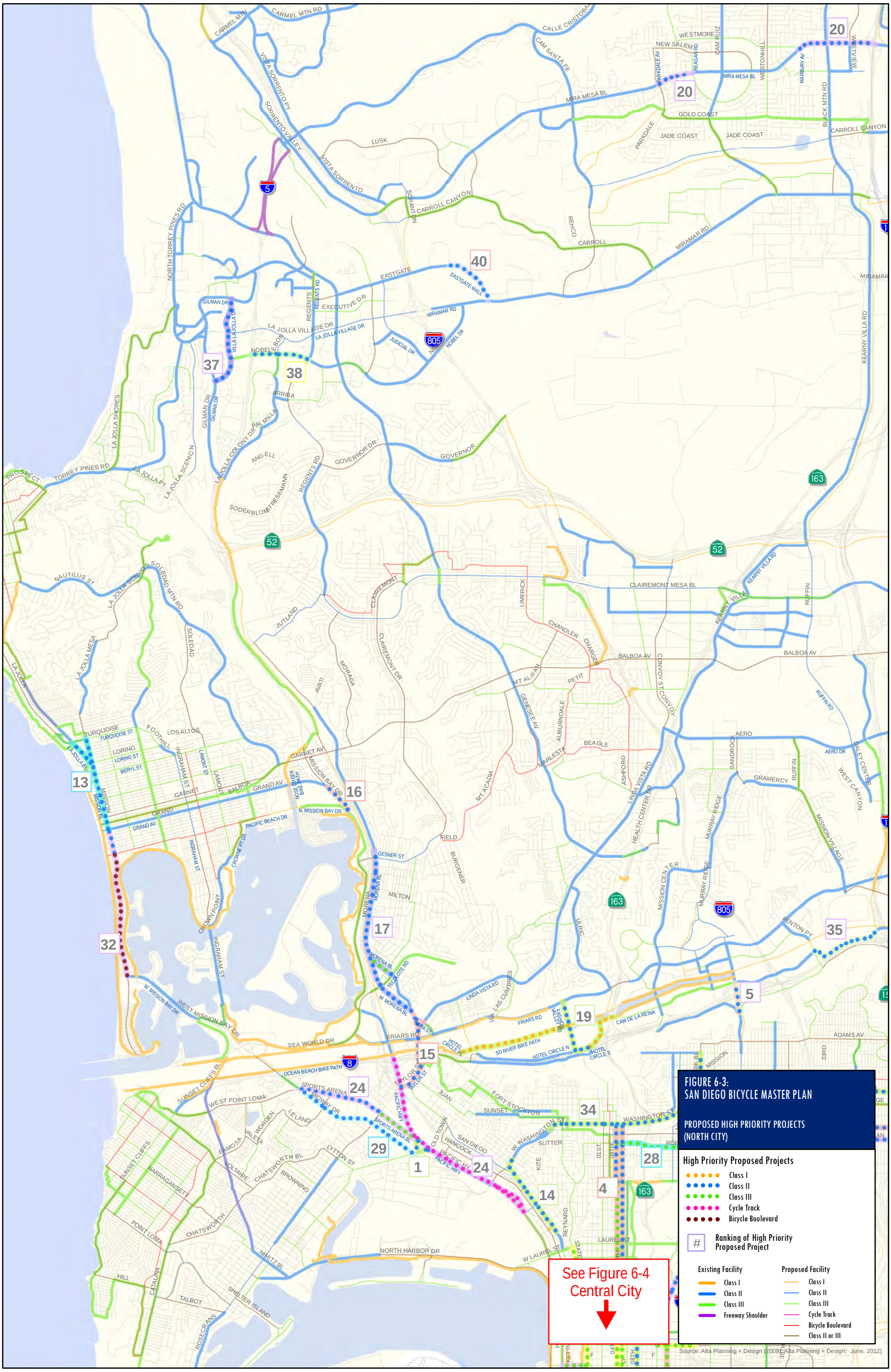


FIGURE 6-3:
SAN DIEGO BICYCLE MASTER PLAN
PROPOSED HIGH PRIORITY PROJECTS
(NORTH CITY)
High Priority Proposed Projects
Class I
Class II
Class III
Cycle Track
Bicycle Boulevard
Ranking of High Priority Proposed Project
Existing Facility
Class I
Class II
Class III
Freeway Shoulder
Proposed Facility
Class I
Class II
Class III
Cycle Track
Bicycle Boulevard
Class II or III
See Figure 6-4
Central City
Source: Alta Planning + Design (2009); Alta Planning + Design; June, 2012)

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **GENESEE AVENUE - WIDEN I-5 OVERCROSSING** **PROJECT:** **NUC-24**

DEPARTMENT:

ENGINEERING & CAPITAL PROJECTS — COUNCIL DISTRICT: 1
CIP/WBS #: 523720 / S-00839 — COMMUNITY PLAN: NUC

DESCRIPTION:

THIS PROJECT PROVIDES FOR WIDENING GENESEE AVENUE TO SIX LANES PLUS DUAL TURN LANES WITH A 26-FOOT MEDIAN (800 FEET ON EACH SIDE OF OVERCROSSING), AND REPLACES THE EXISTING GENESEE AVENUE OVERCROSSING WITH A HIGHER, WIDER (124-FOOT) STRUCTURE. THE PROJECT ALSO INCLUDES MODIFICATION OF EXISTING RAMPS AND AUXILIARY LANES ON BOTH SIDES OF THE FREEWAY, AND IN FISCAL YEAR 1990, FROM NUC F, THE I-5 GENESEE AVENUE CORRIDOR FREEWAY IMPROVEMENTS INCLUDING THE I-5 GENESEE AVENUE INTERCHANGE.

JUSTIFICATION:

THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

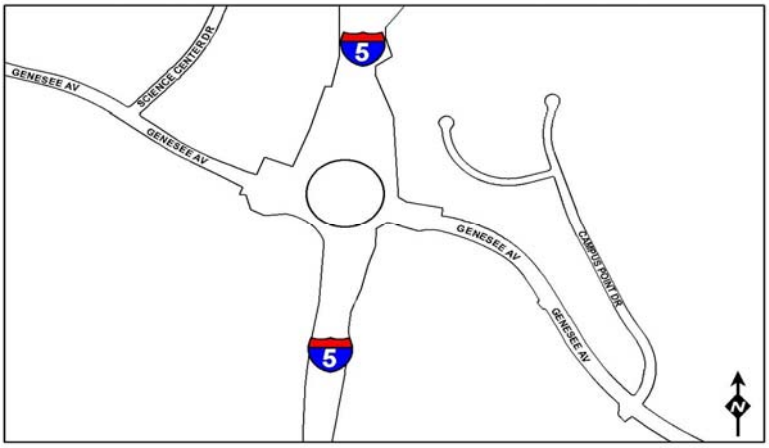
FUNDING / SCHEDULE:

IN OCTOBER OF 2011 SANDAG APPROVED THE FINAL $56.3 MILLION FROM THE TRANSNET MAJOR CORRIDOR PROGRAM TO FULLY FUND THE PROJECT. (AN ADDITIONAL $1.0 MILLION DOLLARS IS FUNDED THROUGH THE TRANSNET EMP PROGRAM; AND CALTRANS COMMITTED TO FUNDING 13.0 MILLION.)

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016-20
FBA-NUC	$14,799,020	$8,822,221	$15,376,799	$0	-$9,400,000	$0	$0	$0
DIF-NUC	$1,400,000	$0	$0	$0	$1,400,000	$0	$0	$0
DEV/SUBD	$287,667	$0	$0	$0	$287,667	$0	$0	$0
CALTRANS	$13,000,000	$0	$13,000,000	$0	$0	$0	$0	$0
SANDAG EMP	$1,000,000	$0	$1,000,000	$0	$0	$0	$0	$0
SANDAG MCP	$56,300,000	$0	$56,300,000	$0	$0	$0	$0	$0
TOTAL	**$86,786,687**	**$8,822,221**	**$85,676,799**	**$0**	**-$7,712,333**	**$0**	**$0**	**$0**

CONTACT:

LOUIS SCHULTZ, PROJECT MANAGER
619-533-4668
Lschultz@sandiego.gov



Gilman Drive/Gilman Bridge

Construction start/Anticipated completion:

- January 2016 for Gilman Drive Realignment/Completed early 2017
- Fall 2016 for Gilman Bridge/Anticipated completion in 2019

This new bridge will unite existing campus roads on both sides of the I-5 freeway: Gilman Drive on the west and Medical Center Drive on the east. Travelers will be able to go from one side of campus to the other without driving on busy city streets such as La Jolla Village Drive and Genesee Ave. Traffic on these roadways will be reduced and getting across campus will be quicker and more efficient.

To facilitate smooth traffic flow, the bridge and intersections on both sides will have three-lane configurations: One lane of traffic each way with a protected left-hand turn lane. Sidewalks and bicycle lanes will also be included on the bridge.

Expand All

Gilman Bridge

Construction on the Gilman Bridge is underway and expected to be completed in 2019. Currently, anyone driving by the Gilman Bridge area will see temporary barricades and a lot of dirt excavation going on along the sides of the I-5 freeway. Wooden formwork is going up on the east side with concrete pours expected to start this spring. By the end of the year, expect to see wooden formwork going up on both sides of the freeway with more concrete pours to come.

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **EASTGATE MALL - MIRAMAR ROAD TO SDG&E EASEMENT** **PROJECT:** **NUC-34**

DEPARTMENT:
ENGINEERING & CAPITAL PROJECTS
CIP/WBS #: 524170 / S-00848

COUNCIL DISTRICT: 1
COMMUNITY PLAN: NUC

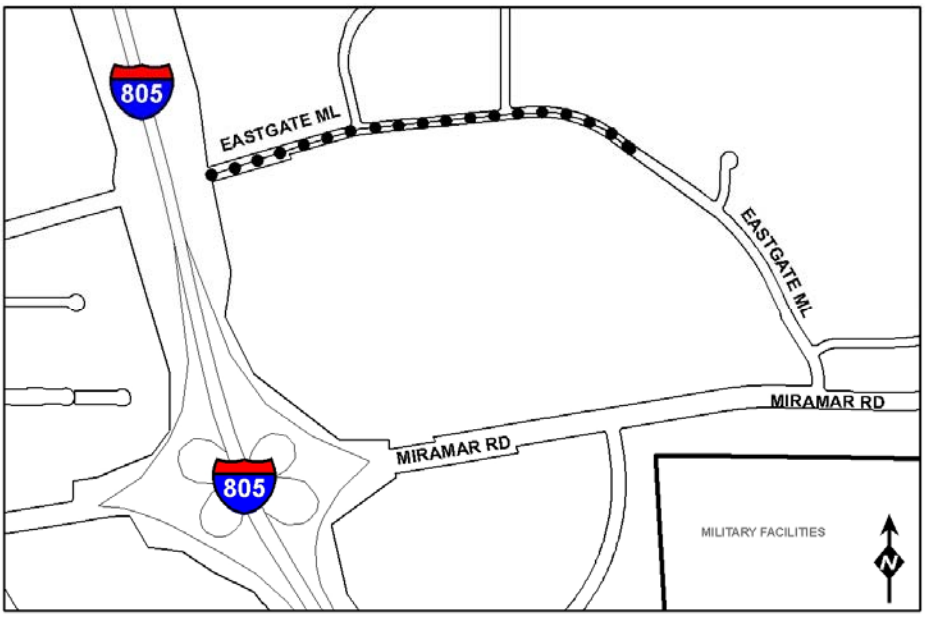
DESCRIPTION:
THIS PROJECT PROVIDES FOR WIDENING EASTGATE MALL TO A FOUR-LANE COLLECTOR STREET BETWEEN MIRAMAR ROAD AND THE SDG&E EASEMENT, INCLUDING CLASS II BICYCLE LANES.

JUSTIFICATION:
THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

FUNDING / NOTES / SCHEDULE:
THE FBA AND DEVELOPER PORTIONS OF THE PROJECT EAST OF THE SDG&E EASEMENT ARE COMPLETE (TRANSPORTATION THRESHOLD 1, PROJECT 3 COMPLETED). THE REMAINDER OF THE PROJECT IS ON HOLD PENDING PROJECT APPROVAL AND PROPERTY ACQUISITION FROM THE DEPARTMENT OF THE NAVY.

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012-16	FY 2017	FY 2018	FY 2019-20
FBA-NUC	$4,053,000	$730,635	$751,366	$0	$1,285,000	$1,285,999	$0
TOTAL	**$4,053,000**	**$730,635**	**$751,366**	**$0**	**$1,285,000**	**$1,285,999**	**$0**

CONTACT:
MARK NASSAR, SR. CIVIL ENGINEER
619-533-3172
mnassar@sandiego.gov



CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: **NOBEL DRIVE - LEBON DRIVE TO REGENTS ROAD AND GENESEE AVENUE TO TOWNE CENTRE DRIVE** **PROJECT:** **NUC-J**

DEPARTMENT:

ENGINEERING & CAPITAL PROJECTS
CIP/WBS #: 527210 / FUTURE

COUNCIL DISTRICT: 1
COMMUNITY PLAN: NUC

DESCRIPTION:

THIS PROJECT PROVIDES FOR A SIX-LANE MAJOR STREET ON NOBEL DRIVE FROM DANICA MAE ROAD TO REGENTS ROAD WITH NO RIGHT-OF-WAY ACQUISITION, AND A MODIFIED SIX-LANE PRIMARY ARTERIAL FROM GENESEE TO TOWNE CENTRE DRIVE (ORIGINALLY TO LOMBARD PLACE) BY WIDENING WITH RIGHT-OF-WAY ACQUISITION AND FROM LOMBARD PLACE TO TOWNE CENTRE DRIVE BY WIDENING BOTH SIDES WITH RIGHT-OF-WAY ACQUISITION. CLASS II BICYCLE LANES AND DUAL LEFT TURN LANES ON NOBEL DRIVE AT GENESEE AVENUE AND TOWNE CENTRE DRIVE ARE ALSO INCLUDED.

JUSTIFICATION:

THIS PROJECT IS CONSISTENT WITH THE UNIVERSITY COMMUNITY PLAN AND WITH THE CITY'S GENERAL PLAN.

NOTES: ORIGINAL PROJECT LIMITS WERE REVISED PRIOR TO DELETE NOBEL DRIVE EAST OF TOWNE CENTRE DRIVE, AS PORTIONS OF THIS SEGMENT WERE ALREADY CONSTRUCTED AS PART OF PROJECT NUC-21, COMPLETED IN 2002.

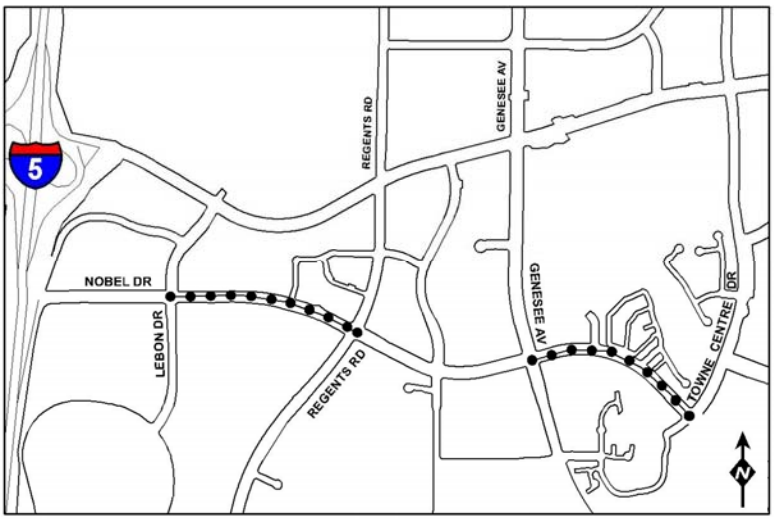
SCHEDULE/FUNDING:

DESIGN IS SCHEDULED FOR FY 2014, AND CONSTRUCTION IS SCHEDULED FOR FY 2015.

SOURCE	FUNDING	EXPENDED	CONT APPR	FY 2012-13	FY 2014	FY 2015	FY 2016-20
FBA-NUC	$4,773,825	$0	$0	$0	$2,386,913	$2,386,912	$0
TOTAL	**$4,773,825**	**$0**	**$0**	**$0**	**$2,386,913**	**$2,386,912**	**$0**

CONTACT:

DONALD PORNAN
ASSISTANT ENGINEER - TRAFFIC
619-533-3097
DPornan@sandiego.gov



APPENDIX Q

TRANSIT SCHEDULE AND TRANSIT RIDERSHIP INFORMATION

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*

Day Pass (Regional) / *Pase diario (Regional)* Compass Card required ($2) / *Se requiere un Compass Card ($2)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.25
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.10*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for $2 at select outlets. A $5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional $2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por $2 en selectas sucursales. Un pase de un día por $5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de $2.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 557-4555**
SafeWatch	**(619) 557-4500**
The Transit Store / Lost & Found *The Transit Store / Objetos extraviados*	**(619) 234-1060**
Articles found on the bus are turned in at The Transit Store *Artículos encontrados en los autobuses son entregados a The Transit Store*	1st & Broadway Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**www.sdmts.com**

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.

*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective SEPTEMBER 6, 2015

30

Downtown – UTC / VA Medical Center

via Old Town / Pacific Beach / La Jolla / UCSD

DESTINATIONS

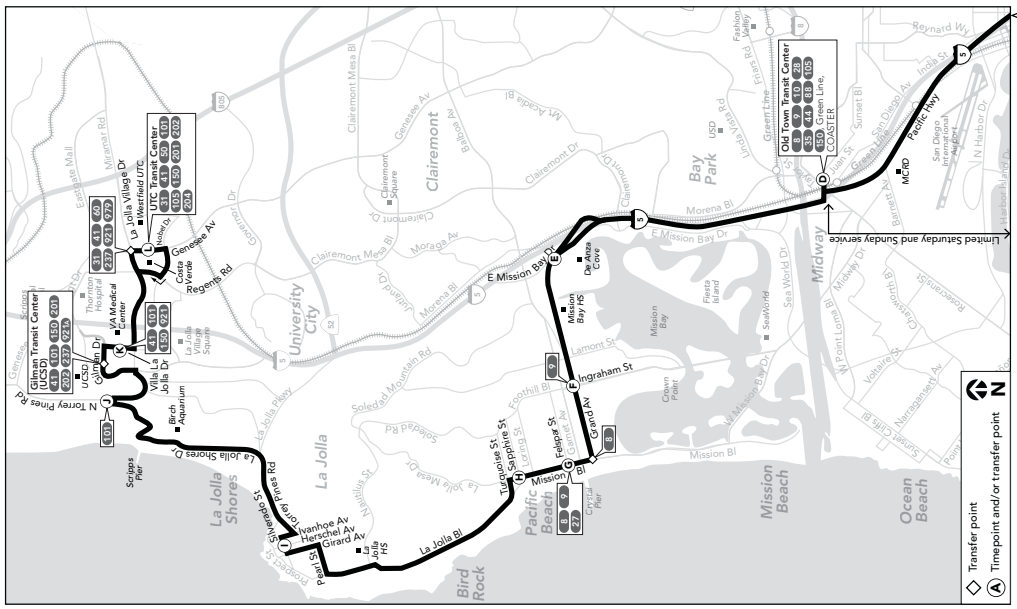
- Birch Aquarium
- Mission Bay High School
- UCSD
- VA Medical Center
- Westfield UTC

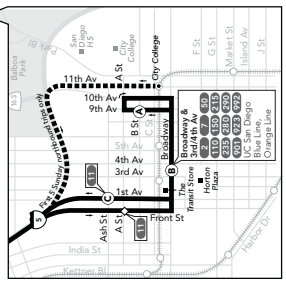
TROLLEY CONNECTIONS
Downtown
Old Town

MTS Metropolitan Transit System

09/15

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*





The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.

Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays:

Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados:

New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

Route 30 – Saturday / *sábado*

Downtown ➡ Old Town ➡ Pacific Beach ➡ La Jolla ➡ UTC

Ⓐ 9th Ave. & B St. DEPART	Ⓒ 1st Ave. & Ash St.	Ⓓ Old Town Transit Center ARRIVE	Ⓓ Old Town Transit Center DEPART	Ⓔ Grand Ave. & Mission Bay Dr.	Ⓖ Mission Bl. & Felspar St.	Ⓗ Mission Bl. & Sapphire St.	Ⓘ Silverado St. & Herschel	Ⓙ N. Torrey Pines & LJ Shores	Ⓚ VA Medical Center	Ⓛ UTC Transit Ctr. ARRIVE
5:24a	5:33a	5:40a	5:43a	5:52a	6:01a	—	6:17a	6:28a	6:36a	6:44a
5:54	6:03	6:10	6:13	6:22	6:31	—	6:47	6:58	7:06	7:14
—	—	—	6:41	6:50	6:59	7:03a	—	—	—	—
6:24	6:33	6:40	6:43	6:52	7:01	—	7:17	7:28	7:36	7:44
—	—	—	7:11	7:20	7:30	7:34	—	—	—	—
6:54	7:03	7:10	7:13	7:22	7:32	—	7:48	7:59	8:07	8:15
			7:30	7:39	7:50	7:55	—	—	—	—
			7:45	7:55	8:07	—	8:25	8:38	8:47	8:56
			8:00	8:10	8:22	8:27	—	—	—	—
			8:15	8:25	8:38	—	8:57	9:11	9:20	9:29
			8:30	8:40	8:53	8:58	—	—	—	—
			8:45	8:55	9:08	—	9:27	9:41	9:50	9:59
			9:00	9:10	9:23	9:28	—	—	—	—
			9:15	9:25	9:38	—	9:57	10:11	10:20	10:29
			9:30	9:40	9:53	9:59	—	—	—	—
			9:45	9:55	10:08	—	10:27	10:41	10:50	10:59
			10:00	10:10	10:25	10:31	—	—	—	—
			10:15	10:25	10:40	—	11:00	11:15	11:24	11:34
			10:30	10:40	10:55	11:01	—	—	—	—
			10:45	10:55	11:10	—	11:30	11:45	11:54	**12:04p**
			11:00	11:10	11:25	11:31	—	—	—	—
AND THEN EVERY 15 OR 30 MINUTES AT: / *Y LUEGO CADA 15 O 30 MINUTOS A LAS:*										
—	—	—	**:13**	**:23**	**:38**	—	**:58**	**:13**	**:22**	**:32**
—	—	—	**:28**	**:38**	**:53**	**:59**	—	—	—	—
—	—	—	**:43**	**:53**	**:08**	—	**:28**	**:43**	**:52**	**:02**
—	—	—	**:58**	**:08**	**:23**	**:29**	—	—	—	—
UNTIL: / *HASTA:*										
			4:00p	**4:10p**	**4:25p**	**4:31p**	—	—	—	—
			4:15	**4:25**	**4:40**	—	**5:00p**	**5:15p**	**5:24p**	**5:34**
			4:30	**4:40**	**4:55**	**5:01**	—	—	—	—
			4:45	**4:55**	**5:10**	—	**5:30**	**5:45**	**5:54**	**6:04**
			5:00	**5:10**	**5:25**	**5:31**	—	—	—	—
			5:15	**5:25**	**5:38**	—	**5:57**	**6:11**	**6:20**	**6:30**
			5:30	**5:40**	**5:53**	**5:59**	—	—	—	—
			5:45	**5:55**	**6:08**	—	**6:27**	**6:41**	**6:50**	**7:00**
			6:00	**6:10**	**6:23**	**6:29**	—	—	—	—
			6:15	**6:25**	**6:38**	—	**6:57**	**7:11**	**7:20**	**7:30**
			6:30	**6:40**	**6:52**	**6:58**	—	—	—	—
			6:45	**6:55**	**7:07**	—	**7:25**	**7:38**	**7:47**	**7:56**
			7:15	**7:25**	**7:37**	—	**7:55**	**8:08**	**8:17**	**8:26**
			7:45	**7:54**	**8:05**	—	**8:21**	**8:33**	**8:41**	**8:50**
			8:15	**8:24**	**8:35**	—	**8:51**	**9:03**	**9:11**	**9:20**
			8:45	**8:54**	**9:05**	—	**9:21**	**9:33**	**9:41**	**9:50**
			9:15	**9:23**	**9:33**	—	**9:48**	**9:59**	**10:07**	**10:16**
			9:45	**9:53**	**10:03**	—	**10:18**	**10:29**	**10:37**	**10:46**
			10:15	**10:23**	**10:33**	—	**10:48**	**10:59**	**11:07**	**11:16**
			10:45	**10:53**	**11:03**	—	**11:18**	**11:29**	**11:37**	**11:46**
			11:15	**11:23**	**11:33**	—	**11:48**	**11:59**	12:07a	12:16a
			12:15a	12:23a	12:33a	—	—	—	—	—

Trips begin in Old Town. Alternate service from Downtown available on the Green Line.

Viajes comienzan en Old Town. Servicio alterno del centro en la Green Line.

UTC ➡ La Jolla ➡ Pacific Beach ➡ Old Town

Ⓛ UTC Transit Center DEPART	Ⓚ VA Medical Center	Ⓙ N. Torrey Pines & LJ Shores	Ⓘ Silverado St. & Herschel	Ⓗ Mission Bl. & Sapphire St.	Ⓖ Mission Bl. & Felspar St.	Ⓕ Grand Ave. & Ingraham St.	Ⓓ Old Town Transit Center ARRIVE	Ⓑ Ⓐ
—	—	—	—	5:53a	5:56a	6:00a	6:12a	
—	—	—	6:12a	—	6:26	6:30	6:42	
6:08a	6:16a	6:21a	6:32	—	6:46	6:50	7:02	
6:36	6:44	6:49	7:00	—	7:14	7:18	7:30	
7:03	7:11	7:17	7:28	—	7:43	7:48	8:00	
7:33	7:41	7:47	7:58	—	8:13	8:18	8:30	
7:57	8:06	8:12	8:24	—	8:41	8:46	9:00	
8:23	8:33	8:39	8:51	—	9:09	9:15	9:30	
8:50	9:00	9:06	9:19	—	9:38	9:44	10:00	
—	—	—	—	9:49	9:53	9:59	10:15	
9:20	9:30	9:36	9:49	—	10:08	10:14	10:30	
—	—	—	—	10:15	10:20	10:28	10:45	
9:50	10:00	10:06	10:19	—	10:38	10:44	11:00	
—	—	—	—	10:45	10:50	10:58	11:15	
10:16	10:26	10:32	10:45	—	11:05	11:13	11:30	
—	—	—	—	11:15	11:20	11:28	11:45	
10:46	10:56	11:02	11:15	—	11:35	11:43	**12:00p**	
—	—	—	—	11:45	11:50	11:58	**12:15**	
11:16	11:26	11:32	11:45	—	**12:05p**	**12:13p**	**12:30**	
—	—	—	—	**12:15p**	**12:20**	**12:28**	**12:45**	
11:46	11:56	**12:02p**	**12:15p**	—	**12:35**	**12:43**	**1:00**	
—	—	—	—	**12:45**	**12:50**	**12:58**	**1:15**	
12:16p	**12:26p**	**12:32**	**12:45**	—	**1:05**	**1:13**	**1:30**	
—	—	—	—	**1:14**	**1:19**	**1:28**	**1:45**	
12:46	**12:56**	**1:02**	**1:15**	—	**1:35**	**1:43**	**2:00**	
AND THEN EVERY 15 OR 30 MINUTES AT: / *Y LUEGO CADA 15 O 30 MINUTOS A LAS:*								
—	—	—	—	**:45**	**:50**	**:59**	**:16**	
:14	**:24**	**:31**	**:45**	—	**:05**	**:14**	**:31**	
—	—	—	—	**:15**	**:20**	**:29**	**:46**	
:44	**:54**	**:01**	**:15**	—	**:35**	**:44**	**:01**	
UNTIL: / *HASTA:*								
—	—	—	—	6:16	6:21	6:30	6:46	
5:44	5:54	6:01	6:15	—	6:35	6:44	7:01	
—	—	—	—	6:46	6:51	7:00	7:16	
6:19	6:28	6:34	6:47	—	7:06	7:15	7:31	
6:49	6:58	7:04	7:17	—	7:36	7:45	8:01	
7:23	7:32	7:38	7:50	—	8:08	8:16	8:31	
7:53	8:02	8:08	8:20	—	8:38	8:46	9:01	
8:26	8:35	8:41	8:53	—	9:10	9:17	9:31	
8:59	9:08	9:14	9:26	—	9:43	9:48	10:01	
9:33	9:41	9:47	9:59	—	10:14	10:19	10:31	
10:03	10:11	10:17	10:29	—	10:44	10:49	11:01	
10:33	10:41	10:47	10:59	—	11:14	11:19	11:31	
11:35	11:43	11:49	12:00a	—	12:14a	12:19a	12:31a	D

Alternate Saturday service to Downtown available on the Green Line.
Servicio de sábado alterno al centro en la Green Line.

D = Trip continues in service ending at Broadway & 3rd Av. at 12:40 am / *Viaje continúa en servicio y termina en Broadway y 3rd Av a las 12:40 am*

Route 30 – Monday through Friday / *lunes a viernes*

Downtown ➡ Old Town ➡ Pacific Beach ➡ La Jolla ➡ UTC

Ⓐ 9th Ave. & B St. **DEPART**	Ⓒ 1st Ave. & Ash St.	Ⓓ Old Town Transit Center **ARRIVE**	Ⓓ Old Town Transit Center **DEPART**	Ⓔ Grand Ave. & Mission Bay Dr.	Ⓖ Mission Bl. & Felspar St.	Ⓘ Silverado St. & Herschel	Ⓙ N. Torrey Pines & La Jolla Shores	Ⓚ VA Medical Center	Ⓛ UTC Transit Ctr. **ARRIVE**
5:09a	5:18a	5:25a	5:28a	5:37a	5:47a	6:04a	6:14a	6:22a	6:31a
5:39	5:48	5:55	5:58	6:07	6:17	6:34	6:44	6:52	7:01
5:52	6:02	6:10	6:13	6:22	6:32	6:50	7:01	7:10	7:19
6:07	6:17	6:25	6:28	6:37	6:47	7:05	7:16	7:25	7:34
6:21	6:32	6:40	6:43	6:52	7:03	7:22	7:34	7:44	7:54
6:36	6:47	6:55	6:58	7:07	7:18	7:37	7:49	7:59	8:09
6:51	7:02	7:10	7:13	7:23	7:35	7:54	8:06	8:16	8:26
7:06	7:17	7:25	7:28	7:38	7:50	8:10	8:23	8:33	8:43
7:21	7:32	7:40	7:43	7:53	8:05	8:25	8:38	8:48	8:58
7:36	7:47	7:55	7:58	8:08	8:20	8:40	8:53	9:03	9:13
7:51	8:02	8:10	8:13	8:23	8:35	8:55	9:08	9:18	9:28
8:06	8:17	8:25	8:28	8:38	8:50	9:10	9:23	9:33	9:43
8:21	8:32	8:40	8:43	8:53	9:05	9:25	9:38	9:47	9:57
8:36	8:47	8:55	8:58	9:08	9:20	9:40	9:53	10:02	10:12
8:51	9:02	9:10	9:13	9:23	9:35	9:55	10:08	10:17	10:27
9:05	9:17	9:25	9:28	9:37	9:49	10:09	10:22	10:31	10:41
9:21	9:33	9:41	9:44	9:53	10:04	10:23	10:36	10:45	10:55
9:36	9:48	9:56	9:59	10:08	10:19	10:38	10:50	10:59	11:09
9:51	10:03	10:11	10:14	10:23	10:34	10:53	11:05	11:14	11:24
10:08	10:20	10:28	10:31	10:40	10:51	11:10	11:22	11:31	11:41
10:23	10:35	10:43	10:46	10:55	11:06	11:25	11:37	11:46	11:56
10:39	10:51	10:59	11:02	11:11	11:22	11:41	11:53	**12:02p**	**12:12p**
10:54	11:06	11:14	11:17	11:26	11:37	11:56	**12:08p**	**12:17**	**12:27**
11:09	11:21	11:29	11:32	11:41	11:52	**12:11p**	**12:23**	**12:32**	**12:42**
11:24	11:36	11:44	11:47	11:56	**12:07p**	**12:26**	**12:38**	**12:47**	**12:57**
11:39	11:51	11:59	**12:02p**	**12:11p**	**12:22**	**12:41**	**12:54**	**1:04**	**1:14**
11:54	**12:06p**	**12:14p**	**12:17**	**12:26**	**12:38**	**12:57**	**1:10**	**1:20**	**1:30**
12:09p	**12:21**	**12:29**	**12:32**	**12:41**	**12:53**	**1:12**	**1:25**	**1:35**	**1:46**
12:24	**12:36**	**12:44**	**12:47**	**12:56**	**1:08**	**1:27**	**1:40**	**1:50**	**2:01**
12:38	**12:50**	**12:58**	**1:01**	**1:10**	**1:22**	**1:41**	**1:54**	**2:04**	**2:15**
12:52	**1:04**	**1:12**	**1:15**	**1:24**	**1:36**	**1:55**	**2:08**	**2:18**	**2:29**
1:07	**1:19**	**1:27**	**1:30**	**1:39**	**1:51**	**2:10**	**2:23**	**2:33**	**2:44**
1:22	**1:34**	**1:42**	**1:45**	**1:54**	**2:06**	**2:25**	**2:38**	**2:48**	**2:59**
1:37	**1:48**	**1:56**	**1:59**	**2:08**	**2:21**	**2:41**	**2:55**	**3:05**	**3:16**
1:52	**2:03**	**2:11**	**2:14**	**2:23**	**2:36**	**2:56**	**3:10**	**3:21**	**3:32**
2:07	**2:18**	**2:26**	**2:29**	**2:38**	**2:51**	**3:11**	**3:25**	**3:36**	**3:47**
2:22	**2:33**	**2:41**	**2:44**	**2:53**	**3:06**	**3:26**	**3:40**	**3:51**	**4:02**
2:37	**2:48**	**2:56**	**2:59**	**3:08**	**3:21**	**3:41**	**3:55**	**4:06**	**4:17**
2:51	**3:02**	**3:10**	**3:13**	**3:22**	**3:35**	**3:55**	**4:09**	**4:20**	**4:31**
3:06	**3:17**	**3:25**	**3:28**	**3:37**	**3:50**	**4:10**	**4:24**	**4:35**	**4:46**
3:21	**3:32**	**3:40**	**3:43**	**3:52**	**4:05**	**4:25**	**4:39**	**4:50**	**5:01**
3:36	**3:47**	**3:55**	**3:58**	**4:07**	**4:20**	**4:40**	**4:54**	**5:05**	**5:16**
3:51	**4:02**	**4:10**	**4:13**	**4:22**	**4:35**	**4:55**	**5:09**	**5:20**	**5:31**
4:06	**4:17**	**4:25**	**4:28**	**4:37**	**4:50**	**5:10**	**5:24**	**5:35**	**5:46**
4:21	**4:32**	**4:40**	**4:43**	**4:52**	**5:05**	**5:25**	**5:39**	**5:50**	**6:01**
4:36	**4:47**	**4:55**	**4:58**	**5:07**	**5:20**	**5:40**	**5:54**	**6:05**	**6:16**
4:51	**5:02**	**5:10**	**5:13**	**5:22**	**5:35**	**5:55**	**6:09**	**6:20**	**6:31**
5:07	**5:17**	**5:25**	**5:28**	**5:37**	**5:50**	**6:09**	**6:23**	**6:34**	**6:45**
5:23	**5:33**	**5:41**	**5:44**	**5:53**	**6:06**	**6:24**	**6:38**	**6:48**	**6:59**
5:39	**5:49**	**5:57**	**6:00**	**6:09**	**6:22**	**6:40**	**6:54**	**7:04**	**7:15**
5:55	**6:05**	**6:13**	**6:16**	**6:25**	**6:38**	**6:56**	**7:10**	**7:20**	**7:31**
6:10	**6:20**	**6:28**	**6:31**	**6:40**	**6:52**	**7:10**	**7:23**	**7:33**	**7:44**
6:26	**6:36**	**6:44**	**6:47**	**6:56**	**7:08**	**7:26**	**7:39**	**7:49**	**7:59**
6:41	**6:51**	**6:59**	**7:02**	**7:11**	**7:23**	**7:40**	**7:53**	**8:03**	**8:13**
6:56	**7:06**	**7:14**	**7:17**	**7:25**	**7:37**	**7:54**	**8:07**	**8:17**	**8:27**
			7:30	**7:38**	**7:49**	—	—	—	—
			7:45	**7:53**	**8:04**	**8:20**	**8:31**	**8:40**	**8:50**
			8:00	**8:08**	**8:19**	—	—	—	—
			8:15	**8:23**	**8:34**	**8:50**	**9:01**	**9:10**	**9:20**
			8:30	**8:38**	**8:49**	—	—	—	—
			8:45	**8:53**	**9:04**	**9:20**	**9:31**	**9:40**	**9:50**
			9:15	**9:23**	**9:33**	**9:48**	**9:59**	**10:08**	**10:18**
			9:45	**9:53**	**10:03**	**10:18**	**10:29**	**10:37**	**10:46**
			10:15	**10:23**	**10:33**	**10:48**	**10:59**	**11:07**	**11:16**
			10:45	**10:53**	**11:03**	**11:18**	**11:29**	**11:37**	**11:46**
			11:15	**11:23**	**11:33**	**11:48**	**11:59**	12:07a	12:16a
			11:45	**11:53**	12:03a	12:18a	12:29a	12:37	12:46
			12:15a	12:23a	12:33	—	—	—	—

Trips begin in Old Town. Alternate service from Downtown available on the Green Line.

Viajes comienzan en Old Town. Servicio alterno del centro en la Green Line.

UTC ➡ La Jolla ➡ Pacific Beach ➡ Old Town ➡ Downtown

Ⓛ UTC Transit Ctr. **DEPART**	Ⓚ VA Medical Center	Ⓙ N. Torrey Pines & La Jolla Shores	Ⓘ Silverado St. & Herschel	Ⓖ Mission Bl. & Felspar St.	Ⓕ Grand Ave. & Ingraham St.	Ⓓ Old Town Transit Center **ARRIVE**	Ⓓ Old Town Transit Center **DEPART**	Ⓑ Broadway & 3rd Ave.	Ⓐ 9th Ave. & B St. **ARRIVE**
—	—	—	4:57a	5:12a	5:16a	5:27a	5:27a	5:36a	5:40a
—	—	—	—	5:40	5:45	5:57	5:57	6:07	6:11
—	—	—	5:54	6:10	6:15	6:27	6:27	6:37	6:41
5:46a	5:55a	6:01a	6:14	6:30	6:35	6:47	6:47	6:57	7:01
—	—	—	—	6:43	6:49	7:02	7:05	7:15	7:19
6:11	6:21	6:28	6:41	6:58	7:04	7:17	7:20	7:30	7:34
6:26	6:36	6:43	6:56	7:13	7:19	7:32	7:35	7:45	7:49
6:41	6:51	6:58	7:11	7:28	7:34	7:47	7:50	8:00	8:04
6:55	7:05	7:12	7:25	7:42	7:48	8:02	8:05	8:16	8:20
7:09	7:20	7:27	7:40	7:57	8:03	8:17	8:20	8:31	8:36
7:23	7:34	7:41	7:55	8:12	8:18	8:32	8:35	8:46	8:51
7:37	7:48	7:56	8:10	8:27	8:33	8:47	8:50	9:01	9:06
7:52	8:03	8:11	8:25	8:42	8:48	9:02	9:05	9:16	9:21
8:07	8:18	8:26	8:40	8:57	9:03	9:17	9:20	9:31	9:36
8:22	8:33	8:41	8:55	9:12	9:18	9:32	9:35	9:46	9:51
8:39	8:50	8:58	9:12	9:29	9:35	9:49	9:52	10:03	10:08
8:56	9:07	9:15	9:29	9:46	9:52	10:06	10:09	10:20	10:25
9:11	9:22	9:30	9:44	10:01	10:07	10:21	10:24	10:35	10:40
9:26	9:37	9:45	9:59	10:16	10:22	10:36	10:39	10:50	10:55
9:41	9:52	10:00	10:14	10:31	10:37	10:51	10:54	11:05	11:10
9:56	10:07	10:15	10:29	10:46	10:52	11:06	11:09	11:20	11:25
10:11	10:22	10:30	10:44	11:01	11:07	11:21	11:24	11:35	11:40
10:26	10:37	10:45	10:59	11:16	11:22	11:36	11:39	11:50	11:55
10:41	10:52	11:00	11:14	11:31	11:37	11:51	11:54	**12:05p**	**12:10p**
10:55	11:06	11:14	11:28	11:45	11:51	**12:05p**	**12:08p**	**12:19**	**12:24**
11:09	11:20	11:28	11:42	11:59	**12:05p**	**12:19**	**12:22**	**12:33**	**12:38**
11:23	11:34	11:42	11:56	**12:13p**	**12:19**	**12:33**	**12:36**	**12:47**	**12:52**
11:38	11:49	11:57	**12:11p**	**12:28**	**12:34**	**12:48**	**12:51**	**1:02**	**1:07**
11:54	**12:05p**	**12:13p**	**12:27**	**12:44**	**12:50**	**1:04**	**1:07**	**1:18**	**1:23**
12:09p	**12:20**	**12:28**	**12:42**	**12:59**	**1:05**	**1:19**	**1:22**	**1:33**	**1:38**
12:25	**12:36**	**12:44**	**12:58**	**1:15**	**1:21**	**1:35**	**1:38**	**1:49**	**1:54**
12:40	**12:51**	**12:59**	**1:13**	**1:30**	**1:36**	**1:50**	**1:53**	**2:04**	**2:09**
12:52	**1:02**	**1:10**	**1:24**	**1:42**	**1:48**	**2:02**	**2:05**	**2:17**	**2:22**
1:06	**1:16**	**1:23**	**1:37**	**1:56**	**2:02**	**2:16**	**2:19**	**2:31**	**2:36**
1:19	**1:29**	**1:36**	**1:50**	**2:10**	**2:16**	**2:31**	**2:34**	**2:46**	**2:51**
1:32	**1:42**	**1:49**	**2:03**	**2:24**	**2:31**	**2:46**	**2:49**	**3:01**	**3:06**
1:46	**1:56**	**2:03**	**2:18**	**2:39**	**2:46**	**3:01**	**3:04**	**3:17**	**3:22**
2:01	**2:11**	**2:18**	**2:33**	**2:54**	**3:01**	**3:16**	**3:19**	**3:32**	**3:37**
2:15	**2:25**	**2:32**	**2:47**	**3:08**	**3:15**	**3:30**	**3:33**	**3:46**	**3:51**
2:30	**2:40**	**2:47**	**3:02**	**3:23**	**3:30**	**3:45**	**3:48**	**4:01**	**4:06**
2:45	**2:55**	**3:02**	**3:17**	**3:38**	**3:45**	**4:00**	**4:03**	**4:16**	**4:21**
2:59	**3:10**	**3:17**	**3:32**	**3:53**	**4:00**	**4:15**	**4:18**	**4:31**	**4:36**
3:13	**3:24**	**3:31**	**3:47**	**4:09**	**4:16**	**4:31**	**4:34**	**4:47**	**4:52**
3:31	**3:41**	**3:48**	**4:03**	**4:24**	**4:31**	**4:46**	**4:49**	**5:02**	**5:07**
3:45	**3:56**	**4:04**	**4:20**	**4:42**	**4:49**	**5:05**	**5:08**	**5:21**	**5:26**
4:00	**4:11**	**4:19**	**4:35**	**4:57**	**5:04**	**5:20**	**5:23**	**5:36**	**5:41**
4:15	**4:26**	**4:34**	**4:50**	**5:12**	**5:19**	**5:35**	**5:38**	**5:51**	**5:56**
4:31	**4:42**	**4:50**	**5:06**	**5:28**	**5:35**	**5:51**	**5:54**	**6:07**	**6:12**
4:44	**4:55**	**5:03**	**5:19**	**5:41**	**5:48**	**6:04**	**6:07**	**6:20**	**6:25**
5:00	**5:11**	**5:19**	**5:35**	**5:56**	**6:02**	**6:17**	**6:20**	**6:33**	**6:38**
5:15	**5:26**	**5:34**	**5:50**	**6:11**	**6:17**	**6:32**	**6:35**	**6:48**	**6:53**
5:31	**5:42**	**5:49**	**6:05**	**6:26**	**6:32**	**6:47**	**6:50**	**7:03**	**7:07**
5:47	**5:58**	**6:05**	**6:20**	**6:41**	**6:47**	**7:02**	**7:05**	**7:17**	**7:21**
6:03	**6:13**	**6:20**	**6:35**	**6:55**	**7:01**	**7:16**			
6:18	**6:28**	**6:35**	**6:50**	**7:10**	**7:16**	**7:31**			
6:33	**6:43**	**6:50**	**7:05**	**7:25**	**7:31**	**7:46**			
6:50	**7:00**	**7:07**	**7:21**	**7:41**	**7:47**	**8:01**			
7:06	**7:16**	**7:23**	**7:37**	**7:56**	**8:02**	**8:16**			
7:21	**7:31**	**7:38**	**7:52**	**8:11**	**8:17**	**8:31**			
7:54	**8:04**	**8:11**	**8:24**	**8:42**	**8:48**	**9:01**			
8:29	**8:38**	**8:44**	**8:56**	**9:13**	**9:18**	**9:31**			
8:59	**9:08**	**9:14**	**9:26**	**9:43**	**9:48**	**10:01**			
9:31	**9:39**	**9:45**	**9:57**	**10:13**	**10:19**	**10:31**			
10:03	**10:11**	**10:17**	**10:29**	**10:44**	**10:49**	**11:01**			
10:33	**10:41**	**10:47**	**10:59**	**11:14**	**11:19**	**11:31**			
11:04	**11:12**	**11:18**	**11:30**	**11:44**	**11:49**	12:01a			
11:35	**11:43**	**11:49**	12:00a	12:14a	12:19a	12:31	12:31a	12:40a	—

Trips end at Old Town. Alternate service to Downtown available on the Green Line.

Viajes terminan en Old Town. Servicio alterno al centro en la Green Line.

Route 30 – Sunday / *domingo*

Downtown ➡ Old Town ➡ Pacific Beach ➡ La Jolla ➡ UTC

City College Transit Center	Ⓓ Old Town Transit Center **DEPART**	Ⓔ Grand Ave. & Mission Bay Dr.	Ⓖ Mission Bl. & Felspar St.	Ⓗ Mission Bl. & Sapphire St.	Ⓘ Silverado St. & Herschel	Ⓙ N. Torrey Pines & LJ Shores	Ⓚ VA Medical Center	Ⓛ UTC Transit Ctr. **ARRIVE**
▲ 5:46a	5:58a	6:07a	6:16a	—	6:32a	6:43a	6:51a	6:59a
▲ 6:16	6:28	6:37	6:46	—	7:02	7:13	7:21	7:29
▲ 6:46	6:58	7:07	7:17	—	7:33	7:44	7:52	8:00
▲ 7:16	7:28	7:37	7:48	—	8:05	8:17	8:26	8:35
▲ 7:46	7:58	8:08	8:20	—	8:38	8:51	9:00	9:09
	8:30	8:40	8:53	—	9:12	9:26	9:35	9:44
	9:00	9:10	9:23	—	9:42	9:56	10:05	10:14
	9:15	9:25	9:38	9:43a	—	—	—	—
	9:30	9:40	9:53	—	10:12	10:26	10:35	10:44
	9:45	9:55	10:08	10:14	—	—	—	—
	10:00	10:10	10:25	—	10:45	11:00	11:09	11:19
	10:15	10:25	10:40	10:46	—	—	—	—
	10:30	10:40	10:55	—	11:15	11:30	11:39	11:49
	10:45	10:55	11:10	11:16	—	—	—	—
	11:00	11:10	11:25	—	11:45	**12:00p**	**12:09p**	**12:19p**
	11:15	11:25	11:40	11:46	—	—	—	—
	11:28	11:38	11:53	—	**12:13p**	**12:28**	**12:37**	**12:47**
	11:43	11:53	**12:08p**	**12:14p**	—	—	—	—
	11:58	**12:08p**	**12:23**	—	**12:43**	**12:58**	**1:07**	**1:17**
	AND THEN EVERY 15 OR 30 MINUTES AT: / *Y LUEGO CADA 15 O 30 MINUTOS A LAS:*							
	:13	**:23**	**:38**	**:44**	—	—	—	—
	:28	**:38**	**:53**	—	**:13**	**:28**	**:37**	**:47**
	:43	**:53**	**:08**	**:14**	—	—	—	—
	:58	**:08**	**:23**	—	**:43**	**:58**	**:07**	**:17**
				UNTIL: / *HASTA:*				
	4:15p	**4:25**	**4:40**	**4:46**	—	—	—	—
	4:30	**4:40**	**4:55**	—	**5:15**	**5:30**	**5:39**	**5:49**
	4:45	**4:55**	**5:10**	**5:16**	—	—	—	—
	5:00	**5:10**	**5:25**	—	**5:45**	**6:00**	**6:09**	**6:19**
	5:15	**5:25**	**5:38**	**5:44**	—	—	—	—
	5:30	**5:40**	**5:53**	—	**6:12**	**6:26**	**6:35**	**6:45**
	5:45	**5:55**	**6:08**	**6:14**	—	—	—	—
	6:00	**6:10**	**6:23**	—	**6:42**	**6:56**	**7:05**	**7:15**
	6:30	**6:40**	**6:52**	—	**7:10**	**7:23**	**7:32**	**7:41**
	7:00	**7:10**	**7:22**	—	**7:40**	**7:53**	**8:02**	**8:11**
	7:30	**7:39**	**7:50**	—	**8:06**	**8:18**	**8:26**	**8:35**
	8:00	**8:09**	**8:20**	—	**8:36**	**8:48**	**8:56**	**9:05**
	8:30	**8:39**	**8:50**	—	**9:06**	**9:18**	**9:26**	**9:35**
	9:00	**9:09**	**9:20**	—	**9:36**	**9:48**	**9:56**	**10:05**
	9:30	**9:38**	**9:48**	—	**10:03**	**10:14**	**10:22**	**10:31**
	10:00	**10:08**	**10:18**	—	**10:33**	**10:44**	**10:52**	**11:01**
	11:00	**11:08**	**11:18**	—	**11:33**	**11:44**	**11:52**	12:01a

Alternate Sunday service from Downtown available on the Green Line.
Servicio de domingo alterno del centro en la Green Line.

UTC ➡ La Jolla ➡ Pacific Beach ➡ Old Town

Ⓛ UTC Transit Center **DEPART**	Ⓚ VA Medical Center	Ⓙ N. Torrey Pines & LJ Shores	Ⓘ Silverado St. & Herschel	Ⓗ Mission Bl. & Sapphire St.	Ⓖ Mission Bl. & Felspar St.	Ⓕ Grand Ave. & Ingraham St.	Ⓓ Old Town Transit Center **ARRIVE**	Ⓑ Ⓐ
6:21a	6:29a	6:34a	6:45a	—	6:59a	7:03a	7:15a	
7:18	7:26	7:32	7:43	—	7:58	8:03	8:15	
7:48	7:56	8:02	8:13	—	8:28	8:33	8:45	
8:12	8:21	8:27	8:39	—	8:56	9:01	9:15	
8:38	8:48	8:54	9:06	—	9:24	9:30	9:45	
9:05	9:15	9:21	9:34	—	9:53	9:59	10:15	
—	—	—	—	10:00a	10:05	10:13	10:30	
9:35	9:45	9:51	10:04	—	10:23	10:29	10:45	
—	—	—	—	10:30	10:35	10:43	11:00	
10:01	10:11	10:17	10:30	—	10:50	10:58	11:15	
—	—	—	—	11:00	11:05	11:13	11:30	
10:31	10:41	10:47	11:00	—	11:20	11:28	11:45	
—	—	—	—	11:30	11:35	11:43	**12:00p**	
11:01	11:11	11:17	11:30	—	11:50	11:58	**12:15**	
—	—	—	—	**12:00p**	**12:05p**	**12:13p**	**12:30**	
11:31	11:41	11:47	**12:00p**	—	**12:20**	**12:28**	**12:45**	
—	—	—	—	**12:30**	**12:35**	**12:43**	**1:00**	
12:01p	**12:11p**	**12:17p**	**12:30**	—	**12:50**	**12:58**	**1:15**	
—	—	—	—	**12:59**	**1:04**	**1:13**	**1:30**	
12:31	**12:41**	**12:47**	**1:00**	—	**1:20**	**1:28**	**1:45**	
AND THEN EVERY 15 OR 30 MINUTES AT: / *Y LUEGO CADA 15 O 30 MINUTOS A LAS:*								
—	—	—	—	**:30**	**:35**	**:44**	**:01**	
:59	**:09**	**:16**	**:30**	—	**:50**	**:59**	**:16**	
—	—	—	—	**:00**	**:05**	**:14**	**:31**	
:29	**:39**	**:46**	**:00**	—	**:20**	**:29**	**:46**	
			UNTIL: / *HASTA:*					
—	—	—	—	**6:01**	**6:06**	**6:15**	**6:31**	
5:29	**5:39**	**5:46**	**6:00**	—	**6:20**	**6:29**	**6:46**	
6:04	**6:13**	**6:19**	**6:32**	—	**6:51**	**7:00**	**7:16**	
6:34	**6:43**	**6:49**	**7:02**	—	**7:21**	**7:30**	**7:46**	
7:08	**7:17**	**7:23**	**7:35**	—	**7:53**	**8:01**	**8:16**	
7:38	**7:47**	**7:53**	**8:05**	—	**8:23**	**8:31**	**8:46**	
8:11	**8:20**	**8:26**	**8:38**	—	**8:55**	**9:02**	**9:16**	
8:44	**8:53**	**8:59**	**9:11**	—	**9:28**	**9:33**	**9:46**	
9:14	**9:23**	**9:29**	**9:41**	—	**9:58**	**10:03**	**10:16**	
9:48	**9:56**	**10:02**	**10:14**	—	**10:29**	**10:34**	**10:46**	

Alternate Sunday service to Downtown available on the Green Line.
Servicio de domingo alterno al centro en la Green Line.

▲ = Trip departs City College Transit Center on 11th Av. and operates non-stop to Old Town via MCRD. / *Viaje sale del City College Transit Center en avenida 11 y opera sin paradas a Old Town via MCRD.*

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*

Day Pass (Regional) / *Pase diario (Regional)* Compass Card required ($2) / *Se requiere un Compass Card ($2)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.25
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.10*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for $2 at select outlets. A $5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional $2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por $2 en selectas sucursales. Un pase de un día por $5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de $2.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 557-4555**
SafeWatch	**(619) 557-4500**
Lost & Found *Objetos extraviados*	Route 31: **(619) 234-1060** Route 921 Weekday: **(619) 409-4601** Route 921 Weekend: **(877) 841-3278**
The Transit Store	**(619) 234-1060** 1st & Broadway, Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**www.sdmts.com**

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.

*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective JUNE 7, 2015

31

UTC – Mira Mesa
via Miramar Rd.

921

UTC – Mira Mesa
via Mira Mesa Bl.

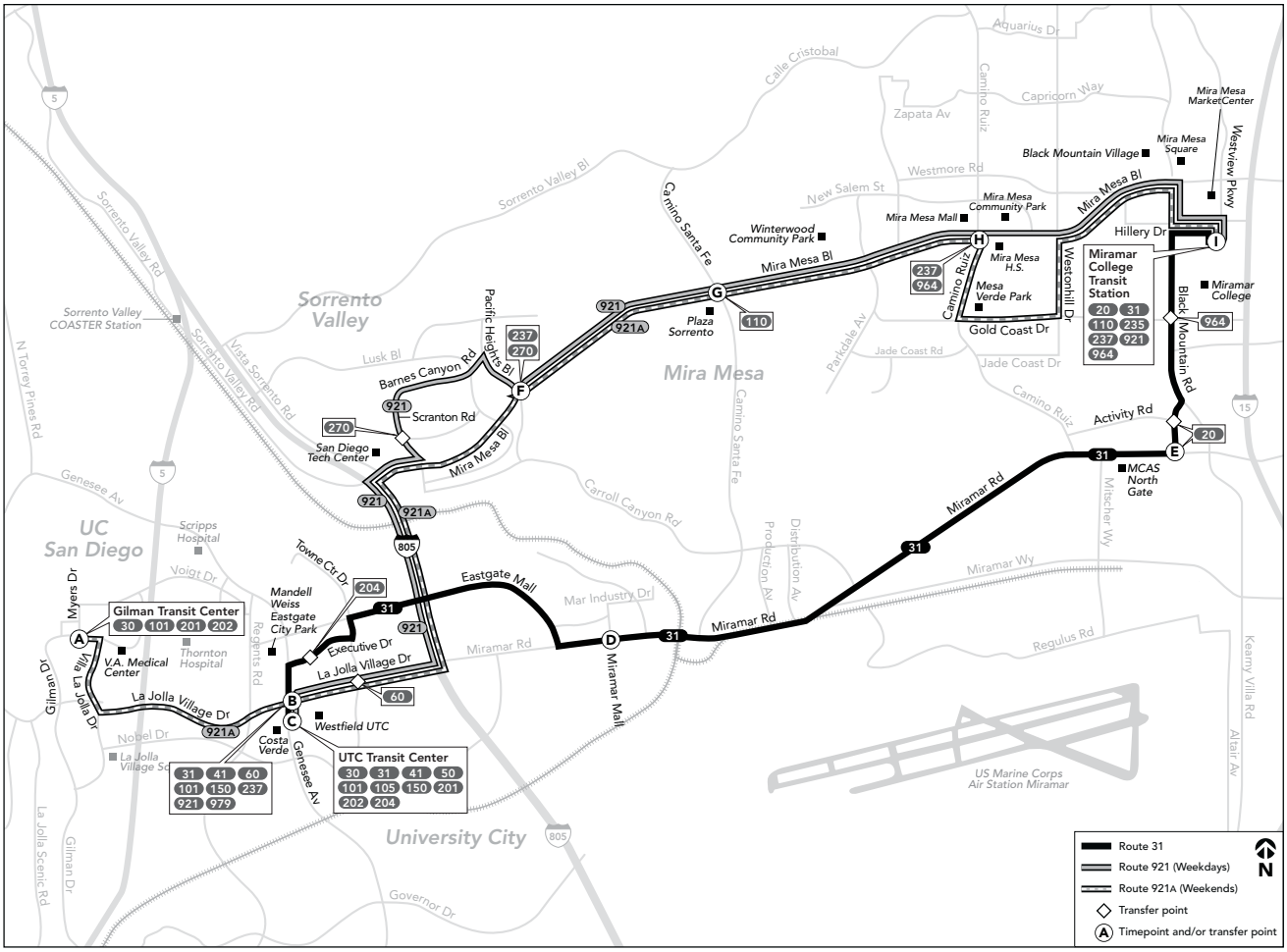
DESTINATIONS

- MCAS Miramar - North Gate (31)
- Miramar College
- Mira Mesa High School (921)
- Mira Mesa Mall (921)
- Mira Mesa MarketCenter
- VA Medical Center (921)
- Westfield UTC
- Sorrento Mesa (921)
- Sorrento Valley (921)
- Miramar College Transit Station

MTS Metropolitan Transit System

09/15

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*



The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.
Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

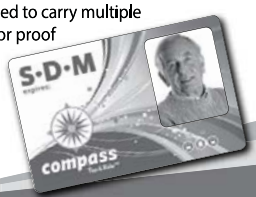
compass card

S/D/M and Youth Compass Card

All riders using reduced fares must comply with one of the following options:

Option 1 *(Recommended by MTS)*

MTS offers a picture ID on a Compass Card to eliminate the need to carry multiple identifications for proof of eligibility.



Option 2

Riders using a standard S/D/M or Youth Compass Card or a one-way ticket must carry supporting identification to prove eligibility.

*For additional benefits of **Option 1** and or list of valid forms of ID for **Option 2** go to:*
www.sdmts.com/fares_discounted.asp.

MTS

Plan your trip!

MTS

On the web
Visit ***sdmts.com*** and click on ***Travel Planner***

On the phone
Dial 511 and say "***public transportation***"

On the go
Use the Google Maps app on your smartphone

Route 31 – Monday through Friday / *lunes a viernes*

University City ➡ Miramar ➡ Mira Mesa

Ⓒ UTC Transit Center **DEPART**	Ⓓ Miramar Rd. & Miramar Mall	Ⓔ Black Mountain Rd. & Miramar Rd.	Ⓘ Miramar College Transit Station **ARRIVE**
5:37a	5:46a	5:55a	6:04a
6:07	6:16	6:25	6:34
6:37	6:48	6:59	7:08
7:02	7:13	7:24	7:33
7:30	7:41	7:52	8:01
8:00	8:11	8:22	8:31
8:30	8:41	8:52	9:01
2:58p	**3:08p**	**3:19p**	**3:30p**
3:28	**3:38**	**3:49**	**4:00**
3:58	**4:08**	**4:19**	**4:30**
4:30	**4:41**	**4:53**	**5:04**
5:00	**5:11**	**5:23**	**5:34**
5:30	**5:41**	**5:53**	**6:04**
6:00	**6:10**	**6:20**	**6:31**
6:30	**6:40**	**6:50**	**7:01**

Mira Mesa ➡ Miramar ➡ University City

Ⓘ Miramar College Transit Station **DEPART**	Ⓔ Miramar Rd. & Black Mountain Rd.	Ⓓ Miramar Rd. & Miramar Mall	Ⓒ UTC Transit Center **ARRIVE**
6:19a	6:25a	6:35a	6:46a
6:44	6:52	7:03	7:15
7:14	7:22	7:33	7:45
7:43	7:51	8:02	8:14
8:13	8:21	8:32	8:44
8:44	8:52	9:03	9:15
9:14	9:22	9:33	9:45
2:14p	**2:21p**	**2:31p**	**2:43p**
2:44	**2:51**	**3:01**	**3:13**
3:11	**3:19**	**3:30**	**3:43**
3:41	**3:49**	**4:00**	**4:13**
4:11	**4:19**	**4:30**	**4:43**
4:41	**4:49**	**5:00**	**5:13**
5:11	**5:19**	**5:30**	**5:43**
5:44	**5:52**	**6:03**	**6:16**

Route 31 does not operate on weekends or on the following holidays and observed holidays >>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

La ruta 31 no ofrece servicio durante el fin de semana o durante los siguientes días festivos y feriados observados

Route 921 – Monday through Friday / *lunes a viernes*

University City ➡ Sorrento Valley ➡ Mira Mesa

Ⓒ La Jolla Village Dr. & Genesee Av. **DEPART**	Ⓕ Mira Mesa Bl. & Pacific Heights Bl.	Ⓖ Mira Mesa Bl. & Camino Santa Fe	Ⓗ Mira Mesa Bl. & Camino Ruiz	Ⓘ Miramar College Transit Station **ARRIVE**
6:10a	6:23a	6:28a	6:34a	6:43a
6:40	6:54	6:59	7:05	7:15
7:10	7:24	7:29	7:35	7:45
7:36	7:53	7:59	8:05	8:15
8:07	8:24	8:30	8:36	8:46
8:37	8:54	9:00	9:06	9:16
9:13	9:27	9:32	9:38	9:48
9:43	9:57	10:02	10:08	10:18
10:13	10:27	10:32	10:38	10:48
10:43	10:57	11:02	11:08	11:18
11:13	11:27	11:32	11:38	11:48
11:43	11:57	**12:02p**	**12:08p**	**12:18p**
12:13p	**12:27p**	**12:32**	**12:38**	**12:48**
12:45	**12:59**	**1:04**	**1:10**	**1:20**
1:15	**1:29**	**1:34**	**1:40**	**1:50**
1:47	**2:01**	**2:06**	**2:12**	**2:22**
2:18	**2:32**	**2:37**	**2:43**	**2:53**
2:48	**3:02**	**3:07**	**3:13**	**3:23**
3:16	**3:31**	**3:36**	**3:43**	**3:54**
3:46	**4:01**	**4:06**	**4:13**	**4:24**
4:12	**4:28**	**4:34**	**4:42**	**4:54**
4:42	**4:58**	**5:04**	**5:12**	**5:24**
5:12	**5:28**	**5:34**	**5:42**	**5:54**
5:42	**5:58**	**6:04**	**6:12**	**6:24**
6:07	**6:23**	**6:28**	**6:35**	**6:46**
6:37	**6:53**	**6:58**	**7:04**	**7:14**
7:07	**7:23**	**7:28**	**7:34**	**7:44**

Mira Mesa ➡ Sorrento Valley ➡ University City

Ⓘ Miramar College Transit Station **DEPART**	Ⓗ Mira Mesa Bl. & Camino Ruiz	Ⓖ Mira Mesa Bl. & Camino Santa Fe	Ⓕ Pacific Heights Bl. & Mira Mesa Bl.	Ⓒ Genesee Av. & La Jolla Village Dr. **ARRIVE**
5:45a	5:54a	5:59a	6:04a	6:16a
6:15	6:25	6:31	6:36	6:49
6:45	6:55	7:01	7:06	7:19
7:15	7:25	7:32	7:37	7:52
7:45	7:55	8:02	8:07	8:22
8:15	8:25	8:32	8:37	8:52
8:45	8:55	9:02	9:07	9:22
9:15	9:25	9:32	9:37	9:52
9:43	9:53	9:59	10:04	10:18
10:10	10:20	10:26	10:31	10:45
10:40	10:50	10:56	11:01	11:15
11:10	11:20	11:26	11:31	11:45
11:40	11:50	11:56	**12:01p**	**12:15p**
12:10p	**12:20p**	**12:26p**	**12:31**	**12:45**
12:40	**12:50**	**12:56**	**1:01**	**1:15**
1:10	**1:20**	**1:26**	**1:31**	**1:45**
1:40	**1:50**	**1:56**	**2:01**	**2:15**
2:10	**2:20**	**2:26**	**2:31**	**2:45**
2:40	**2:50**	**2:56**	**3:01**	**3:18**
3:08	**3:18**	**3:24**	**3:29**	**3:46**
3:38	**3:48**	**3:54**	**3:59**	**4:20**
4:08	**4:18**	**4:24**	**4:29**	**4:50**
4:38	**4:48**	**4:54**	**4:59**	**5:20**
5:08	**5:18**	**5:24**	**5:29**	**5:50**
5:38	**5:48**	**5:54**	**5:59**	**6:20**
6:08	**6:18**	**6:24**	**6:29**	**6:46**
6:38	**6:48**	**6:54**	**6:59**	**7:16**

Route 921A – Saturday and Sunday / *sábado y domingo*

University City ➡ Sorrento Valley ➡ Mira Mesa

	Ⓐ Gilman Transit Center (UCSD) **DEPART**	Ⓑ La Jolla Village Dr. & Genesee Av.	Ⓕ Mira Mesa Bl. & Pacific Heights Bl.	Ⓖ Mira Mesa Bl. & Camino Santa Fe	Ⓗ Camino Ruiz & Mira Mesa Bl.	Ⓘ Miramar College Transit Station **ARRIVE**
A	7:11a	7:20a	7:29a	7:31a	7:36a	7:48a
A	8:11	8:20	8:29	8:31	8:36	8:48
A	9:08	9:18	9:27	9:29	9:35	9:48
A	10:09	10:19	10:28	10:30	10:36	10:49
A	11:10	11:20	11:29	11:31	11:37	11:50
A	**12:10p**	**12:20p**	**12:29p**	**12:31p**	**12:37p**	**12:50p**
A	**1:10**	**1:20**	**1:29**	**1:31**	**1:37**	**1:50**
A	**2:10**	**2:20**	**2:29**	**2:31**	**2:37**	**2:50**
A	**3:10**	**3:20**	**3:29**	**3:31**	**3:37**	**3:50**
A	**4:10**	**4:20**	**4:29**	**4:31**	**4:37**	**4:50**
A	**5:10**	**5:20**	**5:29**	**5:31**	**5:37**	**5:50**
A	**6:09**	**6:19**	**6:28**	**6:30**	**6:36**	**6:49**
A	**7:08**	**7:17**	**7:26**	**7:28**	**7:33**	**7:45**

Mira Mesa ➡ Sorrento Valley ➡ University City

	Ⓘ Miramar College Transit Station **DEPART**	Ⓗ Mira Mesa Bl. & Camino Ruiz	Ⓖ Mira Mesa Bl. & Camino Santa Fe	Ⓕ Mira Mesa Bl. & Pacific Heights Bl.	Ⓑ La Jolla Village Dr. & Genesee Av.	Ⓐ Gilman Transit Center (UCSD) **ARRIVE**
A	7:07a	7:19a	7:24a	7:26a	7:35a	7:43a
A	8:07	8:19	8:24	8:26	8:35	8:43
A	9:07	9:21	9:26	9:29	9:38	9:48
A	10:07	10:21	10:26	10:29	10:38	10:48
A	11:07	11:21	11:26	11:29	11:38	11:48
A	**12:07p**	**12:21p**	**12:26p**	**12:29p**	**12:38p**	**12:48p**
A	**1:07**	**1:21**	**1:26**	**1:29**	**1:38**	**1:48**
A	**2:07**	**2:21**	**2:26**	**2:29**	**2:38**	**2:48**
A	**3:07**	**3:21**	**3:26**	**3:29**	**3:38**	**3:48**
A	**4:07**	**4:21**	**4:26**	**4:29**	**4:38**	**4:48**
A	**5:07**	**5:21**	**5:26**	**5:29**	**5:38**	**5:48**
A	**6:07**	**6:21**	**6:26**	**6:29**	**6:38**	**6:48**
A	**7:07**	**7:20**	**7:25**	**7:27**	**7:36**	**7:44**

A = Saturday/Sunday trips have an alternate routing in Mira Mesa & Sorrento Valley. See map. / *Viajes de sábado/domingo tienen ruta alternativa en Mira Mesa y Sorrento Valley. Vea el mapa.*

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays >>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*

Day Pass (Regional) / *Pase diario (Regional)* Compass Card required ($2) / *Se requiere un Compass Card ($2)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.25
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.10*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for $2 at select outlets. A $5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional $2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por $2 en selectas sucursales. Un pase de un día por $5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de $2.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 557-4555**
SafeWatch	**(619) 557-4500**
The Transit Store / Lost & Found *The Transit Store / Objetos extraviados* Articles found on the bus are turned in at The Transit Store *Artículos encontrados en los autobuses son entregados a The Transit Store*	**(619) 234-1060** Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**www.sdmts.com**

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.
*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective JANUARY 31, 2016

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Fashion Valley – UCSD / VA Medical Ctr.

via Genesee Av.

DESTINATIONS

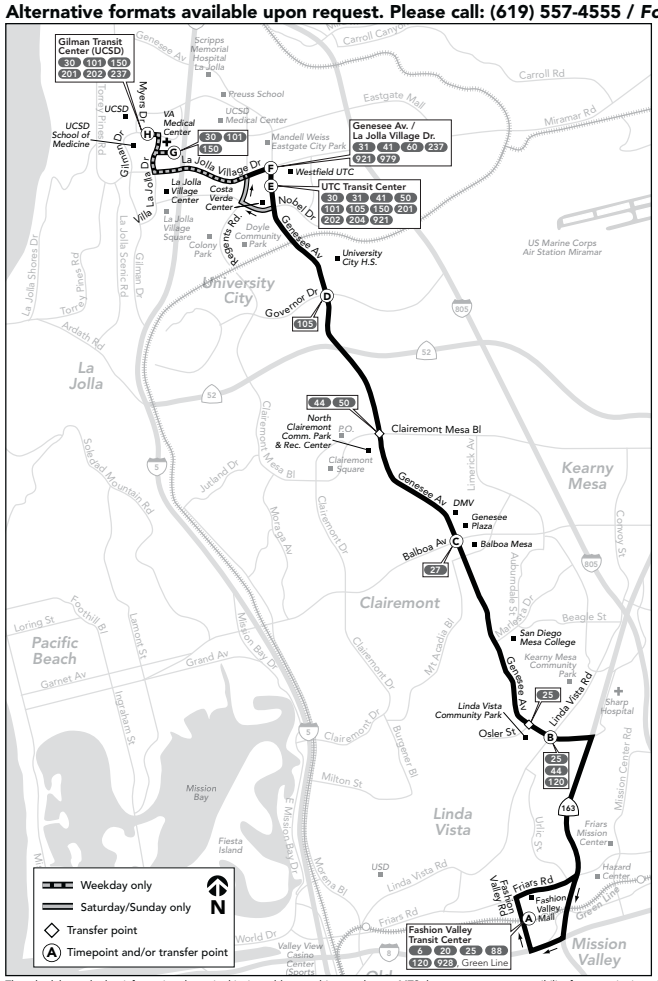
- Costa Verde Center
- Fashion Valley Mall
- Genesee Plaza
- Linda Vista Community Park
- Mesa College
- University City High School
- Westfield UTC

MTS Metropolitan Transit System

TROLLEY CONNECTIONS
Fashion Valley

01/16

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*



A Saturday or Sunday schedule will be operated on the following holidays and observed holidays:
Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados:

New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

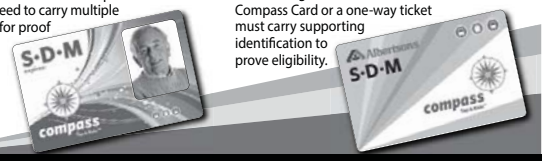
compass card

S/D/M and Youth Compass Card

All riders using reduced fares must comply with one of the following options:

Option 1 *(Recommended by MTS)*
MTS offers a picture ID on a Compass Card to eliminate the need to carry multiple identifications for proof of eligibility.

Option 2
Riders using a standard S/D/M or Youth Compass Card or a one-way ticket must carry supporting identification to prove eligibility.



*For additional benefits of **Option 1** and or list of valid forms of ID for **Option 2** go to: **www.sdmts.com/fares_discounted.asp.***

The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.
Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

Route 41 – Sunday / *domingo*

Fashion Valley ➡ Clairemont ➡ UTC

Ⓐ Fashion Valley Transit Center **DEPART**	Ⓑ Genesee Av. & Linda Vista Rd.	Ⓒ Genesee Av. & Balboa Av.	Ⓓ Genesee Av. & Governor Dr.	Ⓔ UTC Transit Center **ARRIVE**	Ⓕ Ⓖ Ⓗ
6:39a	6:47a	6:53a	7:02a	7:08a	Alternate service available on Routes 30, 201, and 202 *Servicio alterno por las rutas 30, 201, y 202*
7:09	7:17	7:24	7:33	7:40	
7:39	7:47	7:54	8:03	8:10	
8:09	8:17	8:24	8:33	8:40	
8:39	8:48	8:56	9:06	9:14	
9:09	9:18	9:26	9:36	9:44	
9:38	9:47	9:55	10:05	10:13	
10:08	10:17	10:25	10:35	10:43	
10:38	10:47	10:55	11:05	11:13	
11:08	11:17	11:25	11:35	11:43	
11:38	11:48	11:56	**12:07p**	**12:15p**	
AND THEN EVERY 30 MINUTES AT: / *Y LUEGO CADA 30 MINUTOS A LAS:*					
:08	:18	:26	:37	:45	
:38	:48	:56	:07	:15	
UNTIL: / *HASTA:*					
5:08p	**5:18p**	**5:26p**	**5:37**	**5:45**	
5:38	**5:48**	**5:55**	**6:05**	**6:13**	
6:09	**6:19**	**6:26**	**6:36**	**6:44**	
6:39	**6:49**	**6:56**	**7:06**	**7:14**	
7:09	**7:18**	**7:25**	**7:34**	**7:41**	
7:39	**7:48**	**7:55**	**8:04**	**8:11**	
8:09	**8:18**	**8:25**	**8:34**	**8:41**	
9:09	**9:17**	**9:24**	**9:32**	**9:39**	

UTC ➡ Clairemont ➡ Fashion Valley

Ⓗ Ⓖ Ⓕ	Ⓔ UTC Transit Center **DEPART**	Ⓓ Genesee Av. & Governor Dr.	Ⓒ Genesee Av. & Balboa Av.	Ⓑ Genesee Av. & Linda Vista Rd.	Ⓐ Fashion Valley Transit Center **ARRIVE**
Alternate service available on Routes 30, 201, and 202 *Servicio alterno por las rutas 30, 201, y 202*	6:28a	6:32a	6:40a	6:47a	6:53a
	6:58	7:02	7:10	7:17	7:23
	7:28	7:32	7:40	7:47	7:53
	7:56	8:00	8:10	8:17	8:23
	8:26	8:30	8:40	8:47	8:53
	8:56	9:00	9:10	9:17	9:23
	9:23	9:28	9:39	9:46	9:53
	9:54	9:59	10:10	10:17	10:24
	10:24	10:29	10:40	10:47	10:54
	10:55	11:00	11:11	11:18	11:25
	11:25	11:30	11:41	11:48	11:55
	11:55	**12:00p**	**12:11p**	**12:18p**	**12:25p**
	12:22p	**12:27**	**12:39**	**12:47**	**12:55**
	AND THEN EVERY 30 MINUTES AT: / *Y LUEGO CADA 30 MINUTOS A LAS:*				
	:52	**:57**	**:09**	**:17**	**:25**
	:22	**:27**	**:39**	**:47**	**:55**
	UNTIL: / *HASTA:*				
	4:52	**4:57**	**5:09**	**5:17**	**5:25**
	5:24	**5:29**	**5:40**	**5:47**	**5:55**
	5:53	**5:58**	**6:09**	**6:16**	**6:24**
	6:22	**6:27**	**6:38**	**6:45**	**6:53**
	6:52	**6:57**	**7:08**	**7:15**	**7:23**
	7:25	**7:29**	**7:39**	**7:46**	**7:53**
	7:55	**7:59**	**8:09**	**8:16**	**8:23**
	8:28	**8:32**	**8:41**	**8:47**	**8:53**
	9:28	**9:32**	**9:41**	**9:47**	**9:53**

Route 41 – Monday through Friday / *lunes a viernes*

Fashion Valley ➡ Clairemont ➡ UCSD / VA Medical Center

Ⓐ Fashion Valley Transit Center **DEPART**	Ⓑ Genesee Av. & Linda Vista Rd.	Ⓒ Genesee Av. & Balboa Av.	Ⓓ Genesee Av. & Governor Dr.	Ⓕ La Jolla Village Dr. & Genesee Av.	Ⓖ V.A. Medical Center	Ⓗ Gilman Transit Center (UCSD) **ARRIVE**
5:21a	5:29a	5:36a	5:44a	5:50a	5:55a	5:57a
5:36	5:44	5:51	5:59	6:05	6:10	6:12
5:51	5:59	6:06	6:16	6:23	6:29	6:31
6:06	6:14	6:21	6:33	6:40	6:46	6:48
6:21	6:29	6:37	6:50	6:57	7:03	7:05
—	—	**T** 6:47	7:00	7:08	7:15	7:17
6:36	6:45	6:53	7:06	7:14	7:21	7:23
—	—	**T** 7:02	7:15	7:23	7:30	7:32
6:51	7:00	7:08	7:21	7:29	7:36	7:38
—	—	**T** 7:17	7:30	7:38	7:45	7:47
7:06	7:15	7:23	7:36	7:44	7:51	7:53
—	—	**T** 7:33	7:46	7:54	8:02	8:04
7:21	7:31	7:40	7:53	8:01	8:09	8:11
—	—	**T** 7:49	8:02	8:10	8:18	8:20
7:36	7:46	7:55	8:08	8:16	8:24	8:26
—	—	**T** 8:04	8:17	8:25	8:33	8:35
7:51	8:01	8:10	8:23	8:31	8:39	8:41
—	—	**T** 8:19	8:32	8:40	8:48	8:50
8:06	8:16	8:25	8:38	8:46	8:54	8:56
—	—	**T** 8:34	8:45	8:52	9:00	9:02
8:21	8:31	8:40	8:53	9:01	9:09	9:11
—	—	**T** 8:49	9:00	9:07	9:15	9:17
8:36	8:46	8:55	9:07	9:14	9:22	9:24
—	—	**T** 9:03	9:14	9:21	9:29	9:31
8:51	9:00	9:09	9:20	9:27	9:35	9:37
—	—	**T** 9:18	9:29	9:36	9:44	9:46
9:06	9:15	9:24	9:35	9:42	9:50	9:52
—	—	**T** 9:32	9:43	9:50	9:57	9:59
9:21	9:30	9:38	9:49	9:56	10:03	10:05
9:36	9:45	9:53	10:04	10:11	10:18	10:20
9:51	10:00	10:08	10:19	10:26	10:33	10:35
10:06	10:15	10:23	10:34	10:41	10:48	10:50
10:21	10:30	10:38	10:49	10:56	11:03	11:05
10:36	10:45	10:53	11:04	11:11	11:18	11:20
10:51	11:00	11:08	11:19	11:26	11:33	11:35
11:06	11:15	11:23	11:34	11:41	11:48	11:50
11:21	11:30	11:38	11:49	11:56	**12:03p**	**12:05p**
11:36	11:45	11:53	**12:04p**	**12:11p**	**12:18**	**12:20**
11:51	**12:00p**	**12:08p**	**12:19**	**12:26**	**12:33**	**12:35**
12:06p	**12:15**	**12:23**	**12:34**	**12:41**	**12:48**	**12:50**
12:21	**12:30**	**12:38**	**12:49**	**12:56**	**1:03**	**1:05**
12:36	**12:46**	**12:54**	**1:05**	**1:12**	**1:19**	**1:21**
12:51	**1:01**	**1:09**	**1:20**	**1:27**	**1:34**	**1:36**
1:06	**1:16**	**1:24**	**1:35**	**1:42**	**1:49**	**1:51**
1:21	**1:31**	**1:39**	**1:50**	**1:57**	**2:04**	**2:06**
1:36	**1:46**	**1:54**	**2:05**	**2:12**	**2:19**	**2:21**
1:51	**2:01**	**2:09**	**2:20**	**2:27**	**2:34**	**2:36**
2:07	**2:17**	**2:26**	**2:37**	**2:44**	**2:51**	**2:53**
2:22	**2:32**	**2:41**	**2:52**	**2:59**	**3:06**	**3:08**
2:37	**2:47**	**2:56**	**3:07**	**3:14**	**3:21**	**3:23**
2:53	**3:03**	**3:12**	**3:23**	**3:30**	**3:37**	**3:39**
3:07	**3:17**	**3:26**	**3:37**	**3:44**	**3:51**	**3:53**
3:21	**3:31**	**3:40**	**3:51**	**3:58**	**4:05**	**4:07**
3:36	**3:46**	**3:55**	**4:06**	**4:13**	**4:20**	**4:22**
3:51	**4:01**	**4:10**	**4:21**	**4:28**	**4:35**	**4:37**
4:06	**4:16**	**4:25**	**4:36**	**4:43**	**4:50**	**4:52**
4:21	**4:31**	**4:40**	**4:51**	**4:58**	**5:05**	**5:07**
4:36	**4:47**	**4:56**	**5:08**	**5:15**	**5:22**	**5:24**
4:51	**5:02**	**5:11**	**5:23**	**5:30**	**5:37**	**5:39**
5:07	**5:18**	**5:27**	**5:39**	**5:46**	**5:53**	**5:55**
5:22	**5:33**	**5:42**	**5:54**	**6:01**	**6:08**	**6:10**
5:37	**5:48**	**5:57**	**6:08**	**6:15**	**6:21**	**6:23**
5:52	**6:02**	**6:11**	**6:21**	**6:28**	**6:34**	**6:36**
6:07	**6:17**	**6:26**	**6:36**	**6:43**	**6:49**	**6:51**
6:21	**6:31**	**6:40**	**6:50**	**6:57**	**7:03**	**7:05**
6:41	**6:51**	**7:00**	**7:10**	**7:17**	**7:23**	**7:25**
7:06	**7:16**	**7:25**	**7:35**	**7:42**	**7:48**	**7:50**
7:35	**7:44**	**7:51**	**8:00**	**8:07**	**8:13**	**8:15**
8:05	**8:14**	**8:21**	**8:30**	**8:37**	**8:43**	**8:45**
8:35	**8:44**	**8:51**	**9:00**	**9:07**	**9:13**	**9:15**
9:06	**9:14**	**9:20**	**9:29**	**9:35**	**9:41**	**9:43**
9:36	**9:44**	**9:50**	**9:59**	**10:05**	**10:11**	**10:13**
10:06	**10:14**	**10:20**	**10:29**	**10:35**	**10:41**	**10:43**
10:37	**10:45**	**10:51**	**10:58**	**11:04**	**11:09**	**11:11**
11:07	**11:15**	**11:21**	**11:28**	**11:34**	**11:39**	**11:41**

UCSD / VA Medical Center ➡ Clairemont ➡ Fashion Valley

Ⓗ Gilman Transit Center (UCSD) **DEPART**	Ⓖ V.A. Medical Center	Ⓕ Genesee Av. & La Jolla Village Dr.	Ⓓ Genesee Av. & Governor Dr.	Ⓒ Genesee Av. & Balboa Av.	Ⓑ Genesee Av. & Linda Vista Rd.	Ⓐ Fashion Valley Transit Center **ARRIVE**
5:48a	5:52a	5:58a	6:03a	6:12a	6:19a	6:25a
6:03	6:07	6:13	6:18	6:27	6:34	6:40
6:18	6:22	6:28	6:33	6:42	6:49	6:55
6:32	6:36	6:42	6:47	6:56	7:03	7:09
6:43	6:48	6:55	7:00	7:10	7:18	7:24
6:57	7:02	7:09	7:15	7:25	7:33	7:39
7:12	7:17	7:24	7:30	7:40	7:48	7:54
7:26	7:31	7:38	7:44	7:54	8:02	8:08
7:40	7:45	7:52	7:58	8:08	8:16	8:22
7:55	8:00	8:07	8:13	8:23	8:31	8:37
8:10	8:15	8:22	8:28	8:38	8:46	8:52
8:26	8:31	8:38	8:44	8:54	9:02	9:08
8:41	8:46	8:53	8:59	9:09	9:17	9:23
8:56	9:01	9:08	9:14	9:24	9:32	9:38
9:11	9:16	9:23	9:29	9:39	9:47	9:53
9:27	9:32	9:39	9:45	9:55	10:03	10:09
9:42	9:47	9:54	10:00	10:10	10:18	10:24
9:58	10:03	10:10	10:16	10:26	10:34	10:40
10:14	10:19	10:26	10:32	10:42	10:50	10:56
10:29	10:34	10:41	10:47	10:57	11:05	11:11
10:43	10:49	10:57	11:03	11:13	11:21	11:27
10:58	11:04	11:12	11:18	11:28	11:36	11:42
11:13	11:19	11:27	11:33	11:43	11:51	11:57
11:28	11:34	11:42	11:48	11:58	**12:06p**	**12:12p**
11:43	11:49	11:57	**12:03p**	**12:13p**	**12:21**	**12:27**
11:58	**12:04p**	**12:12p**	**12:18**	**12:28**	**12:36**	**12:42**
12:12p	**12:18**	**12:26**	**12:32**	**12:43**	**12:51**	**12:58**
12:27	**12:33**	**12:41**	**12:47**	**12:58**	**1:06**	**1:13**
12:42	**12:48**	**12:56**	**1:02**	**1:13**	**1:21**	**1:28**
12:57	**1:03**	**1:11**	**1:17**	**1:28**	**1:36**	**1:43**
1:12	**1:18**	**1:26**	**1:32**	**1:43**	**1:51**	**1:58**
1:28	**1:34**	**1:42**	**1:48**	**1:59**	**2:07**	**2:14**
1:43	**1:49**	**1:57**	**2:03**	**2:14**	**2:22**	**2:29**
1:58	**2:04**	**2:12**	**2:19**	**2:31**	**2:39**	**2:46**
2:10	**2:16**	**2:24**	**2:31**	**2:43**	**2:51**	**2:58**
2:24	**2:30**	**2:38**	**2:45**	**2:57**	**3:05**	**3:12**
2:38	**2:44**	**2:52**	**2:59**	**3:11**	**3:19**	**3:26**
2:52	**2:58**	**3:06**	**3:13**	**3:25**	**3:33**	**3:41**
T 2:59	**3:05**	**3:13**	**3:20**	**3:32**	—	—
3:05	**3:11**	**3:19**	**3:27**	**3:39**	**3:48**	**3:56**
T 3:12	**3:18**	**3:26**	**3:34**	**3:46**	—	—
3:18	**3:24**	**3:32**	**3:40**	**3:52**	**4:01**	**4:09**
T 3:25	**3:31**	**3:39**	**3:47**	**3:59**	—	—
3:33	**3:39**	**3:47**	**3:55**	**4:07**	**4:16**	**4:24**
T 3:40	**3:46**	**3:54**	**4:02**	**4:14**	—	—
3:49	**3:55**	**4:03**	**4:11**	**4:23**	**4:32**	**4:41**
T 3:56	**4:02**	**4:10**	**4:18**	**4:30**	—	—
4:03	**4:09**	**4:17**	**4:26**	**4:39**	**4:48**	**4:57**
T 4:10	**4:16**	**4:24**	**4:33**	**4:46**	—	—
4:17	**4:23**	**4:31**	**4:40**	**4:53**	**5:02**	**5:11**
T 4:24	**4:30**	**4:38**	**4:47**	**5:00**	—	—
4:33	**4:39**	**4:47**	**4:56**	**5:09**	**5:18**	**5:27**
T 4:40	**4:46**	**4:54**	**5:03**	**5:16**	—	—
4:47	**4:53**	**5:01**	**5:10**	**5:23**	**5:32**	**5:41**
T 4:54	**5:00**	**5:08**	**5:17**	**5:30**	—	—
5:02	**5:08**	**5:16**	**5:25**	**5:38**	**5:47**	**5:56**
T 5:09	**5:15**	**5:23**	**5:32**	**5:45**	—	—
5:18	**5:23**	**5:31**	**5:40**	**5:53**	**6:02**	**6:11**
T 5:25	**5:30**	**5:38**	**5:47**	**6:00**	—	—
5:34	**5:39**	**5:47**	**5:56**	**6:09**	**6:17**	**6:26**
5:49	**5:54**	**6:02**	**6:11**	**6:24**	**6:32**	**6:41**
6:04	**6:09**	**6:17**	**6:25**	**6:37**	**6:45**	**6:53**
6:19	**6:24**	**6:32**	**6:39**	**6:50**	**6:58**	**7:06**
6:34	**6:39**	**6:47**	**6:54**	**7:05**	**7:12**	**7:19**
6:51	**6:56**	**7:04**	**7:11**	**7:22**	**7:29**	**7:35**
7:12	**7:17**	**7:25**	**7:32**	**7:43**	**7:50**	**7:56**
7:42	**7:47**	**7:55**	**8:02**	**8:13**	**8:20**	**8:26**
8:19	**8:23**	**8:30**	**8:36**	**8:46**	**8:52**	**8:58**
8:49	**8:53**	**9:00**	**9:06**	**9:16**	**9:22**	**9:28**
9:19	**9:23**	**9:30**	**9:36**	**9:46**	**9:52**	**9:58**
9:49	**9:53**	**10:00**	**10:05**	**10:14**	**10:20**	**10:26**
10:19	**10:23**	**10:30**	**10:35**	**10:44**	**10:50**	**10:56**
10:49	**10:53**	**11:00**	**11:05**	**11:14**	**11:20**	**11:26**

T =Trip operates only when classes are in session from September through June. Trip does not operate during the summer session. / *El viaje solo opera cuando las clases estan en sesión de septiembre a junio. El viaje no opera durante la sesión de verano.*

Route 41 – Saturday / *sábado*

Fashion Valley ➡ Clairemont ➡ UTC

Ⓐ Fashion Valley Transit Center **DEPART**	Ⓑ Genesee Av. & Linda Vista Rd.	Ⓒ Genesee Av. & Balboa Av.	Ⓓ Genesee Av. & Governor Dr.	Ⓔ UTC Transit Center **ARRIVE**	Ⓕ Ⓖ Ⓗ
6:07a	6:15a	6:21a	6:30a	6:36a	Alternate service available on Routes 30, 150, 201, and 202 *Servicio alterno por las rutas 30, 150, 201, y 202*
6:37	6:45	6:51	7:00	7:06	
7:07	7:15	7:22	7:31	7:38	
7:37	7:45	7:52	8:01	8:08	
8:07	8:15	8:22	8:31	8:38	
8:37	8:46	8:54	9:04	9:12	
9:07	9:16	9:24	9:34	9:42	
9:37	9:46	9:54	10:04	10:12	
10:07	10:16	10:24	10:34	10:42	
10:37	10:46	10:54	11:04	11:12	
11:07	11:16	11:24	11:34	11:42	
11:37	11:47	11:55	**12:06p**	**12:14p**	
12:07p	**12:17p**	**12:25p**	**12:36**	**12:44**	
12:37	**12:47**	**12:55**	**1:06**	**1:14**	
1:07	**1:17**	**1:25**	**1:36**	**1:44**	
1:37	**1:47**	**1:55**	**2:06**	**2:14**	
2:07	**2:17**	**2:25**	**2:36**	**2:44**	
2:37	**2:47**	**2:55**	**3:06**	**3:14**	
3:07	**3:17**	**3:25**	**3:36**	**3:44**	
3:37	**3:47**	**3:55**	**4:06**	**4:14**	
4:07	**4:17**	**4:25**	**4:36**	**4:44**	
4:37	**4:47**	**4:55**	**5:06**	**5:14**	
5:07	**5:17**	**5:25**	**5:36**	**5:44**	
5:37	**5:47**	**5:54**	**6:04**	**6:12**	
6:09	**6:19**	**6:26**	**6:36**	**6:44**	
6:39	**6:49**	**6:56**	**7:06**	**7:14**	
7:09	**7:18**	**7:25**	**7:34**	**7:41**	
7:39	**7:48**	**7:55**	**8:04**	**8:11**	
8:09	**8:18**	**8:25**	**8:34**	**8:41**	
8:39	**8:47**	**8:54**	**9:02**	**9:09**	
9:09	**9:17**	**9:24**	**9:32**	**9:39**	
10:09	**10:17**	**10:24**	**10:32**	**10:39**	

UTC ➡ Clairemont ➡ Fashion Valley

Ⓗ Ⓖ Ⓕ	Ⓔ UTC Transit Center **DEPART**	Ⓓ Genesee Av. & Governor Dr.	Ⓒ Genesee Av. & Balboa Av.	Ⓑ Genesee Av. & Linda Vista Rd.	Ⓐ Fashion Valley Transit Center **ARRIVE**
Alternate service available on Routes 30, 150, 201, and 202 *Servicio alterno por las rutas 30, 150, 201, y 202*	6:28a	6:32a	6:40a	6:47a	6:53a
	6:58	7:02	7:10	7:17	7:23
	7:28	7:32	7:40	7:47	7:53
	7:56	8:00	8:10	8:17	8:23
	8:26	8:30	8:40	8:47	8:53
	8:56	9:00	9:10	9:17	9:23
	9:23	9:28	9:39	9:46	9:53
	9:53	9:58	10:09	10:16	10:23
	10:24	10:29	10:40	10:47	10:54
	10:54	10:59	11:10	11:17	11:24
	11:25	11:30	11:41	11:48	11:55
	11:55	**12:00p**	**12:11p**	**12:18p**	**12:25p**
	12:22p	**12:27**	**12:39**	**12:47**	**12:55**
	12:52	**12:57**	**1:09**	**1:17**	**1:25**
	1:22	**1:27**	**1:39**	**1:47**	**1:55**
	1:52	**1:57**	**2:09**	**2:17**	**2:25**
	2:22	**2:27**	**2:39**	**2:47**	**2:55**
	2:52	**2:57**	**3:09**	**3:17**	**3:25**
	3:22	**3:27**	**3:39**	**3:47**	**3:55**
	3:52	**3:57**	**4:09**	**4:17**	**4:25**
	4:22	**4:27**	**4:39**	**4:47**	**4:55**
	4:52	**4:57**	**5:09**	**5:17**	**5:25**
	5:24	**5:29**	**5:40**	**5:47**	**5:55**
	5:54	**5:59**	**6:10**	**6:17**	**6:25**
	6:22	**6:27**	**6:38**	**6:45**	**6:53**
	6:52	**6:57**	**7:08**	**7:15**	**7:23**
	7:25	**7:29**	**7:39**	**7:46**	**7:53**
	7:55	**7:59**	**8:09**	**8:16**	**8:23**
	8:28	**8:32**	**8:41**	**8:47**	**8:53**
	8:58	**9:02**	**9:11**	**9:17**	**9:23**
	9:28	**9:32**	**9:41**	**9:47**	**9:53**
	9:58	**10:02**	**10:11**	**10:17**	**10:23**

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*

Day Pass (Regional) / *Pase diario (Regional)* Compass Card required ($2) / *Se requiere un Compass Card ($2)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.50
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.25*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for $2 at select outlets. A $5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional $2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por $2 en selectas sucursales. Un pase de un día por $5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de $2.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 557-4555**
SafeWatch	**(619) 557-4500**
The Transit Store / Lost & Found *The Transit Store / Objetos extraviados*	**(619) 234-1060**
Articles found on the bus are turned in at The Transit Store *Artículos encontrados en los autobuses son entregados a The Transit Store*	1st & Broadway Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**www.sdmts.com**

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.

*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective SEPTEMBER 6, 2015

50
Downtown – UTC Express
via Clairemont Dr.

150
Downtown – UTC / VA Hospital Express
via Old Town / UCSD

DESTINATIONS

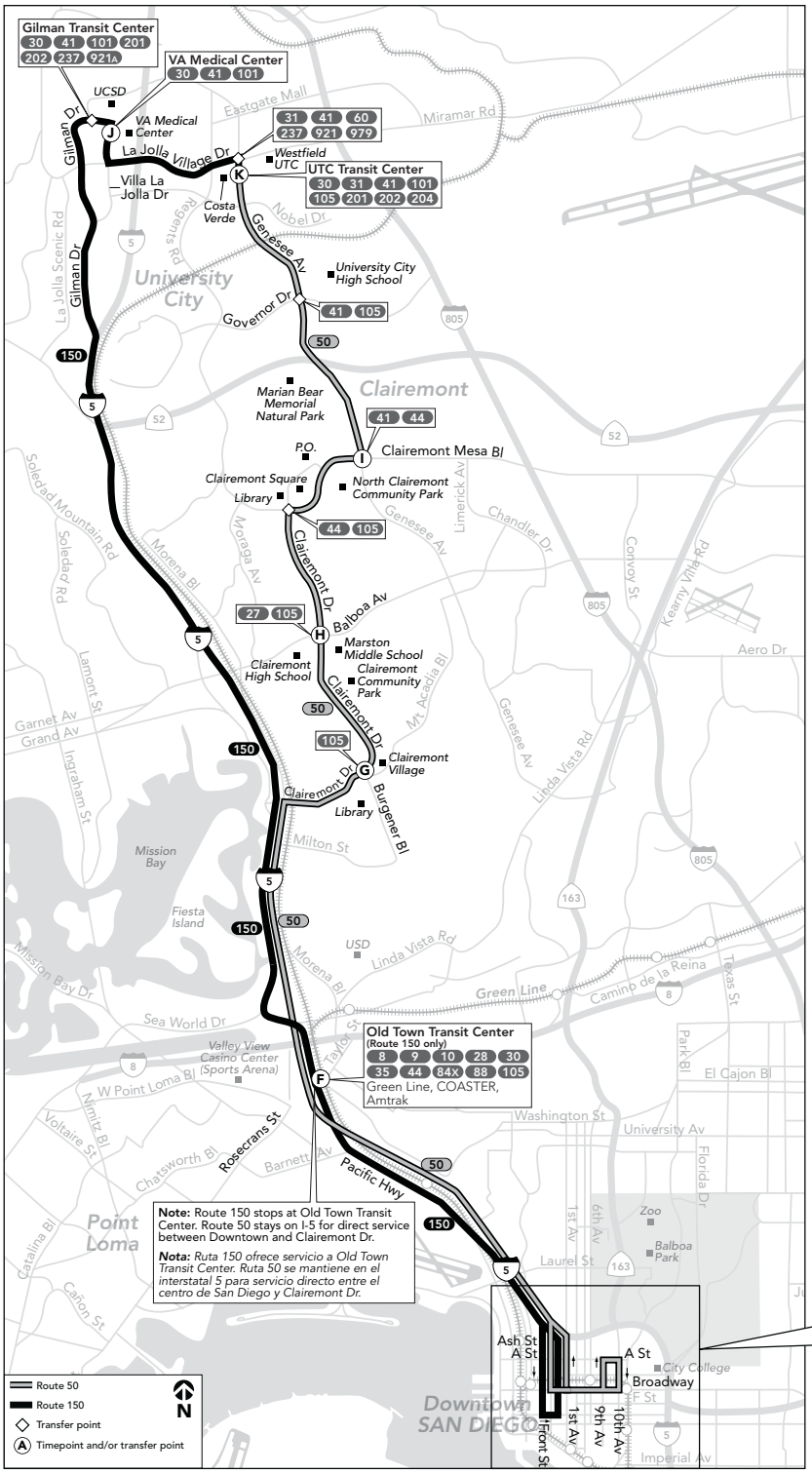
- Clairemont Square (50)
- Costa Verde Shopping Center
- UCSD (150)
- VA Medical Center (150)
- Westfield UTC

TROLLEY CONNECTIONS
Old Town (150)
Downtown

MTS Metropolitan Transit System

09/15

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*



Note: Route 150 stops at Old Town Transit Center. Route 50 stays on I-5 for direct service between Downtown and Clairemont Dr.

***Nota:** Ruta 150 ofrece servicio a Old Town Transit Center. Ruta 50 se mantiene en el interstatal 5 para servicio directo entre el centro de San Diego y Clairemont Dr.*

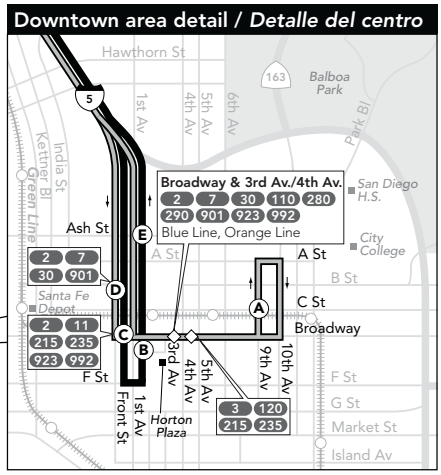
Plan your trip!

On the web
Visit **www.sdmts.com** and click on ***Travel Planner***

On the phone
Dial 511 and say "public transportation"

On the go
Use the Google Maps app on your smartphone

Downtown area detail / *Detalle del centro*



Route 50 – Monday through Friday / *lunes a viernes*

Downtown ➡ Clairemont ➡ University City

Ⓐ 9th Av. & C St. **DEPART**	Ⓔ 1st Av. & Ash St.	Ⓖ Clairemont Dr. & Burgener Bl.	Ⓗ Clairemont Dr. & Balboa Av.	Ⓘ Genesee Av. & Clairemont Mesa Bl.	Ⓚ UTC Transit Center **ARRIVE**
4:56a	5:04a	5:14a	5:18a	5:25a	5:34a
5:26	5:34	5:44	5:48	5:55	6:04
5:54	6:04	6:14	6:19	6:26	6:35
6:28	6:39	6:50	6:56	7:04	7:14
6:58	7:10	7:22	7:28	7:36	7:48
7:28	7:40	7:54	8:00	8:09	8:21
7:58	8:10	8:24	8:30	8:39	8:51
8:28	8:40	8:54	9:00	9:09	9:21
8:58	9:10	9:22	9:28	9:37	9:49
9:58	10:10	10:22	10:28	10:37	10:49
10:58	11:10	11:22	11:28	11:37	11:49
11:58	**12:10p**	**12:22p**	**12:28p**	**12:37p**	**12:49p**
12:58p	**1:10**	**1:22**	**1:28**	**1:37**	**1:49**
1:58	**2:10**	**2:22**	**2:28**	**2:37**	**2:49**
2:58	**3:11**	**3:23**	**3:29**	**3:38**	**3:50**
3:28	**3:41**	**3:53**	**3:59**	**4:08**	**4:20**
3:58	**4:11**	**4:23**	**4:29**	**4:38**	**4:50**
4:28	**4:41**	**4:53**	**4:59**	**5:08**	**5:20**
4:45	**4:58**	**5:10**	**5:16**	**5:25**	**5:37**
5:02	**5:15**	**5:27**	**5:33**	**5:42**	**5:54**
5:17	**5:30**	**5:42**	**5:48**	**5:57**	**6:09**
5:32	**5:45**	**5:57**	**6:03**	**6:12**	**6:24**
6:03	**6:15**	**6:26**	**6:31**	**6:39**	**6:51**

University City ➡ Clairemont ➡ Downtown

Ⓚ UTC Transit Center **DEPART**	Ⓘ Clairemont Mesa Bl. & Genesee Av.	Ⓗ Clairemont Dr. & Balboa Av.	Ⓖ Clairemont Dr. & Burgener Bl.	Ⓓ Front St. & B St.	Ⓐ 9th Av. & C St. **ARRIVE**
5:42a	5:50a	5:57a	6:02a	6:12a	6:19a
6:12	6:20	6:27	6:32	6:42	6:49
6:31	6:40	6:49	6:54	7:05	7:12
6:46	6:55	7:04	7:09	7:20	7:27
7:01	7:10	7:19	7:24	7:35	7:42
7:16	7:25	7:34	7:39	7:50	7:57
7:31	7:40	7:49	7:54	8:05	8:12
7:46	7:55	8:04	8:09	8:20	8:27
8:01	8:10	8:19	8:24	8:35	8:42
8:31	8:40	8:49	8:54	9:05	9:12
9:01	9:11	9:20	9:26	9:37	9:45
10:01	10:11	10:20	10:26	10:37	10:45
11:01	11:11	11:20	11:26	11:37	11:45
12:01p	**12:11p**	**12:20p**	**12:26p**	**12:37p**	**12:45p**
1:01	**1:11**	**1:20**	**1:26**	**1:37**	**1:45**
2:01	**2:11**	**2:20**	**2:26**	**2:37**	**2:45**
2:31	**2:43**	**2:52**	**2:58**	**3:09**	**3:17**
3:01	**3:13**	**3:22**	**3:28**	**3:39**	**3:47**
3:30	**3:42**	**3:51**	**3:57**	**4:12**	**4:19**
4:00	**4:13**	**4:23**	**4:29**	**4:42**	**4:51**
4:30	**4:43**	**4:53**	**4:59**	**5:12**	**5:21**
5:00	**5:13**	**5:23**	**5:29**	**5:42**	**5:51**
5:30	**5:43**	**5:53**	**5:59**	**6:12**	**6:21**
6:35	**6:46**	**6:55**	**6:59**	**7:10**	**7:18**

Route 150 – Monday through Friday / *lunes a viernes*

Downtown ➡ Old Town ➡ University City

Ⓑ 1st Av. & Broadway **DEPART**	Ⓔ 1st Av. & Ash St.	Ⓕ Old Town Transit Center **ARRIVE**	Ⓕ Old Town Transit Center **DEPART**	Ⓙ V.A. Medical Center	Ⓚ UTC Transit Center **ARRIVE**
6:01a	6:04a	6:11a	6:13a	6:36a	6:46a
6:16	6:19	6:26	6:28	6:51	7:01
6:31	6:34	6:41	6:43	7:06	7:16
—	—	—	6:50	7:16	—
6:45	6:48	6:56	6:58	7:24	7:36
—	—	—	7:05	7:31	—
7:00	7:03	7:11	7:13	7:39	7:51
—	—	—	7:20	7:46	—
7:15	7:18	7:26	7:28	7:54	8:06
—	—	—	7:35	8:01	—
7:30	7:33	7:41	7:43	8:09	8:21
—	—	—	7:50	8:16	—
7:45	7:48	7:56	7:58	8:24	8:36
—	—	—	8:05	8:31	—
8:00	8:03	8:11	8:13	8:39	8:51
—	—	—	8:20	8:46	—
8:15	8:18	8:26	8:28	8:54	9:06
—	—	—	8:35	9:01	—
8:30	8:33	8:41	8:43	9:09	9:21
—	—	—	8:50	9:13	—
8:45	8:48	8:56	8:58	9:21	9:32
9:00	9:03	9:11	9:13	9:36	9:47
9:15	9:18	9:26	9:28	9:51	10:02
9:30	9:33	9:41	9:43	10:06	10:17
10:00	10:03	10:11	10:13	10:36	10:47
10:30	10:33	10:41	10:43	11:06	11:17
11:00	11:03	11:11	11:13	11:36	11:47
11:30	11:33	11:41	11:43	**12:06p**	**12:17p**
12:00p	**12:03p**	**12:11p**	**12:13p**	**12:36**	**12:47**
12:30	**12:33**	**12:41**	**12:43**	**1:06**	**1:17**
1:00	**1:03**	**1:11**	**1:13**	**1:36**	**1:47**
1:30	**1:33**	**1:41**	**1:43**	**2:06**	**2:17**
2:00	**2:03**	**2:11**	**2:13**	**2:36**	**2:47**
2:30	**2:33**	**2:41**	**2:43**	**3:06**	**3:17**
3:00	**3:03**	**3:11**	**3:13**	**3:36**	**3:47**
3:30	**3:33**	**3:41**	**3:43**	**4:06**	**4:17**
4:00	**4:03**	**4:11**	**4:13**	**4:36**	**4:47**
4:29	**4:32**	**4:41**	**4:43**	**5:07**	**5:18**
4:59	**5:02**	**5:11**	**5:13**	**5:37**	**5:48**
5:29	**5:32**	**5:41**	**5:43**	**6:07**	**6:18**
6:00	**6:03**	**6:11**	**6:13**	**6:36**	**6:47**
6:30	**6:33**	**6:41**	**6:43**	**7:06**	**7:17**
7:01	**7:04**	**7:11**	**7:13**	**7:35**	**7:45**
7:31	**7:34**	**7:41**	**7:43**	**8:05**	**8:15**
8:01	**8:04**	**8:11**	**8:13**	**8:35**	**8:45**
8:31	**8:34**	**8:41**	**8:43**	**9:05**	**9:15**
9:01	**9:04**	**9:11**	**9:13**	**9:35**	**9:45**

University City ➡ Old Town ➡ Downtown

Ⓚ UTC Transit Center **DEPART**	Ⓙ V.A. Medical Center	Ⓕ Old Town Transit Center **ARRIVE**	Ⓕ Old Town Transit Center **DEPART**	Ⓒ Front St. & Broadway	Ⓑ 1st Av. & Broadway **ARRIVE**
6:05a	6:13a	6:32a	6:34a	6:41a	6:43a
6:35	6:43	7:02	7:04	7:11	7:13
7:03	7:12	7:32	7:34	7:41	7:43
7:33	7:42	8:02	8:04	8:11	8:13
8:02	8:11	8:32	8:34	8:41	8:44
8:32	8:41	9:02	9:04	9:11	9:14
9:02	9:11	9:32	9:34	9:41	9:44
9:32	9:41	10:02	10:04	10:11	10:14
10:02	10:11	10:32	10:34	10:41	10:44
10:32	10:41	11:02	11:04	11:11	11:14
11:02	11:11	11:32	11:34	11:41	11:44
11:32	11:41	**12:02p**	**12:04p**	**12:11p**	**12:14p**
12:01p	**12:11p**	**12:34**	**12:36**	**12:44**	**12:47**
12:29	**12:39**	**1:02**	**1:04**	**1:12**	**1:15**
12:59	**1:09**	**1:32**	**1:34**	**1:42**	**1:45**
1:29	**1:39**	**2:02**	**2:04**	**2:12**	**2:15**
1:59	**2:09**	**2:32**	**2:34**	**2:42**	**2:45**
—	**2:24**	**2:47**	—	—	—
2:29	**2:39**	**3:02**	**3:04**	**3:12**	**3:15**
2:44	**2:54**	**3:17**	**3:19**	**3:27**	**3:30**
—	**3:02**	**3:25**	—	—	—
2:59	**3:09**	**3:32**	**3:34**	**3:42**	**3:45**
	3:17	**3:40**	—	—	—
3:14	**3:24**	**3:47**	**3:49**	**3:57**	**4:00**
—	**3:32**	**3:55**	—	—	—
3:29	**3:39**	**4:02**	**4:04**	**4:12**	**4:15**
—	**3:47**	**4:12**	—	—	—
3:44	**3:54**	**4:17**	**4:19**	**4:27**	**4:30**
—	**4:00**	**4:25**	—	—	—
3:57	**4:07**	**4:32**	**4:34**	**4:43**	**4:47**
—	**4:15**	**4:40**	—	—	—
4:12	**4:22**	**4:47**	**4:49**	**4:58**	**5:02**
—	**4:30**	**4:55**	—	—	—
4:27	**4:37**	**5:02**	**5:04**	**5:13**	**5:17**
—	**4:45**	**5:10**	—	—	—
4:42	**4:52**	**5:17**	**5:19**	**5:28**	**5:32**
—	**5:00**	**5:25**	—	—	—
4:57	**5:07**	**5:32**	**5:34**	**5:43**	**5:47**
5:12	**5:22**	**5:47**	**5:49**	**5:58**	**6:02**
5:30	**5:39**	**6:02**	**6:04**	**6:12**	**6:16**
5:45	**5:54**	**6:17**	**6:19**	**6:27**	**6:31**
6:00	**6:09**	**6:32**	**6:34**	**6:42**	**6:46**
6:31	**6:40**	**7:02**	**7:04**	**7:11**	**7:14**
7:00	**7:09**	**7:31**	**7:33**	**7:40**	**7:43**
7:33	**7:41**	**8:01**	**8:03**	**8:10**	**8:12**
8:03	**8:11**	**8:31**	**8:33**	**8:40**	**8:42**
8:33	**8:41**	**9:01**	**9:03**	**9:10**	**9:12**
9:03	**9:11**	**9:31**	**9:33**	**9:40**	**9:42**

Route 150 does not operate on Sunday and route 50 does not operate on Weekends or on the following holidays and observed holidays.
Las ruta 150 no opera en los domingos, y la ruta 50 no opera los fines de semana ó durante los siguientes días festivos y feriados observados

>>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

Route 150 – Saturday / *sábado*

Old Town ➡ University City

Ⓕ Old Town Transit Center **DEPART**	Ⓙ V.A. Medical Center	Ⓚ UTC Transit Center **ARRIVE**
7:15a	7:36a	7:47a
7:45	8:06	8:17
8:15	8:36	8:47
8:45	9:06	9:17
9:15	9:36	9:47
9:45	10:06	10:17
10:15	10:37	10:48
10:45	11:07	11:18
11:15	11:37	11:49
11:45	**12:07p**	**12:19p**
12:15p	**12:37**	**12:49**
12:45	**1:07**	**1:19**
1:15	**1:37**	**1:49**
1:45	**2:07**	**2:19**
2:15	**2:37**	**2:49**
2:45	**3:07**	**3:19**
3:15	**3:37**	**3:49**
3:45	**4:07**	**4:19**
4:15	**4:37**	**4:49**
4:45	**5:07**	**5:19**
5:15	**5:37**	**5:49**
5:45	**6:06**	**6:17**
6:15	**6:36**	**6:47**
6:45	**7:06**	**7:17**
7:15	**7:35**	**7:46**
7:45	**8:05**	**8:16**
8:15	**8:35**	**8:46**
8:45	**9:05**	**9:16**

University City ➡ Old Town

Ⓚ UTC Transit Center **DEPART**	Ⓙ V.A. Medical Center	Ⓕ Old Town Transit Center **ARRIVE**
8:02a	8:10a	8:30a
8:32	8:40	9:00
9:00	9:09	9:30
9:30	9:39	10:00
10:00	10:09	10:30
10:30	10:39	11:00
11:00	11:09	11:30
11:30	11:39	**12:00p**
12:00p	**12:09p**	**12:30**
12:30	**12:39**	**1:00**
1:00	**1:09**	**1:30**
1:30	**1:39**	**2:00**
2:00	**2:09**	**2:30**
2:30	**2:39**	**3:00**
3:00	**3:09**	**3:30**
3:30	**3:39**	**4:00**
4:00	**4:09**	**4:30**
4:30	**4:39**	**5:00**
5:00	**5:09**	**5:30**
5:30	**5:39**	**6:00**
6:02	**6:10**	**6:30**
6:32	**6:40**	**7:00**
7:04	**7:11**	**7:30**
7:34	**7:41**	**8:00**
8:04	**8:11**	**8:30**
8:34	**8:41**	**9:00**
9:04	**9:11**	**9:30**

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CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*

Day Pass (Regional) / *Pase diario (Regional)* Compass Card required ($2) / *Se requiere un Compass Card ($2)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.50
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.25*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for $2 at select outlets. A $5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional $2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por $2 en selectas sucursales. Un pase de un día por $5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de $2.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 557-4555**
SafeWatch	**(619) 557-4500**
The Transit Store / Lost & Found *The Transit Store / Objetos extraviados*	**(619) 234-1060**
Articles found on the bus are turned in at The Transit Store *Artículos encontrados en los autobuses son entregados a The Transit Store*	1st & Broadway Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**www.sdmts.com**

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.

*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective JUNE 7, 2015

60

Euclid Transit Center – UTC

via I-15 Mid City / Kearny Mesa

DESTINATIONS

- The Boulevard Transit Plaza
- City Heights Transit Plaza
- Market Creek Plaza
- Westfield UTC

MTS Metropolitan Transit System

TROLLEY CONNECTIONS
Euclid Av.

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*

Route 60 – Monday through Friday / *lunes a viernes*

Euclid Trolley ➡ City Heights ➡ Kearny Mesa ➡ University City

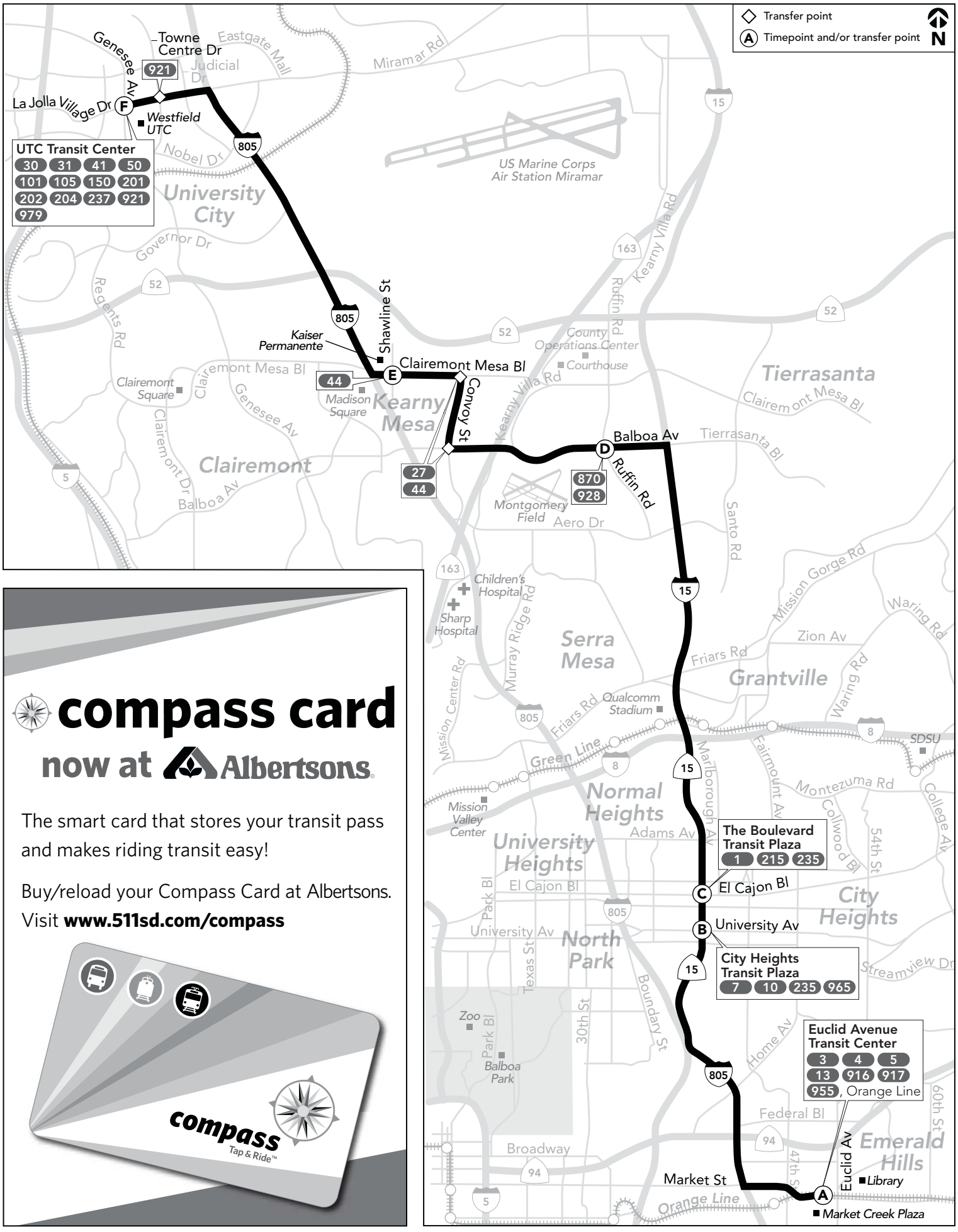
Ⓐ Euclid Ave. Transit Center **DEPART**	Ⓑ City Heights Transit Plaza (University Av.)	Ⓒ The Boulevard Transit Plaza (El Cajon Bl.)	Ⓓ Balboa Av. & Ruffin Rd.	Ⓔ Clairemont Mesa Bl. & Shawline St.	Ⓕ Genesee & La Jolla Village Dr. **ARRIVE**
5:08a	5:15a	5:17a	5:24a	5:34a	5:48a
5:23	5:30	5:32	5:39	5:49	—
5:38	5:45	5:47	5:54	6:04	6:18
5:53	6:01	6:03	6:11	6:21	—
6:08	6:16	6:18	6:26	6:36	6:51
6:23	6:32	6:34	6:43	6:54	—
6:38	6:47	6:49	6:58	7:09	7:25
7:08	7:17	7:19	7:30	7:42	8:00

University City ➡ Kearny Mesa ➡ City Heights ➡ Euclid Transit Center

Ⓕ La Jolla Village Dr. & Genesee **DEPART**	Ⓔ Clairemont Mesa Bl. & Shawline St.	Ⓓ Balboa Av. & Ruffin Rd.	Ⓒ The Boulevard Transit Plaza (El Cajon Bl.)	Ⓑ City Heights Transit Plaza (University Av.)	Ⓐ Euclid Ave. Transit Center **ARRIVE**
3:26p	**3:42p**	**3:55p**	**4:04p**	**4:06p**	**4:18p**
3:54	**4:11**	**4:26**	**4:35**	**4:37**	**4:49**
4:25	**4:42**	**4:57**	**5:06**	**5:08**	**5:20**
4:57	**5:14**	**5:29**	**5:38**	**5:40**	**5:52**
5:27	**5:44**	**5:59**	**6:08**	**6:10**	**6:22**
5:58	**6:14**	**6:27**	**6:36**	**6:38**	**6:50**

Route 60 does not operate on weekends or on the following holidays and observed holidays
La ruta 60 no ofrece servicio durante el fin de semana ó durante los siguientes días festivos y feriados observados

>>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas



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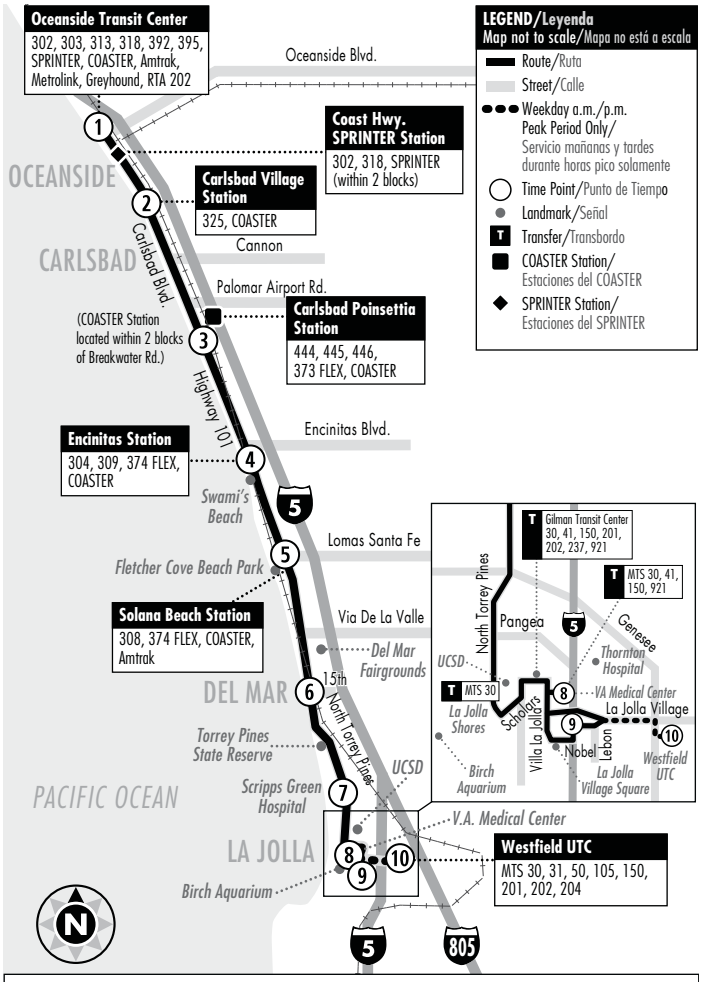
101 | Oceanside to V.A./UCSD via Highway 101

M-F • SA • SU • H

Destinations/Destinos
- Coast Hwy. SPRINTER Station
- University of California, San Diego
- V.A. Medical Center
- Scripps Green Hospital
- Carlsbad State Beach
- Del Mar Fairgrounds & Racetrack
- Cedros Design District, Solana Beach
- Birch Aquarium
- Salk Institute



UCSD students may ride free on all NCTD BREEZE routes and SPRINTER service by showing a valid UCSD ID and qualifying media (U-PASS sticker within expiration date printed on sticker). UCSD Faculty and Staff may ride with an ECO Pass Regional Transit Pass on a Compass Card. This program is sponsored by UCSD's Transportation and Parking Services Department. Contact UCSD for more information.

Transportation & Parking Services
University of California, San Diego
parking.ucsd.edu
Moving in the right direction.

Los estudiantes de UCSD podrán viajar gratis en todas las rutas de NCTD BREEZE y servicio de SPRINTER al mostrar una identificación válida de UCSD, que tenga medios de tarifas calicativos (Calcomanía U-PASS dentro de la fecha de vencimiento imprimida en la calcomanía). Facultad y Personal de UCSD pueden viajar con un pase de Transito Regional ECO Pass en una tarjeta Compass. Este programa está patrocinado por el Departamento de Servicios de Transporte y Estacionamientos de UCSD. Póngase en contacto con UCSD para más información.

101 | Oceanside to V.A./UCSD via Highway 101

Bold denotes P.M. times/Horarios en negritas son en la tarde

Monday - Friday
Southbound to V.A. Medical Center/UTC

Oceanside Transit Center	Carlsbad Village Station	Carlsbad Blvd. & Poinsettia Ln.	Encinitas Station	Highway 101 & Lomas Santa Fe Dr.	Camino Del Mar & 15th St.	Torrey Pines & Scripps	V.A. Medical Center	University Center Ln. & Nobel Dr.	Westfield UTC
1	2	3	4	5	6	7	8	9	10
5:05	5:16	5:30	5:46	5:58	6:07	6:19	6:33	–	6:44a
5:35	5:47	6:01	6:17	6:29	6:38	6:50	7:04	–	7:15
6:05	6:17	6:32	6:48	7:01	7:10	7:22	7:36	–	7:47
6:35	6:47	7:02	7:18	7:31	7:40	7:52	8:06	–	8:17
7:05	7:19	7:35	7:52	8:07	8:16	8:29	8:44	–	8:56
7:37	7:51	8:07	8:24	8:39	8:48	9:01	9:16	9:25	–
8:05	8:19	8:35	8:52	9:07	9:16	9:29	9:44	9:53	–
8:35	8:50	9:05	9:21	9:36	9:47	10:00	10:15	10:24	–
9:05	9:20	9:35	9:51	10:06	10:17	10:30	10:45	10:54	–
9:35	9:50	10:05	10:21	10:36	10:47	11:00	11:15	11:24	–
10:05	10:20	10:35	10:51	11:06	11:17	11:30	11:45	11:54	–
10:35	10:51	11:06	11:22	11:37	11:47	**12:00**	**12:16**	**12:26p**	**–**
11:05	11:21	11:36	11:52	**12:07**	**12:17**	**12:30**	**12:46**	**12:56**	**–**
11:35	11:51	**12:06**	**12:22**	**12:37**	**12:47**	**1:00**	**1:16**	**1:26**	**–**
12:05	**12:21**	**12:36**	**12:52**	**1:07**	**1:17**	**1:30**	**1:46**	**1:56**	**–**
12:35	**12:51**	**1:06**	**1:22**	**1:37**	**1:47**	**2:00**	**2:16**	**–**	**2:29**
1:05	**1:21**	**1:36**	**1:52**	**2:07**	**2:16**	**2:29**	**2:46**	**–**	**2:59**
1:35	**1:51**	**2:06**	**2:22**	**2:37**	**2:46**	**2:59**	**3:16**	**–**	**3:29**
2:05	**2:21**	**2:36**	**2:52**	**3:07**	**3:16**	**3:29**	**3:46**	**–**	**3:59**
2:35	**2:51**	**3:06**	**3:23**	**3:38**	**3:48**	**4:02**	**4:21**	**–**	**4:34**
3:05	**3:21**	**3:36**	**3:53**	**4:08**	**4:18**	**4:32**	**4:51**	**–**	**5:04**
3:35	**3:51**	**4:06**	**4:23**	**4:38**	**4:48**	**5:02**	**5:21**	**–**	**5:34**
4:05	**4:21**	**4:36**	**4:53**	**5:08**	**5:18**	**5:32**	**5:51**	**–**	**6:04**
4:35	**4:50**	**5:06**	**5:23**	**5:39**	**5:50**	**6:03**	**6:21**	**6:33**	**–**
5:05	**5:20**	**5:36**	**5:53**	**6:09**	**6:20**	**6:33**	**6:51**	**7:03**	**–**
5:35	**5:50**	**6:06**	**6:23**	**6:39**	**6:50**	**7:03**	**7:21**	**7:33**	**–**
6:05	**6:19**	**6:34**	**6:49**	**7:04**	**7:15**	**7:28**	**7:45**	**7:57**	**–**
6:35	**6:49**	**7:04**	**7:19**	**7:34**	**7:45**	**7:58**	**8:15**	**8:27**	**–**
7:35	**7:48**	**8:01**	**8:15**	**8:30**	**8:38**	**8:50**	**9:05**	**9:16**	**–**
8:39	**8:52**	**9:05**	**9:19**	**9:34**	**9:42**	**9:54**	**10:09**	**10:20**	**–**
9:54	**10:07**	**10:20**	**10:34**	**–**	**–**	**–**	**–**	**–**	**–**

101 | Oceanside to V.A./UCSD via Highway 101

Bold denotes P.M. times/Horarios en negritas son en la tarde

Monday - Friday
Northbound to Oceanside

Westfield UTC	University Center Ln. & Nobel Dr.	V.A. Medical Center	Torrey Pines & Scripps	Camino Del Mar & 15th St.	Highway 101 & Lomas Santa Fe Dr.	Encinitas Station	Carlsbad Blvd. & Poinsettia Ln.	Carlsbad Village Station	Oceanside Transit Center
10	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
–	–	–	–	–	–	5:47	5:59	6:12	6:22a
5:32	–	5:40	5:51	6:01	6:10	6:28	6:40	6:53	7:03
5:51	–	5:59	6:10	6:20	6:29	6:47	6:59	7:12	7:22
6:21	–	6:29	6:40	6:50	6:59	7:17	7:29	7:42	7:52
6:40	–	6:50	7:04	7:15	7:25	7:43	7:55	8:08	8:22
7:10	–	7:20	7:34	7:45	7:55	8:13	8:25	8:38	8:52
7:40	–	7:50	8:04	8:15	8:25	8:43	8:55	9:08	9:22
7:57	–	8:07	8:24	8:38	8:51	9:08	9:22	9:37	9:52
8:27	–	8:37	8:54	9:08	9:21	9:38	9:52	10:07	10:22
8:57	–	9:07	9:24	9:38	9:51	10:08	10:22	10:37	10:52
–	9:34	9:39	9:54	10:07	10:20	10:37	10:51	11:06	11:22
–	10:04	10:09	10:24	10:37	10:50	11:07	11:21	11:36	11:52
–	10:34	10:39	10:54	11:07	11:20	11:37	11:51	**12:06**	**12:22p**
–	11:04	11:09	11:24	11:37	11:50	**12:07**	**12:21**	**12:36**	**12:52**
–	11:34	11:39	11:54	**12:07**	**12:20**	**12:37**	**12:51**	**1:06**	**1:22**
–	11:59	**12:06**	**12:21**	**12:34**	**12:47**	**1:04**	**1:18**	**1:34**	**1:52**
–	**12:29**	**12:36**	**12:51**	**1:04**	**1:17**	**1:34**	**1:48**	**2:04**	**2:22**
–	**12:59**	**1:06**	**1:21**	**1:34**	**1:47**	**2:04**	**2:18**	**2:34**	**2:52**
–	**1:29**	**1:36**	**1:51**	**2:04**	**2:17**	**2:34**	**2:48**	**3:04**	**3:22**
–	**1:57**	**2:03**	**2:19**	**2:32**	**2:46**	**3:03**	**3:18**	**3:34**	**3:53**
2:22	**–**	**2:32**	**2:48**	**3:01**	**3:15**	**3:32**	**3:47**	**4:03**	**4:22**
2:52	**–**	**3:02**	**3:18**	**3:31**	**3:45**	**4:02**	**4:17**	**4:33**	**4:52**
3:08	**–**	**3:18**	**3:35**	**3:52**	**4:09**	**4:27**	**4:44**	**5:02**	**5:22**
3:38	**–**	**3:48**	**4:05**	**4:22**	**4:39**	**4:57**	**5:14**	**5:32**	**5:52**
4:08	**–**	**4:18**	**4:35**	**4:52**	**5:09**	**5:27**	**5:44**	**6:02**	**6:22**
4:38	**–**	**4:48**	**5:05**	**5:22**	**5:39**	**5:57**	**6:14**	**6:32**	**6:52**
5:02	**–**	**5:12**	**5:29**	**5:46**	**6:03**	**6:21**	**6:38**	**6:56**	**7:16**
5:38	**–**	**5:48**	**6:05**	**6:22**	**6:39**	**6:57**	**7:14**	**7:32**	**7:52**
–	**6:12**	**6:20**	**6:35**	**6:48**	**7:04**	**7:22**	**7:37**	**7:54**	**8:11**
–	**7:26**	**7:33**	**7:47**	**8:00**	**8:13**	**8:31**	**8:45**	**9:01**	**9:17**
–	**8:14**	**8:20**	**8:33**	**8:44**	**8:55**	**9:09**	**9:23**	**9:38**	**9:52**
–	**9:20**	**9:26**	**9:39**	**9:50**	**9:59**	**10:12**	**10:25**	**10:39**	**10:52**

101 | Oceanside to V.A./UCSD via Highway 101

Bold denotes P.M. times/Horarios en negritas son en la tarde

Saturday, Sunday & Holidays
Southbound to V.A. Medical Center

Oceanside Transit Center	Carlsbad Village Station	Carlsbad Blvd. & Poinsettia Ln.	Encinitas Station	Highway 101 & Lomas Santa Fe Dr.	Camino Del Mar & 15th St.	Torrey Pines & Scripps	V.A. Medical Center	University Center Ln. & Nobel Dr.
1	2	3	4	5	6	7	8	9
5:05	5:13	5:24	5:38	5:50	5:58	6:08	6:17	6:23a
5:40	5:50	6:01	6:15	6:28	6:36	6:46	6:55	7:01
6:35	6:46	6:58	7:13	7:26	7:34	7:45	7:54	8:00
7:05	7:16	7:28	7:43	7:56	8:04	8:15	8:24	8:30
7:35	7:47	8:00	8:15	8:29	8:37	8:48	8:59	9:05
8:05	8:17	8:31	8:46	9:00	9:08	9:20	9:31	9:37
8:35	8:47	9:01	9:16	9:30	9:38	9:50	10:01	10:07
9:05	9:17	9:31	9:46	10:00	10:08	10:20	10:31	10:39
9:35	9:48	10:02	10:17	10:32	10:40	10:52	11:03	11:11
10:05	10:18	10:32	10:47	11:02	11:10	11:22	11:33	11:41
10:35	10:50	11:04	11:19	11:35	11:43	11:55	**12:06**	**12:14p**
11:05	11:20	11:35	11:51	**12:07**	**12:15**	**12:27**	**12:40**	**12:48**
11:35	11:50	**12:05**	**12:21**	**12:37**	**12:45**	**12:57**	**1:10**	**1:18**
12:05	**12:21**	**12:37**	**12:53**	**1:09**	**1:17**	**1:29**	**1:42**	**1:50**
12:35	**12:51**	**1:07**	**1:23**	**1:39**	**1:47**	**1:59**	**2:12**	**2:20**
1:05	**1:21**	**1:37**	**1:53**	**2:09**	**2:17**	**2:29**	**2:42**	**2:50**
1:35	**1:51**	**2:07**	**2:23**	**2:39**	**2:47**	**2:59**	**3:12**	**3:20**
2:05	**2:21**	**2:37**	**2:53**	**3:09**	**3:18**	**3:30**	**3:43**	**3:51**
2:35	**2:51**	**3:07**	**3:23**	**3:39**	**3:48**	**4:00**	**4:13**	**4:21**
3:05	**3:21**	**3:37**	**3:53**	**4:09**	**4:18**	**4:30**	**4:43**	**4:51**
3:35	**3:50**	**4:05**	**4:20**	**4:36**	**4:45**	**4:57**	**5:10**	**5:18**
4:05	**4:20**	**4:35**	**4:50**	**5:06**	**5:15**	**5:27**	**5:40**	**5:48**
4:35	**4:50**	**5:05**	**5:20**	**5:36**	**5:45**	**5:57**	**6:10**	**6:18**
5:05	**5:20**	**5:35**	**5:50**	**6:06**	**6:15**	**6:27**	**6:40**	**6:48**
5:35	**5:48**	**6:02**	**6:17**	**6:32**	**6:41**	**6:53**	**7:07**	**7:15**
6:05	**6:18**	**6:32**	**6:47**	**7:02**	**7:11**	**7:23**	**7:37**	**7:45**
6:35	**6:47**	**7:01**	**7:16**	**7:31**	**7:40**	**7:52**	**8:06**	**8:14**
7:35	**7:47**	**8:00**	**8:14**	**8:29**	**8:38**	**8:50**	**9:01**	**9:09**
8:35	**8:47**	**9:00**	**9:14**	**9:29**	**9:38**	**9:50**	**10:01**	**10:09**

101 | Oceanside to V.A./UCSD via Highway 101

Bold denotes P.M. times/Horarios en negritas son en la tarde

Saturday, Sunday & Holidays
Northbound to Oceanside

University Center Ln. & Nobel Dr.	V.A. Medical Center	Torrey Pines & Scripps	Camino Del Mar & 15th St.	Highway 101 & Lomas Santa Fe Dr.	Encinitas Station	Carlsbad Blvd. & Poinsettia Ln.	Carlsbad Village Station	Oceanside Transit Center
9	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
–	–	–	–	–	5:46	5:57	6:10	6:25a
–	–	–	–	–	6:43	6:54	7:07	7:22
6:18	6:22	6:34	6:44	6:56	7:13	7:24	7:37	7:52
6:48	6:52	7:04	7:14	7:26	7:43	7:54	8:07	8:22
7:18	7:22	7:34	7:44	7:56	8:13	8:24	8:37	8:52
7:48	7:52	8:04	8:14	8:26	8:43	8:54	9:07	9:22
8:11	8:15	8:27	8:41	8:53	9:10	9:23	9:37	9:52
8:41	8:45	8:57	9:11	9:23	9:40	9:53	10:07	10:22
9:06	9:10	9:23	9:36	9:49	10:06	10:20	10:35	10:52
9:36	9:40	9:53	10:06	10:19	10:36	10:50	11:05	11:22
10:06	10:10	10:23	10:36	10:49	11:06	11:20	11:35	11:52
10:36	10:40	10:53	11:06	11:19	11:36	11:50	**12:05**	**12:22p**
11:03	11:08	11:21	11:34	11:47	**12:03**	**12:17**	**12:33**	**12:52**
11:33	11:38	11:51	**12:04**	**12:17**	**12:33**	**12:47**	**1:03**	**1:22**
12:01	**12:06**	**12:20**	**12:33**	**12:47**	**1:03**	**1:17**	**1:33**	**1:52**
12:34	**12:38**	**12:52**	**1:05**	**1:18**	**1:34**	**1:48**	**2:04**	**2:22**
1:04	**1:08**	**1:22**	**1:35**	**1:48**	**2:04**	**2:18**	**2:34**	**2:52**
1:34	**1:38**	**1:52**	**2:05**	**2:18**	**2:34**	**2:48**	**3:04**	**3:22**
2:01	**2:05**	**2:19**	**2:32**	**2:46**	**3:02**	**3:17**	**3:34**	**3:52**
2:31	**2:35**	**2:49**	**3:02**	**3:16**	**3:32**	**3:47**	**4:04**	**4:22**
3:01	**3:05**	**3:19**	**3:32**	**3:46**	**4:02**	**4:17**	**4:34**	**4:52**
3:31	**3:35**	**3:49**	**4:02**	**4:16**	**4:32**	**4:47**	**5:04**	**5:22**
4:01	**4:05**	**4:19**	**4:32**	**4:46**	**5:02**	**5:17**	**5:34**	**5:52**
4:31	**4:35**	**4:49**	**5:02**	**5:16**	**5:32**	**5:47**	**6:04**	**6:22**
5:01	**5:05**	**5:19**	**5:32**	**5:46**	**6:02**	**6:17**	**6:34**	**6:52**
5:31	**5:35**	**5:49**	**6:02**	**6:16**	**6:32**	**6:47**	**7:04**	**7:22**
6:01	**6:05**	**6:19**	**6:32**	**6:46**	**7:02**	**7:17**	**7:34**	**7:52**
7:04	**7:08**	**7:22**	**7:35**	**7:48**	**8:05**	**8:19**	**8:35**	**8:52**
8:12	**8:16**	**8:30**	**8:41**	**8:51**	**9:07**	**9:21**	**9:36**	**9:52**
9:15	**9:18**	**9:30**	**9:41**	**9:51**	**10:07**	**10:21**	**10:36**	**10:52**

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*

Day Pass (Regional) / *Pase diario (Regional)* Compass Card required ($2) / *Se requiere un Compass Card ($2)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.25
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.10*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for $2 at select outlets. A $5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional $2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por $2 en selectas sucursales. Un pase de un día por $5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de $2.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 557-4555**
SafeWatch	**(619) 557-4500**
The Transit Store / Lost & Found *The Transit Store / Objetos extraviados*	**(619) 234-1060**
Articles found on the bus are turned in at The Transit Store *Artículos encontrados en los autobuses son entregados a The Transit Store*	1st & Broadway Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**www.sdmts.com**

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.
*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective SEPTEMBER 6, 2015

105

Old Town – UTC

via Morena Bl. / Clairemont Dr.

DESTINATIONS

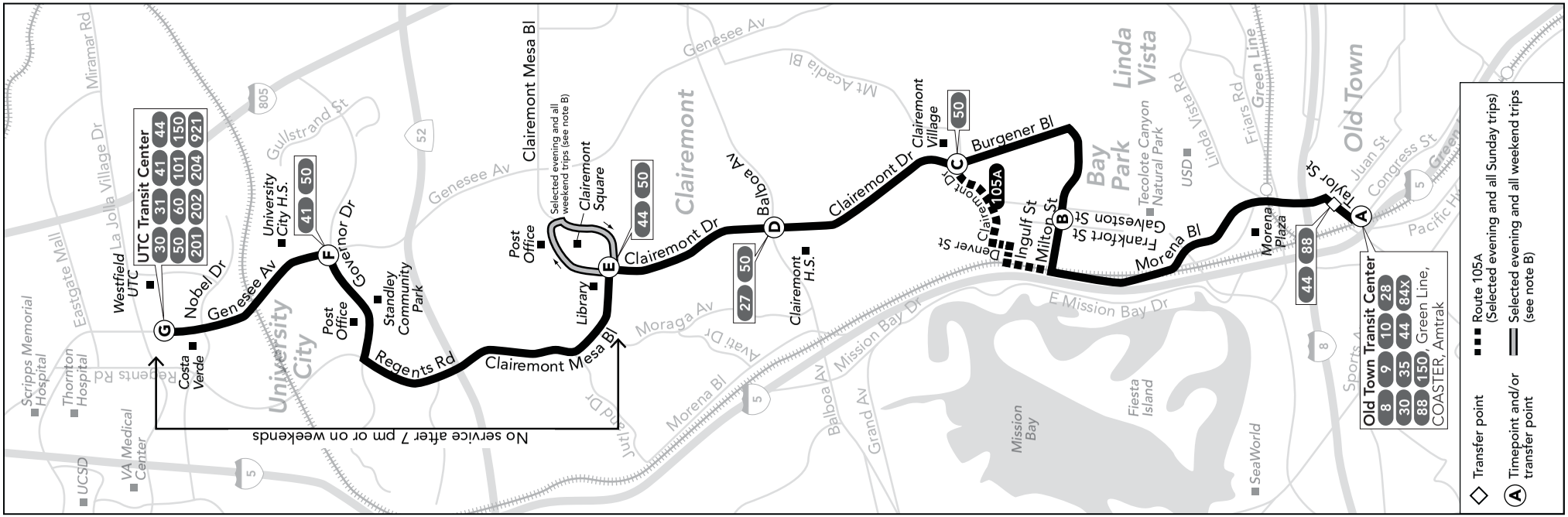
- Bay Park
- Clairemont High School
- Clairemont Square
- University City High School

TROLLEY CONNECTIONS
Old Town

MTS Metropolitan Transit System

09/15

Alternative formats available upon request. Please call: (619) 557-4555 / *Formato alternativo disponible al preguntar. Favor de llamar: (619) 557-4555*



The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.
Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

Route 105 – Monday through Friday / *lunes a viernes*

Old Town ➡ Clairemont ➡ University City

	Ⓐ Old Town Transit Ctr. **DEPART**	Ⓑ Milton St. & Galveston St.	Ⓒ Clairemont Dr. & Burgener Bl.	Ⓓ Clairemont Dr. & Balboa Av.	Ⓔ Clairemont Mesa Bl. & Clairemt. Dr.	Ⓕ Genesee Av. & Governor Dr.	Ⓖ UTC Transit Ctr. **ARRIVE**
	5:12a	5:21a	5:27a	5:32a	5:36a	5:42a	5:49a
	5:42	5:51	5:57	6:02	6:06	6:12	6:19
	6:13	6:23	6:29	6:35	6:40	6:48	6:55
	6:43	6:53	6:59	7:05	7:10	7:18	7:25
	7:13	7:23	7:29	7:35	7:40	7:48	7:55
	7:43	7:53	7:59	8:05	8:10	8:18	8:25
	8:13	8:23	8:29	8:35	8:40	8:48	8:57
	8:43	8:53	8:59	9:05	9:10	9:18	9:27
	9:13	9:23	9:29	9:35	9:40	9:48	9:57
	9:43	9:53	9:59	10:04	10:09	10:16	10:25
	AND THEN EVERY 30 MINUTES AT: / Y LUEGO CADA 30 MINUTOS A LAS:						
	:13	:23	:29	:34	:39	:46	:55
	:43	:53	:59	:04	:09	:16	:25
	UNTIL: / HASTA:						
	1:13p	**1:23p**	**1:29p**	**1:34p**	**1:39p**	**1:46p**	**1:55p**
	1:43	**1:53**	**1:59**	**2:05**	**2:10**	**2:18**	**2:27**
	2:13	**2:23**	**2:29**	**2:35**	**2:40**	**2:48**	**2:54**
	2:43	**2:53**	**2:59**	**3:05**	**3:10**	**3:18**	**3:24**
	3:13	**3:23**	**3:29**	**3:35**	**3:40**	**3:48**	**3:54**
	3:43	**3:53**	**4:00**	**4:06**	**4:12**	**4:20**	**4:27**
	4:13	**4:23**	**4:30**	**4:36**	**4:42**	**4:50**	**4:57**
	4:43	**4:53**	**5:00**	**5:06**	**5:12**	**5:20**	**5:27**
	5:13	**5:23**	**5:30**	**5:36**	**5:42**	**5:50**	**5:57**
	5:43	**5:53**	**6:00**	**6:06**	**6:12**	**6:20**	**6:27**
	6:13	**6:22**	**6:29**	**6:34**	**6:40**	**6:47**	**6:56**
	6:43	**6:52**	**6:59**	**7:04**	**7:10**	**7:17**	**7:26**
A	**7:13**	**—**	**7:23**	**7:28**	**7:32**	**—**	**—**
A	**8:13**	**—**	**8:22**	**8:26**	**8:30**	**—**	**—**
A	**9:13**	**—**	**9:22**	**9:26**	**9:30**	**—**	**—**
A	**10:13**	**—**	**10:22**	**10:26**	**10:30**	**—**	**—**

University City ➡ Clairemont ➡ Old Town

	Ⓖ UTC Transit Ctr. **DEPART**	Ⓕ Genesee Av. & Governor Dr.	Ⓔ Clairemt. Dr. & Clairemont Mesa Bl.	Ⓓ Clairemont Dr. & Balboa Av.	Ⓒ Burgener Bl. & Clairemont Dr.	Ⓑ Milton St. & Galveston St.	Ⓐ Old Town Transit Ctr. **ARRIVE**
	—	—	—	5:11a	5:16a	5:21a	5:31a
	5:23a	5:28a	5:37a	5:41	5:46	5:51	6:01
	5:53	5:58	6:07	6:11	6:16	6:21	6:31
	6:18	6:24	6:35	6:39	6:45	6:50	7:01
	6:48	6:54	7:05	7:09	7:15	7:20	7:31
	7:18	7:24	7:35	7:39	7:45	7:50	8:01
	7:48	7:54	8:05	8:09	8:15	8:20	8:31
	8:18	8:24	8:35	8:39	8:45	8:50	9:01
	8:48	8:54	9:05	9:09	9:15	9:20	9:31
	9:19	9:25	9:35	9:39	9:44	9:49	10:00
	AND THEN EVERY 30 MINUTES AT: / Y LUEGO CADA 30 MINUTOS A LAS:						
	:49	:55	:05	:09	:14	:19	:30
	:19	:25	:35	:39	:44	:49	:00
	UNTIL: / HASTA:						
	12:49p	**12:55p**	**1:05p**	**1:09p**	**1:14p**	**1:19p**	**1:30p**
	1:19	**1:25**	**1:35**	**1:39**	**1:44**	**1:49**	**2:00**
	1:47	**1:54**	**2:04**	**2:08**	**2:14**	**2:19**	**2:30**
	2:17	**2:24**	**2:34**	**2:38**	**2:44**	**2:49**	**3:00**
	2:48	**2:55**	**3:05**	**3:09**	**3:15**	**3:20**	**3:31**
	3:18	**3:25**	**3:35**	**3:39**	**3:45**	**3:50**	**4:01**
	3:46	**3:54**	**4:05**	**4:09**	**4:15**	**4:20**	**4:32**
	4:16	**4:24**	**4:35**	**4:39**	**4:45**	**4:50**	**5:02**
	4:46	**4:54**	**5:05**	**5:09**	**5:15**	**5:20**	**5:32**
	5:16	**5:24**	**5:35**	**5:39**	**5:45**	**5:50**	**6:02**
	5:46	**5:54**	**6:05**	**6:09**	**6:15**	**6:20**	**6:32**
	6:20	**6:27**	**6:37**	**6:41**	**6:46**	**6:51**	**7:02**
	6:53	**6:59**	**7:08**	**7:12**	**7:17**	**7:21**	**7:31**
	—	**—**	**AB 7:43**	**7:47**	**7:51**	**—**	**8:01**
	—	**—**	**AB 8:43**	**8:47**	**8:51**	**—**	**9:01**
	—	**—**	**AB 9:43**	**9:47**	**9:51**	**—**	**10:01**

Route 105 – Saturday / *sábado*

Old Town ➡ Clairemont

	Ⓐ Old Town Transit Ctr. **DEPART**	Ⓑ Milton St. & Galveston St.	Ⓒ Clairemont Dr. & Burgener Bl.	Ⓓ Clairemont Dr. & Balboa Av.	Ⓔ Clairemont Mesa Bl. & Clairemt. Dr.	Ⓕ Genesee Av. & Governor Dr.	Ⓖ UTC Transit Ctr. **ARRIVE**
	6:14a	6:22a	6:28a	6:32a	6:36a	—	—
	7:13	7:21	7:27	7:31	7:35	—	—
	8:13	8:21	8:27	8:31	8:36	—	—
	9:13	9:21	9:27	9:31	9:36	—	—
	10:13	10:22	10:28	10:33	10:38	—	—
	11:13	11:22	11:28	11:33	11:38	—	—
	12:13p	**12:22p**	**12:28p**	**12:33p**	**12:38p**	**—**	**—**
	1:13	**1:22**	**1:28**	**1:33**	**1:38**	**—**	**—**
	2:13	**2:22**	**2:28**	**2:33**	**2:38**	**—**	**—**
	3:13	**3:22**	**3:28**	**3:33**	**3:38**	**—**	**—**
	4:13	**4:22**	**4:28**	**4:33**	**4:38**	**—**	**—**
	5:13	**5:22**	**5:28**	**5:33**	**5:37**	**—**	**—**
	6:13	**6:22**	**6:28**	**6:33**	**6:37**	**—**	**—**
A	**7:13**	**—**	**7:23**	**7:28**	**7:32**	**—**	**—**
A	**8:30**	**—**	**8:39**	**8:43**	**8:47**	**—**	**—**

Clairemont ➡ Old Town

	Ⓖ UTC Transit Ctr. **DEPART**	Ⓕ Genesee Av. & Governor Dr.	Ⓔ Clairemt. Dr. & Clairemont Mesa Bl.	Ⓓ Clairemont Dr. & Balboa Av.	Ⓒ Burgener Bl. & Clairemont Dr.	Ⓑ Milton St. & Galveston St.	Ⓐ Old Town Transit Ctr. **ARRIVE**
	—	—	**B** 6:56a	7:00a	7:04a	7:08a	7:17a
	—	—	**B** 7:56	8:00	8:04	8:08	8:17
	—	—	**B** 8:54	8:58	9:03	9:08	9:17
	—	—	**B** 9:54	9:58	10:03	10:08	10:17
	—	—	**B** 10:54	10:58	11:03	11:08	11:17
	—	—	**B** 11:54	11:58	**12:03p**	**12:08p**	**12:17p**
	—	**—**	**B 12:54p**	**12:58p**	**1:03**	**1:08**	**1:17**
	—	**—**	**B 1:54**	**1:58**	**2:03**	**2:08**	**2:17**
	—	**—**	**B 2:54**	**2:58**	**3:03**	**3:08**	**3:17**
	—	**—**	**B 3:53**	**3:57**	**4:02**	**4:07**	**4:17**
	—	**—**	**B 4:53**	**4:57**	**5:02**	**5:07**	**5:17**
	—	**—**	**B 5:54**	**5:58**	**6:03**	**6:08**	**6:17**
	—	**—**	**B 6:54**	**6:58**	**7:03**	**7:08**	**7:17**
	—	**—**	**AB 7:59**	**8:03**	**8:07**	**—**	**8:17**

Route 105A – Sunday / *domingo*

Old Town ➡ Clairemont

	Ⓐ Old Town Transit Ctr. **DEPART**	Ⓑ Milton St. & Galveston St.	Ⓒ Clairemont Dr. & Burgener Bl.	Ⓓ Clairemont Dr. & Balboa Av.	Ⓔ Clairemont Mesa Bl. & Clairemt. Dr.	Ⓕ Genesee Av. & Governor Dr.	Ⓖ UTC Transit Ctr. **ARRIVE**
A	7:28a	—	7:37a	7:41a	7:45a	—	—
A	8:28	—	8:37	8:41	8:46	—	—
A	9:28	—	9:37	9:41	9:46	—	—
A	10:28	—	10:38	10:43	10:48	—	—
A	11:28	—	11:38	11:43	11:48	—	—
A	**12:28p**	**—**	**12:38p**	**12:43p**	**12:48p**	**—**	**—**
A	**1:28**	**—**	**1:38**	**1:43**	**1:48**	**—**	**—**
A	**2:28**	**—**	**2:38**	**2:43**	**2:48**	**—**	**—**
A	**3:28**	**—**	**3:38**	**3:43**	**3:48**	**—**	**—**
A	**4:28**	**—**	**4:38**	**4:43**	**4:48**	**—**	**—**
A	**5:28**	**—**	**5:38**	**5:43**	**5:47**	**—**	**—**
A	**6:28**	**—**	**6:38**	**6:43**	**6:47**	**—**	**—**
A	**7:28**	**—**	**7:38**	**7:43**	**7:47**	**—**	**—**
A	**8:30**	**—**	**8:39**	**8:43**	**8:47**	**—**	**—**

Clairemont ➡ Old Town

	Ⓖ UTC Transit Ctr. **DEPART**	Ⓕ Genesee Av. & Governor Dr.	Ⓔ Clairemt. Dr. & Clairemont Mesa Bl.	Ⓓ Clairemont Dr. & Balboa Av.	Ⓒ Clairemont Dr. & Burgener Bl.	Ⓑ Milton St. & Galveston St.	Ⓐ Old Town Transit Ctr. **ARRIVE**
	—	—	**AB** 6:59a	7:03a	7:07a	—	7:17a
	—	—	**AB** 7:59	8:03	8:07	—	8:17
	—	—	**AB** 8:57	9:01	9:06	—	9:17
	—	—	**AB** 9:57	10:01	10:06	—	10:17
	—	—	**AB** 10:58	11:02	11:07	—	11:18
	—	—	**AB** 11:58	**12:02p**	**12:07p**	**—**	**12:18p**
	—	**—**	**AB 12:58p**	**1:02**	**1:07**	**—**	**1:18**
	—	**—**	**AB 1:58**	**2:02**	**2:07**	**—**	**2:18**
	—	**—**	**AB 2:58**	**3:02**	**3:07**	**—**	**3:18**
	—	**—**	**AB 3:57**	**4:01**	**4:06**	**—**	**4:18**
	—	**—**	**AB 4:57**	**5:01**	**5:06**	**—**	**5:18**
	—	**—**	**AB 5:57**	**6:01**	**6:06**	**—**	**6:17**
	—	**—**	**AB 6:57**	**7:01**	**7:06**	**—**	**7:17**
	—	**—**	**AB 7:59**	**8:03**	**8:07**	**—**	**8:17**

A = Route 105A: Operates via Denver St. Does not serve Milton St. or Burgener Bl. / *Ruta 105A: Opera a través de Denver St. No ofrece servicio a Milton St. o Burgener Bl.*
B = Trip begins 3 minutes earlier on Clairemont Dr. north of Clairemont Mesa Bl. (Clairemont Square) / *Viaje comienza 3 minutos antes en Clairemont Dr. al norte de Clairemont Mesa Bl. (Clairemont Square)*

A Saturday or Sunday schedule will be operated on the following holidays and observed holidays
Se operará con horario de sábado o domingo durante los siguientes días festivos y feriados observados

>>> New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, Christmas

CASH FARES / *Tarifas en efectivo*

Exact fare, please / *Favor de pagar la cantidad exacta*

Day Pass (Regional) / *Pase diario (Regional)* Compass Card required ($2) / *Se requiere un Compass Card ($2)*	$5.00
One-Way Fare / *Tarifa de una direccíon*	$2.25
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$1.10*
Children 5 & under / *Niños de 5 años o menos* Up to two children ride free per paying adult / *Máximo dos niños viajan gratis por cada adulto*	FREE / *GRATIS*

MONTHLY PASSES / *Pases mensual*

Adult / *Adulto*	$72.00
Senior (60+)/Disabled/Medicare *Mayores de 60 años/Discapacitados/Medicare*	$18.00*
Youths (18 and under) *Jóvenes (18 años o menos)*	$36.00*

*I.D. required for discount fare or pass.
**Se requiere identificación para tarifas o pases de descuento.*

DAY PASS (REGIONAL) / *Pase diario (Regional)*

All passes are sold on Compass Card, which can be reloaded and reused for up to five years. Compass Cards are available for $2 at select outlets. A $5 Day Pass requires a Compass Card. A paper Day Pass can be purchased on board buses for an additional $2 fee.

Todos los pases se venden en el Compass Card, el cual puede ser recargado y reutilizado por hasta cinco años. Compass Cards están disponibles por $2 en selectas sucursales. Un pase de un día por $5 requiere un Compass Card. Un pase de un día de papel se puede obtener a bordo los autobuses por un costo adicional de $2.

DIRECTORY / *Directorio*

Regional Transit Information *Información de transporte público regional*	**511** or/ó **(619) 233-3004**
TTY/TDD (teletype for hearing impaired) *Teletipo para sordos*	**(619) 234-5005** or/ó **(888) 722-4889**
InfoExpress (24-hour info via Touch-Tone phone) *Información las 24 horas (via teléfono de teclas)*	**(619) 685-4900**
Customer Service / Suggestions *Servicio al cliente / Sugerencias*	**(619) 557-4555**
SafeWatch	**(619) 557-4500**
The Transit Store / Lost & Found *The Transit Store / Objetos extraviados*	**(619) 234-1060**
Articles found on the bus are turned in at The Transit Store *Artículos encontrados en los autobuses son entregados a The Transit Store*	1st & Broadway Downtown San Diego M–F 9am–5pm
For MTS online trip planning *Planificación de viajes por Internet*	**www.sdmts.com**

For more information on riding MTS services, pick up a Rider's Guide on a bus or at The Transit Store, or visit **www.sdmts.com**.

*Para obtener más información sobre el uso de los servicios de MTS, recoja un 'Rider's Guide' en un autobús o en The Transit Store, o visita a **www.sdmts.com**.*

Thank you for riding MTS! ***¡Gracias por viajar con MTS!***

Effective SEPTEMBER 6, 2015

SuperLoop Rapid

201/202

UTC Transit Center – UC San Diego
via UC San Diego Medical Center or Nobel Dr.

204

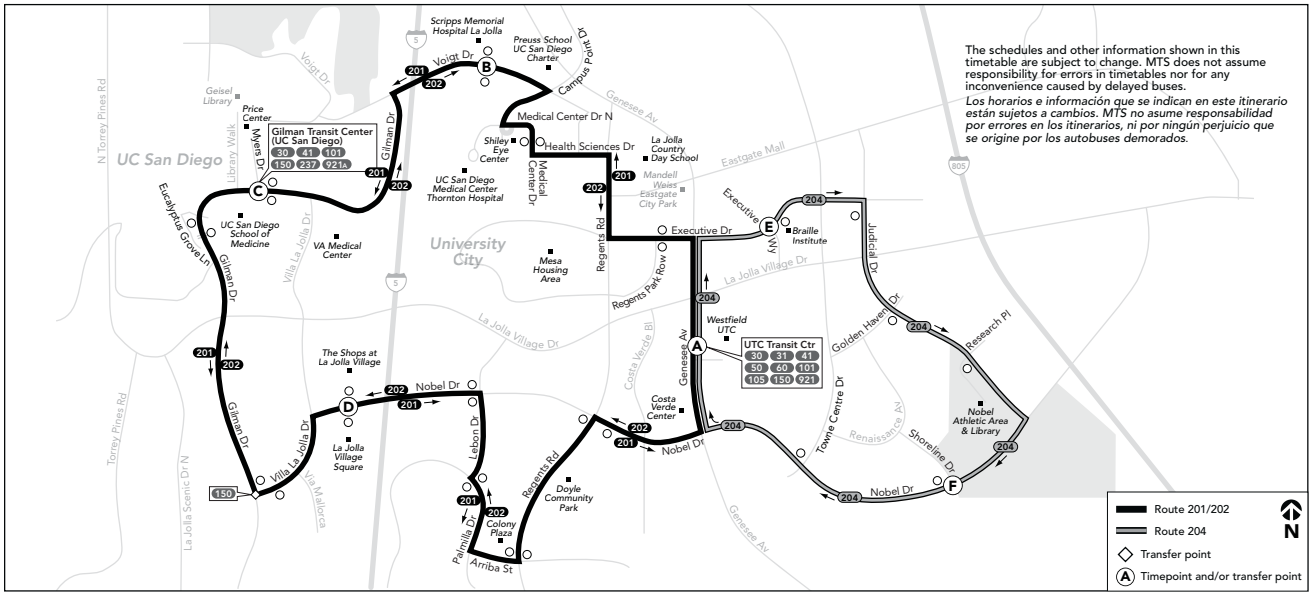
UTC East Loop
via Executive Dr. / Judicial Dr. / Nobel Dr.

DESTINATIONS

- Colony Plaza
- Costa Verde Center
- La Jolla Village Square/Shops at La Jolla Village
- Nobel Athletic Area & Library
- Scripps Memorial Hospital
- UC San Diego Medical Center (La Jolla)
- Westfield UTC

MTS Metropolitan Transit System

09/15



The schedules and other information shown in this timetable are subject to change. MTS does not assume responsibility for errors in timetables nor for any inconvenience caused by delayed buses.

Los horarios e información que se indican en este itinerario están sujetos a cambios. MTS no asume responsabilidad por errores en los itinerarios, ni por ningún perjuicio que se origine por los autobuses demorados.

Route 204 – Monday through Friday / *lunes a viernes*

UTC ➡ Executive Dr. ➡ Judicial Dr. ➡ Nobel Dr. ➡ UTC

Ⓐ UTC Transit Center **DEPART**	Ⓔ Executive Dr. & Executive Wy.	Ⓕ Nobel Dr. & Shoreline Dr.	Ⓐ UTC Transit Center **ARRIVE**
5:47a	5:50a	5:55a	6:00a
6:02	6:05	6:10	6:15
6:17	6:20	6:25	6:30
6:32	6:35	6:40	6:45
6:47	6:51	6:56	7:02
7:02	7:06	7:11	7:17
7:17	7:21	7:26	7:32
7:32	7:36	7:41	7:47
7:47	7:51	7:56	8:02
8:02	8:06	8:11	8:17
8:17	8:21	8:26	8:32
8:32	8:36	8:41	8:47
8:47	8:51	8:56	9:02
9:02	9:06	9:11	9:17
9:17	9:21	9:26	9:32
9:32	9:36	9:41	9:47
9:47	9:51	9:56	10:02
10:02	10:06	10:11	10:17
10:17	10:21	10:26	10:32
10:32	10:36	10:41	10:47
10:47	10:51	10:56	11:02
11:02	11:06	11:11	11:17
11:17	11:21	11:26	11:32
11:32	11:36	11:41	11:47
11:47	11:51	11:56	**12:02p**
12:02p	**12:06p**	**12:11p**	**12:17**
12:22	**12:26**	**12:31**	**12:37**
12:37	**12:41**	**12:46**	**12:52**
12:52	**12:56**	**1:01**	**1:07**
1:07	**1:11**	**1:16**	**1:22**
1:22	**1:26**	**1:31**	**1:37**
AND THEN EVERY 15 MINUTES AT: / *Y LUEGO CADA 15 MINUTOS A LAS:*			
:37	**:41**	**:46**	**:52**
:52	**:56**	**:01**	**:07**
:07	**:11**	**:16**	**:22**
:22	**:26**	**:31**	**:37**
UNTIL: / *HASTA:*			
6:37	**6:41**	**6:46**	**6:52**
6:52	**6:56**	**7:00**	**7:05**
7:05	**7:09**	**7:13**	**7:18**
7:20	**7:24**	**7:28**	**7:33**
7:38	**7:42**	**7:46**	**7:51**
7:54	**7:58**	**8:02**	**8:07**
8:07	**8:11**	**8:15**	**8:20**
8:22	**8:26**	**8:30**	**8:35**
8:37	**8:41**	**8:45**	**8:50**
8:52	**8:56**	**9:00**	**9:05**
9:07	**9:11**	**9:15**	**9:20**
9:22	**9:26**	**9:30**	**9:35**
9:37	**9:41**	**9:45**	**9:50**
9:52	**9:56**	**10:00**	**10:05**

Route 204 – Saturday and Sunday / *sábado y domingo*

UTC ➡ Executive Dr. ➡ Judicial Dr. ➡ Nobel Dr. ➡ UTC

Ⓐ UTC Transit Center **DEPART**	Ⓔ Executive Dr. & Executive Wy.	Ⓕ Nobel Dr. & Shoreline Dr.	Ⓐ UTC Transit Center **ARRIVE**
5:50a	5:53a	5:58a	6:03a
6:05	6:08	6:13	6:18
6:20	6:23	6:28	6:33
6:35	6:38	6:43	6:48
6:50	6:53	6:58	7:03
7:05	7:08	7:13	7:18
7:20	7:23	7:28	7:33
7:35	7:38	7:43	7:48
7:50	7:53	7:58	8:03
8:05	8:08	8:13	8:18
8:18	8:22	8:27	8:33
AND THEN EVERY 15 MINUTES AT: / *Y LUEGO CADA 15 MINUTOS A LAS:*			
:33	*:37*	*:42*	*:48*
:48	*:52*	*:57*	*:03*
:03	*:07*	*:12*	*:18*
:18	*:22*	*:27*	*:33*
UNTIL: / *HASTA:*			
11:33	11:37	11:42	11:48
11:48	11:52	11:57	**12:03p**
12:13p	**12:17p**	**12:22p**	**12:28**
12:38	**12:42**	**12:47**	**12:53**
AND THEN EVERY 15 MINUTES AT: / *Y LUEGO CADA 15 MINUTOS A LAS:*			
:53	**:57**	**:02**	**:08**
:08	**:12**	**:17**	**:23**
:23	**:27**	**:32**	**:38**
:38	**:42**	**:47**	**:53**
UNTIL: / *HASTA:*			
5:53	**5:57**	**6:02**	**6:08**
6:09	**6:13**	**6:18**	**6:24**
6:24	**6:28**	**6:33**	**6:39**
6:39	**6:43**	**6:48**	**6:54**
6:54	**6:58**	**7:02**	**7:07**
7:09	**7:13**	**7:17**	**7:22**
7:22	**7:26**	**7:30**	**7:35**
7:37	**7:41**	**7:45**	**7:50**
7:52	**7:56**	**8:00**	**8:05**
8:07	**8:11**	**8:15**	**8:20**
8:22	**8:26**	**8:30**	**8:35**
8:37	**8:41**	**8:45**	**8:50**
8:52	**8:56**	**9:00**	**9:05**
9:07	**9:11**	**9:15**	**9:20**
9:20	**9:24**	**9:28**	**9:33**
9:35	**9:39**	**9:43**	**9:48**
9:50	**9:54**	**9:58**	**10:03**

Alternative formats available upon request. Please call:
(619) 557-4555

Formato alternativo disponible al preguntar. Favor de llamar:
(619) 557-4555

Route 201 – Monday through Friday / *lunes a viernes*

UTC ➡ UCSD Med. Ctr. ➡ UCSD ➡ La Jolla Village Square ➡ UTC

Ⓐ UTC Transit Center **DEPART**	Ⓑ Scripps Memorial Hospital	Ⓒ Gilman Transit Center (UC San Diego)	Ⓓ Nobel Dr. & La Jolla Village Square	Ⓐ UTC Transit Center **ARRIVE**
5:50a	5:57a	6:01a	6:06a	6:15a
6:05	6:12	6:16	6:21	6:30
6:20	6:27	6:31	6:36	6:45
6:35	6:43	6:48	6:53	7:03
6:50	6:58	7:03	7:08	7:18
7:05	7:14	7:19	7:25	7:35
7:20	7:29	7:34	7:40	7:50
7:35	7:44	7:49	7:55	8:05
7:45	7:54	7:59	8:05	8:15
7:55	8:04	8:09	8:15	8:25
8:05	8:14	8:19	8:25	8:35
8:15	8:24	8:29	8:35	8:45
8:25	8:34	8:39	8:45	8:55
8:35	8:44	8:49	8:55	9:05
8:45	8:54	8:59	9:05	9:15
8:55	9:04	9:09	9:15	9:25
9:05	9:14	9:19	9:25	9:35
9:15	9:24	9:29	9:35	9:45
9:25	9:34	9:39	9:45	9:55
9:35	9:44	9:49	9:55	10:05
9:45	9:54	9:59	10:05	10:15
9:55	10:04	10:09	10:15	10:25
10:05	10:14	10:19	10:25	10:35
10:15	10:24	10:29	10:35	10:45
10:25	10:34	10:39	10:45	10:55
10:35	10:44	10:49	10:55	11:05
10:45	10:54	10:59	11:05	11:15
10:55	11:04	11:09	11:15	11:25
11:10	11:19	11:24	11:31	11:42
11:25	11:34	11:39	11:46	11:57
11:40	11:49	11:54	**12:01p**	**12:12p**
11:55	**12:04p**	**12:09p**	**12:16**	**12:27**
12:10p	**12:19**	**12:24**	**12:31**	**12:42**
12:25	**12:34**	**12:39**	**12:46**	**12:57**
12:40	**12:49**	**12:54**	**1:01**	**1:12**
12:55	**1:04**	**1:09**	**1:16**	**1:27**
1:10	**1:19**	**1:24**	**1:31**	**1:42**
1:25	**1:34**	**1:39**	**1:46**	**1:57**
1:35	**1:44**	**1:49**	**1:56**	**2:07**
1:45	**1:54**	**1:59**	**2:06**	**2:17**
1:55	**2:04**	**2:09**	**2:16**	**2:27**
2:05	**2:14**	**2:19**	**2:26**	**2:37**
2:15	**2:24**	**2:29**	**2:36**	**2:47**
2:25	**2:34**	**2:39**	**2:46**	**2:57**
2:35	**2:44**	**2:50**	**2:57**	**3:08**
2:45	**2:54**	**3:00**	**3:07**	**3:18**
2:55	**3:04**	**3:10**	**3:17**	**3:28**
3:05	**3:14**	**3:20**	**3:27**	**3:38**
3:15	**3:24**	**3:30**	**3:37**	**3:48**
3:25	**3:34**	**3:40**	**3:47**	**3:58**
3:35	**3:44**	**3:50**	**3:57**	**4:08**
3:45	**3:54**	**4:00**	**4:07**	**4:18**
3:55	**4:04**	**4:10**	**4:17**	**4:28**
4:05	**4:14**	**4:20**	**4:27**	**4:38**
4:15	**4:24**	**4:30**	**4:37**	**4:48**
4:25	**4:34**	**4:40**	**4:47**	**4:58**
4:35	**4:44**	**4:50**	**4:57**	**5:08**
4:45	**4:54**	**5:00**	**5:07**	**5:18**
4:55	**5:04**	**5:10**	**5:17**	**5:28**
5:05	**5:14**	**5:20**	**5:27**	**5:38**
5:15	**5:24**	**5:30**	**5:37**	**5:48**
5:25	**5:34**	**5:40**	**5:47**	**5:58**
5:35	**5:44**	**5:50**	**5:57**	**6:08**
5:45	**5:54**	**6:00**	**6:07**	**6:18**
5:55	**6:04**	**6:10**	**6:17**	**6:28**
6:05	**6:14**	**6:20**	**6:27**	**6:38**
6:15	**6:24**	**6:30**	**6:37**	**6:48**
6:25	**6:34**	**6:40**	**6:47**	**6:58**
6:35	**6:44**	**6:50**	**6:57**	**7:08**
6:45	**6:53**	**6:58**	**7:05**	**7:16**
6:55	**7:03**	**7:08**	**7:15**	**7:26**
7:05	**7:13**	**7:18**	**7:25**	**7:36**
7:20	**7:28**	**7:33**	**7:40**	**7:51**
7:35	**7:42**	**7:47**	**7:54**	**8:04**
7:50	**7:57**	**8:02**	**8:09**	**8:19**
8:05	**8:12**	**8:17**	**8:24**	**8:34**
8:20	**8:27**	**8:32**	**8:39**	**8:49**
8:35	**8:42**	**8:47**	**8:54**	**9:04**
8:50	**8:57**	**9:01**	**9:07**	**9:17**
9:05	**9:12**	**9:16**	**9:22**	**9:32**
9:20	**9:27**	**9:31**	**9:37**	**9:47**
9:35	**9:42**	**9:46**	**9:52**	**10:02**
9:50	**9:57**	**10:01**	**10:07**	**10:17**
10:05	**10:12**	**10:16**	**10:22**	**10:32**

Route 201 – Saturday and Sunday / *sábado y domingo*

UTC ➡ UCSD Med. Ctr. ➡ UCSD ➡ La Jolla Village Square ➡ UTC

Ⓐ UTC Transit Center **DEPART**	Ⓑ Scripps Memorial Hospital	Ⓒ Gilman Transit Center (UC San Diego)	Ⓓ Nobel Dr. & La Jolla Village Square	Ⓐ UTC Transit Center **ARRIVE**
5:50a	5:58a	6:01a	6:06a	6:15a
6:05	6:13	6:16	6:21	6:30
6:20	6:28	6:31	6:36	6:45
6:35	6:43	6:46	6:51	7:00
6:50	6:58	7:01	7:06	7:15
7:05	7:13	7:16	7:21	7:30
7:20	7:28	7:31	7:36	7:45
7:35	7:43	7:46	7:51	8:00
7:50	7:58	8:01	8:06	8:15
8:05	8:13	8:16	8:21	8:30
8:20	8:28	8:31	8:36	8:45
8:35	8:43	8:46	8:51	9:00
8:50	8:58	9:02	9:08	9:18
9:05	9:13	9:17	9:23	9:33
9:20	9:28	9:32	9:38	9:48
9:35	9:43	9:47	9:53	10:03
9:50	9:58	10:02	10:08	10:18
10:05	10:13	10:17	10:23	10:33
10:20	10:28	10:32	10:38	10:48
10:35	10:43	10:47	10:53	11:03
10:50	10:58	11:02	11:08	11:18
11:05	11:14	11:18	11:25	11:36
AND THEN EVERY 15 MINUTES AT: / *Y LUEGO CADA 15 MINUTOS A LAS:*				
:20	:29	:33	:40	:51
:35	:44	:48	:55	:06
:50	:59	:03	:10	:21
:05	:14	:18	:25	:36
UNTIL: / *HASTA:*				
6:20p	**6:29p**	**6:33p**	**6:40p**	**6:51p**
6:35	**6:44**	**6:48**	**6:55**	**7:06**
6:50	**6:58**	**7:02**	**7:09**	**7:19**
7:05	**7:13**	**7:17**	**7:24**	**7:34**
7:20	**7:28**	**7:32**	**7:39**	**7:49**
7:35	**7:43**	**7:47**	**7:54**	**8:04**
7:50	**7:58**	**8:02**	**8:09**	**8:19**
8:05	**8:13**	**8:17**	**8:24**	**8:34**
8:20	**8:28**	**8:32**	**8:39**	**8:49**
8:35	**8:43**	**8:47**	**8:54**	**9:04**
8:50	**8:57**	**9:01**	**9:07**	**9:17**
9:05	**9:12**	**9:16**	**9:22**	**9:32**
9:20	**9:27**	**9:31**	**9:37**	**9:47**
9:35	**9:42**	**9:46**	**9:52**	**10:02**
9:50	**9:57**	**10:01**	**10:07**	**10:17**
10:05	**10:12**	**10:16**	**10:22**	**10:32**

Route 202 – Monday through Friday / *lunes a viernes*

UTC ➡ La Jolla Village Square ➡ UCSD ➡ UCSD Med. Ctr. ➡ UTC

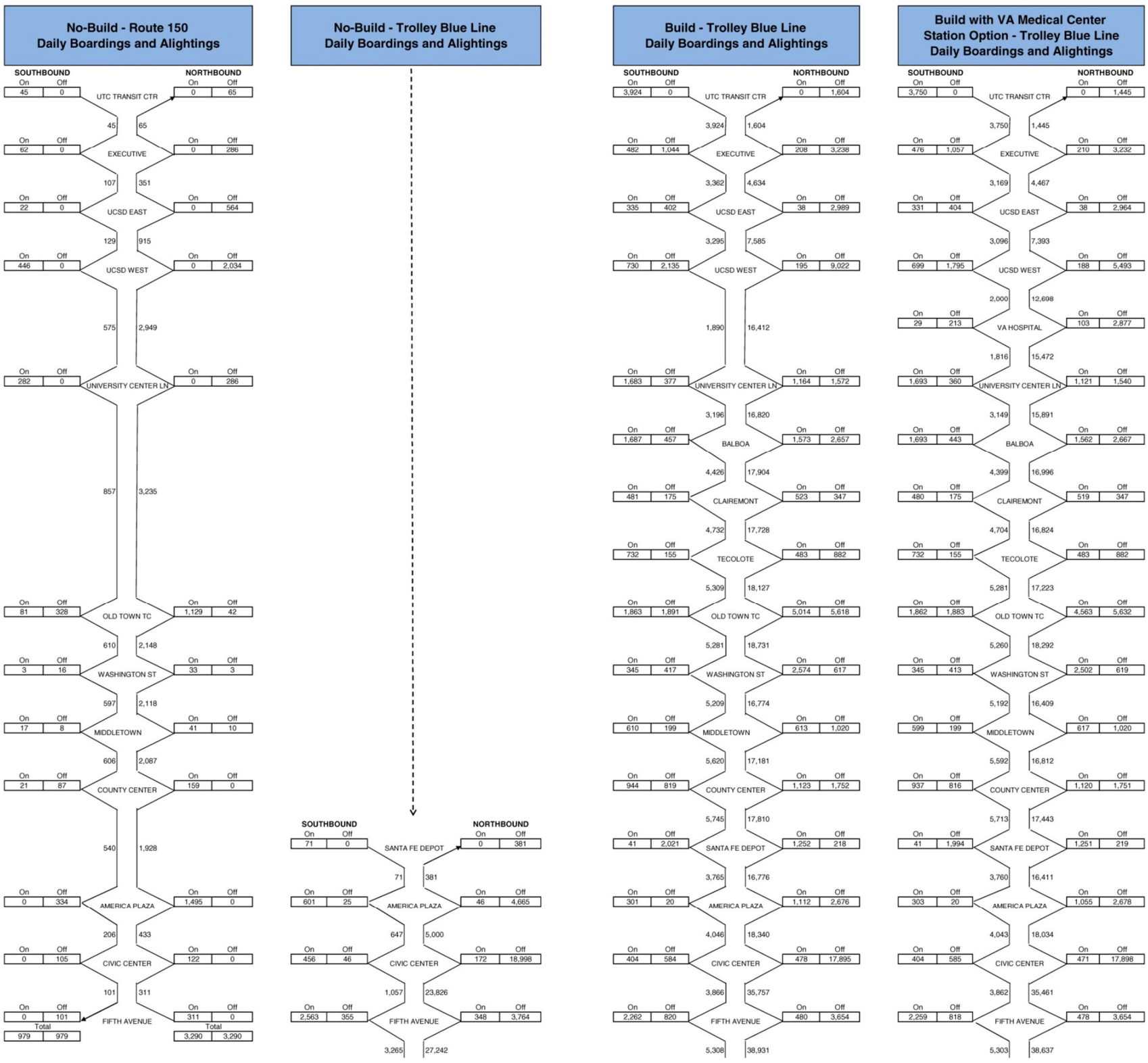
Ⓐ UTC Transit Center **DEPART**	Ⓓ Nobel Dr. & La Jolla Village Square	Ⓒ Gilman Transit Center (UC San Diego)	Ⓑ Scripps Memorial Hospital	Ⓐ UTC Transit Center **ARRIVE**
5:45a	5:55a	6:01a	6:04a	6:11a
6:00	6:10	6:16	6:19	6:26
6:15	6:25	6:31	6:34	6:41
6:30	6:41	6:47	6:50	6:58
6:45	6:56	7:02	7:05	7:13
7:00	7:12	7:19	7:22	7:31
7:10	7:22	7:29	7:32	7:41
7:20	7:32	7:39	7:42	7:51
7:30	7:42	7:49	7:52	8:01
7:40	7:52	7:59	8:02	8:11
7:50	8:02	8:09	8:12	8:21
8:00	8:12	8:19	8:22	8:31
8:10	8:22	8:29	8:32	8:41
8:20	8:32	8:39	8:42	8:51
8:30	8:42	8:49	8:52	9:01
8:40	8:52	8:59	9:02	9:11
8:50	9:02	9:09	9:12	9:21
9:00	9:12	9:19	9:22	9:31
9:10	9:22	9:29	9:32	9:41
9:20	9:32	9:39	9:42	9:51
9:30	9:42	9:49	9:52	10:01
9:40	9:52	9:59	10:02	10:11
9:50	10:02	10:09	10:12	10:21
10:00	10:12	10:19	10:22	10:31
10:10	10:22	10:29	10:32	10:41
10:20	10:32	10:39	10:42	10:51
10:30	10:42	10:49	10:52	11:01
10:40	10:52	10:59	11:02	11:11
10:50	11:02	11:09	11:12	11:21
11:00	11:12	11:19	11:22	11:31
11:10	11:22	11:29	11:32	11:41
11:20	11:32	11:39	11:42	11:51
11:30	11:42	11:49	11:52	**12:01p**
11:40	11:52	11:59	**12:02p**	**12:11**
11:50	**12:02p**	**12:09p**	**12:12**	**12:21**
12:00p	**12:12**	**12:19**	**12:22**	**12:31**
12:10	**12:22**	**12:29**	**12:32**	**12:41**
12:20	**12:32**	**12:39**	**12:42**	**12:51**
12:30	**12:42**	**12:49**	**12:52**	**1:01**
12:40	**12:52**	**12:59**	**1:02**	**1:11**
12:50	**1:02**	**1:09**	**1:12**	**1:21**
1:00	**1:12**	**1:19**	**1:22**	**1:31**
1:10	**1:22**	**1:29**	**1:32**	**1:41**
1:20	**1:32**	**1:39**	**1:42**	**1:51**
1:30	**1:42**	**1:49**	**1:52**	**2:01**
1:40	**1:52**	**1:59**	**2:02**	**2:11**
1:50	**2:02**	**2:09**	**2:12**	**2:21**
2:00	**2:12**	**2:19**	**2:22**	**2:31**
2:10	**2:22**	**2:29**	**2:32**	**2:41**
2:20	**2:32**	**2:39**	**2:42**	**2:51**
2:30	**2:42**	**2:49**	**2:53**	**3:03**
2:40	**2:52**	**2:59**	**3:03**	**3:13**
2:50	**3:02**	**3:09**	**3:13**	**3:23**
3:00	**3:12**	**3:19**	**3:23**	**3:33**
3:10	**3:22**	**3:29**	**3:33**	**3:43**
3:20	**3:32**	**3:39**	**3:43**	**3:53**
3:30	**3:42**	**3:49**	**3:53**	**4:03**
3:40	**3:52**	**3:59**	**4:03**	**4:13**
3:50	**4:02**	**4:09**	**4:13**	**4:23**
4:00	**4:12**	**4:19**	**4:23**	**4:33**
4:10	**4:22**	**4:29**	**4:33**	**4:43**
4:20	**4:32**	**4:39**	**4:43**	**4:53**
4:30	**4:42**	**4:49**	**4:53**	**5:03**
4:40	**4:52**	**4:59**	**5:03**	**5:13**
4:50	**5:02**	**5:09**	**5:13**	**5:23**
5:00	**5:12**	**5:19**	**5:23**	**5:33**
5:10	**5:22**	**5:29**	**5:33**	**5:43**
5:20	**5:32**	**5:39**	**5:43**	**5:53**
5:30	**5:42**	**5:49**	**5:53**	**6:03**
5:40	**5:52**	**5:59**	**6:03**	**6:13**
5:50	**6:02**	**6:09**	**6:12**	**6:21**
6:00	**6:12**	**6:19**	**6:22**	**6:31**
6:10	**6:22**	**6:29**	**6:32**	**6:41**
6:20	**6:32**	**6:39**	**6:42**	**6:51**
6:30	**6:42**	**6:49**	**6:52**	**7:01**
6:45	**6:57**	**7:04**	**7:07**	**7:16**
7:00	**7:11**	**7:17**	**7:20**	**7:28**
7:15	**7:26**	**7:32**	**7:35**	**7:43**
7:30	**7:41**	**7:47**	**7:50**	**7:58**
7:45	**7:56**	**8:02**	**8:05**	**8:13**
8:00	**8:11**	**8:17**	**8:20**	**8:28**
8:15	**8:26**	**8:32**	**8:35**	**8:43**
8:30	**8:41**	**8:47**	**8:50**	**8:58**
8:45	**8:56**	**9:02**	**9:05**	**9:13**
9:00	**9:11**	**9:17**	**9:20**	**9:28**
9:15	**9:26**	**9:32**	**9:35**	**9:43**
9:30	**9:40**	**9:46**	**9:49**	**9:56**
9:45	**9:55**	**10:01**	**10:04**	**10:11**
10:00	**10:10**	**10:16**	**10:19**	**10:26**

Route 202 – Saturday and Sunday / *sábado y domingo*

UTC ➡ La Jolla Village Square ➡ UCSD ➡ UCSD Med. Ctr. ➡ UTC

Ⓐ UTC Transit Center **DEPART**	Ⓓ Nobel Dr. & La Jolla Village Square	Ⓒ Gilman Transit Center (UC San Diego)	Ⓑ Scripps Memorial Hospital	Ⓐ UTC Transit Center **ARRIVE**
5:45a	5:54a	5:59a	6:02a	6:09a
6:00	6:09	6:14	6:17	6:24
6:15	6:24	6:29	6:32	6:39
6:30	6:39	6:44	6:47	6:54
6:45	6:54	6:59	7:02	7:09
7:00	7:09	7:14	7:17	7:24
7:15	7:25	7:31	7:34	7:41
7:30	7:40	7:46	7:49	7:56
7:45	7:55	8:01	8:04	8:11
8:00	8:10	8:16	8:19	8:26
8:15	8:25	8:31	8:34	8:41
8:30	8:40	8:46	8:49	8:56
8:45	8:55	9:01	9:04	9:11
9:00	9:10	9:16	9:19	9:26
9:15	9:26	9:32	9:35	9:43
9:30	9:41	9:47	9:50	9:58
9:45	9:56	10:02	10:05	10:13
10:00	10:11	10:17	10:20	10:28
10:15	10:26	10:32	10:35	10:43
10:30	10:41	10:47	10:50	10:58
10:45	10:56	11:03	11:06	11:15
AND THEN EVERY 15 MINUTES AT: / *Y LUEGO CADA 15 MINUTOS A LAS:*				
:00	:11	:18	:21	:30
:15	:26	:33	:36	:45
:30	:41	:48	:51	:00
:45	:56	:03	:06	:15
UNTIL: / *HASTA:*				
6:00p	**6:11p**	**6:18p**	**6:21p**	**6:30p**
6:15	**6:26**	**6:33**	**6:36**	**6:45**
6:30	**6:41**	**6:48**	**6:51**	**7:00**
6:45	**6:56**	**7:02**	**7:05**	**7:13**
7:00	**7:11**	**7:17**	**7:20**	**7:28**
7:15	**7:26**	**7:32**	**7:35**	**7:43**
7:30	**7:41**	**7:47**	**7:50**	**7:58**
7:45	**7:56**	**8:02**	**8:05**	**8:13**
8:00	**8:10**	**8:16**	**8:19**	**8:27**
8:15	**8:25**	**8:31**	**8:34**	**8:42**
8:30	**8:40**	**8:46**	**8:49**	**8:57**
8:45	**8:55**	**9:01**	**9:04**	**9:12**
9:00	**9:10**	**9:16**	**9:19**	**9:27**
9:15	**9:25**	**9:31**	**9:34**	**9:42**
9:30	**9:39**	**9:45**	**9:48**	**9:55**
9:45	**9:54**	**10:00**	**10:03**	**10:10**
10:00	**10:09**	**10:15**	**10:18**	**10:25**

Figure 4-1. Route 150 and Trolley Blue Line Daily Boardings and Alightings



Source: SANDAG Series 11 Travel Demand Forecasting Model, 2030 model runs between October 26, 2011 and December 14, 2011 and presented in production-attraction format.

APPENDIX R

TECHNICAL ADVISORY ON EVALUATING TRANSPORTATION IMPACTS IN CEQA

TECHNICAL ADVISORY

ON EVALUATING TRANSPORTATION IMPACTS IN CEQA

December 2018

currently below threshold VMT (see recommendations below). Because new development in such locations would likely result in a similar level of VMT, such maps can be used to screen out residential and office projects from needing to prepare a detailed VMT analysis.

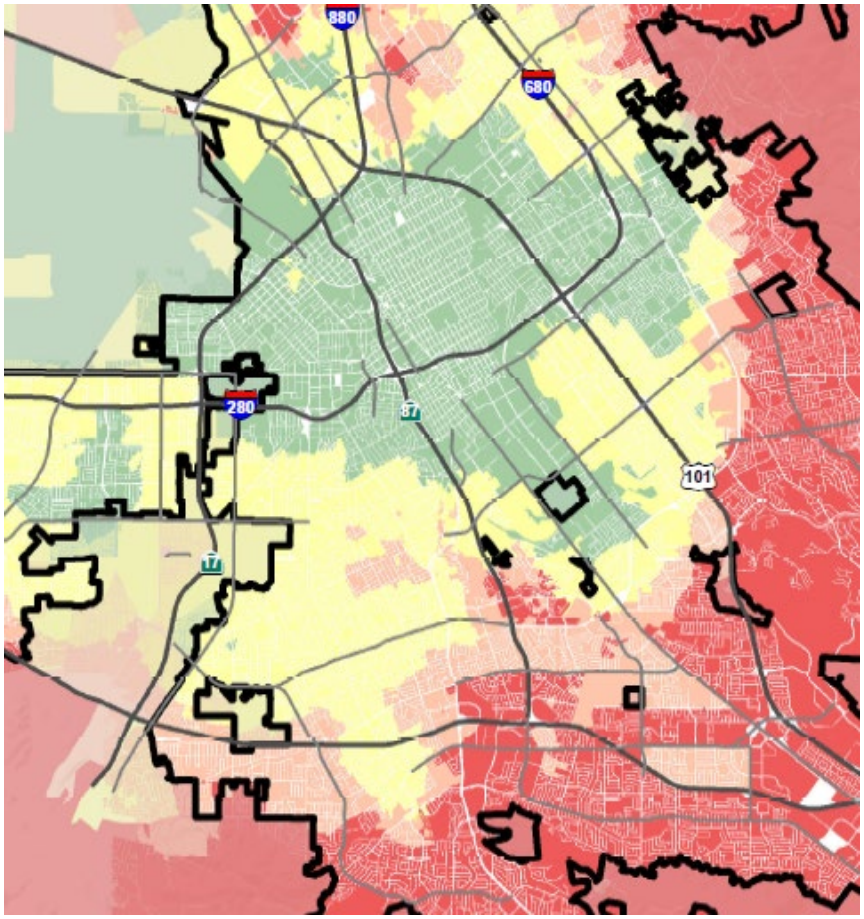


Figure 2. Example map of household VMT that could be used to delineate areas eligible to receive streamlining for VMT analysis. (Source: City of San José, Department of Transportation, draft output of City Transportation Model.)

Presumption of Less Than Significant Impact Near Transit Stations

Proposed CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop[20] or an existing stop

[20] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").

along a high quality transit corridor[21] will have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. For example, the presumption might not be appropriate if the project:

- Has a Floor Area Ratio (FAR) of less than 0.75
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking)
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units

A project or plan near transit which replaces affordable residential units[22] with a smaller number of moderate- or high-income residential units may increase overall VMT because the increase in VMT of displaced residents could overwhelm the improvements in travel efficiency enjoyed by new residents.[23]

If any of these exceptions to the presumption might apply, the lead agency should conduct a detailed VMT analysis to determine whether the project would exceed VMT thresholds (see below).

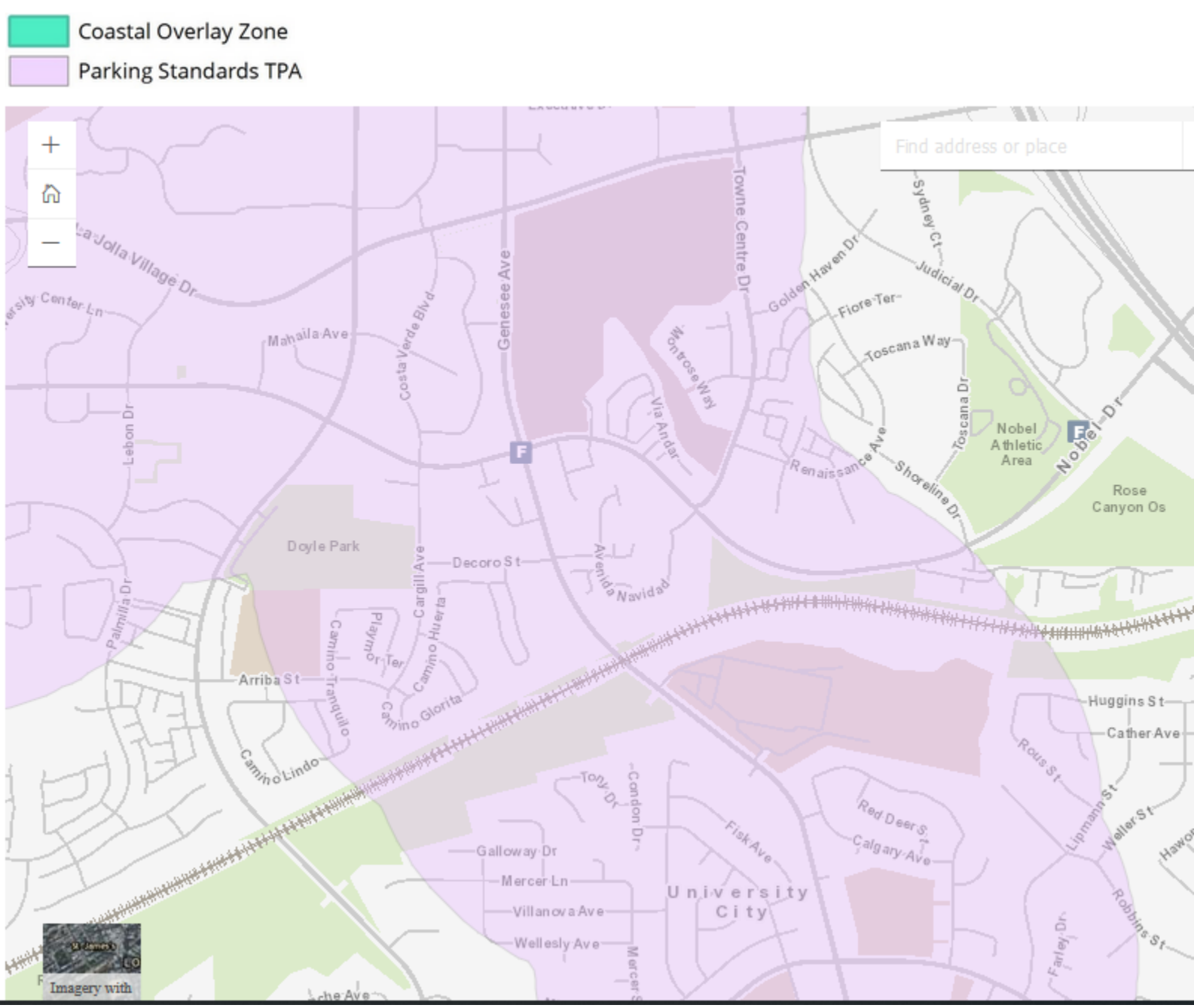
Presumption of Less Than Significant Impact for Affordable Residential Development

Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT.[24,25] Further, "… low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available."[26] In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-

[21] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").
[22] Including naturally-occurring affordable residential units.
[23] Chapple et al. (2017) *Developing a New Methodology for Analyzing Potential Displacement,* Chapter 4, pp. 159-160, available at https://www.arb.ca.gov/research/apr/past/13-310.pdf.
[24] Karner and Benner (2016) *The convergence of social equity and environmental sustainability: Jobs-housing fit and commute distance* ("[P]olicies that advance a more equitable distribution of jobs and housing by linking the affordability of locally available housing with local wage levels are likely to be associated with reduced commuting distances").
[25] Karner and Benner (2015) *Low-wage jobs-housing fit: identifying locations of affordable housing shortages.*
[26] Karner and Benner (2015) *Low-wage jobs-housing fit: identifying locations of affordable housing shortages.*

APPENDIX S

TRANSIT PRIORITY AREAS (TPA) AND URBAN AREA TRANSIT STRATEGY (UATS)


Coastal Overlay Zone
Parking Standards TPA
Find address or place
La Jolla Village Dr
Mahaila Ave
Costa Verde Blvd
Genesee Ave
Towne Centre Dr
Golden Haven Dr
Sydney Ct
Judicial Dr
Fiore Ter
Toscana Way
Toscana Dr
Nobel Athletic Area
Nobel Dr
Rose Canyon Os
Renaissance Ave
Shoreline Dr
Via Andar
Montrose Way
Lebon Dr
Doyle Park
Decoro St
Cargill Ave
Avenida Navidad
Palmilla Dr
Playmor Ter
Camino Huerta
Camino Tranquilo
Arriba St
Camino Glorita
Camino Lindo
Huggins St
Cather Ave
Rous St
Lipmann St
Weller St
Tony Dr
Condon Dr
Fisk Ave
Red Deer St
Calgary Ave
Galloway Dr
Mercer Ln
Villanova Ave
Wellesly Ave
University City
Robbins St
Farley Dr
Imagery with

Transit Stops

- High Speed Rail
- Commuter Rail
- Light Rail
- Bus Rapid Transit
- Rapid Bus
- Streetcar

Transit Network

- High Speed Rail
- Commuter Rail
- Light Rail Transit
- Streetcar
- Bus Rapid Transit
- Rapid Bus
- Local Bus

2050 Employment Density
Jobs/Acre

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 20.0
- 20.1 - 40.0
- Over 40

2050 Housing Density
Housing Units/Acre

- 0.0 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- 20.1 - 40.0
- Over 40

Transit Propensity
Draft Network
Mid-County

N

0 1 2 3 Miles

SANDAG

April 8, 2010

APPENDIX T

VMT INFORMATION

SITE POPULATION ESTIMATES (EMPLOYEES)

Land Use	Size	Population Type	Persons	Source
Research & Development	360,000 SF	Employee	1,440	Trip Generation[a]
		Total	*1,440*	
Creative Office	40,000 SF	Employee	160	Trip Generation[b]
		Total	*160*	
Hotel	112,500 SF	Employee	225	Trip Generation[c]
		Total	***225***	
Retail	178,000 SF	Employee	509	Trip Generation[d]
		Total	*509*	

Footnotes:

a. Population estimates for R&D assumes 2 trip ends and a consevative VOR of 1.0 based on TIA trip generaetion of 2,880 ADT.

b. Per San Diego Jobs Nexus Study, in the City of San Diego Plan, population estimates for Office includes 250 SF / employee.

c. Per San Diego Jobs Nexus Study, in the City of San Diego, population estimates for Hotel includes 500 SF / employee.

d. Per San Diego Jobs Nexus Study, in the City of San Diego, population estimates for Retail includes 350 SF / employee.

Jobs-Housing Nexus Study

Prepared for:
City of San Diego

Prepared by:
Keyser Marston Associates, Inc.

August 2013

TABLE III-1

NET NEW HOUSEHOLDS AND OCCUPATION DISTRIBUTION BY BUILDING TYPE
JOBS-HOUSING NEXUS STUDY
CITY OF SAN DIEGO, CA

Prototypical 100,000 Sq.Ft. Buildings	OFFICE	HOTEL	RETAIL
Step 1 - Estimate of Employees per 100,000 Sq.Ft.			
Employee Density Factor (sq.ft./emp)	250	500 *	350

Population Estimates	Density	Persons
Retail	178,000 SF	509
Research & Development	360,000 SF	1,440
Office	40,000 SF	160
Hotel	200 rooms	225

Land Use Type	Site Population Estimate	Daily Auto Trips (per TIA)	Average Trip Length (one-way, miles)[e]	Average Trip Length (roundtrip, miles)	Total VMT
Retail[a]	509	885	11.7	23.4	10,353
Research & Development[b]	1,440	2,506	11.7	23.4	29,316
Office[c]	160	735	8.8	17.6	6,469
Hotel[d]	225	392	11.7	23.4	4,581
VMT / employee	**21.73**				

Footnotes:

a. Retail employees trip generations assumes 2 trip ends and VOR of 1.0 and MXD credit of 13% consistent with Table 8–1 of TIA.

b. R&D employees trip genereation per TIA trip generation Table 8–1.

c. Office employees trip genereation per TIA trip generation Table 8–1.

d. Hotel employees trip generations assumes 2 trip ends and VOR of 1.0 and MXD credit of 13% consistent with Table 8–1 of TIA.

e. Trip Lengths were obtained from SANDAG Trip Generation Manual. For hotel and retail employees, trip lengths assumed to be similar to R&D use to be conservative.

SB743 Analysis

Scenario	Regional VMT per employee	Significance Threshold (85% of Region VMT)	COSTA VERDE	Transportation Impact? (Over Threshold)
VMT per employee	25.90	22.0	21.73	**NO**

APPENDIX U

CONSTRUCTION TRAFFIC INTERSECTION ANALYSIS CALCULATION SHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	1677	86	187	1494	484	205	1495	327	290	291	90
Future Volume (veh/h)	471	1677	86	187	1494	484	205	1495	327	290	291	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	554	1973	101	220	1758	569	241	1759	385	341	342	106
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	558	2294	695	217	1791	686	290	1543	465	316	1582	477
Arrive On Green	0.32	0.90	0.90	0.02	0.12	0.12	0.11	0.40	0.40	0.09	0.31	0.31
Sat Flow, veh/h	3456	5106	1547	3456	5106	1542	3456	5106	1539	3456	5106	1540
Grp Volume(v), veh/h	554	1973	101	220	1758	569	241	1759	385	341	342	106
Grp Sat Flow(s),veh/h/ln	1728	1702	1547	1728	1702	1542	1728	1702	1539	1728	1702	1540
Q Serve(g_s), s	22.4	24.2	1.1	8.8	48.1	44.7	9.6	42.3	31.4	12.8	6.9	7.1
Cycle Q Clear(g_c), s	22.4	24.2	1.1	8.8	48.1	44.7	9.6	42.3	31.4	12.8	6.9	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	558	2294	695	217	1791	686	290	1543	465	316	1582	477
V/C Ratio(X)	0.99	0.86	0.15	1.01	0.98	0.83	0.83	1.14	0.83	1.08	0.22	0.22
Avail Cap(c_a), veh/h	558	2294	695	217	1791	686	380	1543	465	316	1582	477
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	0.58	0.58	0.58	0.91	0.91	0.91
Uniform Delay (d), s/veh	47.3	5.1	4.0	68.5	61.5	46.7	61.2	41.9	38.6	63.6	35.7	35.8
Incr Delay (d2), s/veh	36.2	4.5	0.4	21.5	3.4	1.1	5.5	68.2	7.4	71.1	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	3.4	0.4	4.7	22.7	18.7	4.3	26.4	12.2	8.8	2.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.5	9.6	4.4	90.1	64.9	47.8	66.7	110.0	46.0	134.7	35.8	36.1
LnGrp LOS	F	A	A	F	E	D	E	F	D	F	D	D
Approach Vol, veh/h		2628			2547			2385			789	
Approach Delay, s/veh		25.0			63.2			95.3			78.6	
Approach LOS		C			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	68.6	16.1	49.1	27.0	54.8	17.2	48.0
Change Period (Y+Rc), s	4.4	* 5.5	4.4	* 5.7	4.4	5.5	4.4	5.7
Max Green Setting (Gmax), s	8.8	* 56	15.4	* 40	22.6	42.3	12.8	42.3
Max Q Clear Time (g_c+I1), s	10.8	26.2	11.6	9.1	24.4	50.1	14.8	44.3
Green Ext Time (p_c), s	0.0	28.3	0.2	4.2	0.0	0.0	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay	61.8		
HCM 6th LOS	E		

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1513	473	0	2464	482	0	0	0	758	0	2015
Future Volume (vph)	0	1513	473	0	2464	482	0	0	0	758	0	2015
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	4.0		7.5	5.6				5.6		5.6
Lane Util. Factor		0.91	0.88		0.91	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.97		1.00	0.98				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		5085	2707		5085	1554				3433		2787
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		5085	2707		5085	1554				3433		2787
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1681	526	0	2738	536	0	0	0	842	0	2239
RTOR Reduction (vph)	0	0	0	0	0	108	0	0	0	0	0	20
Lane Group Flow (vph)	0	1681	526	0	2738	428	0	0	0	842	0	2219
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	Free		NA	pm+ov					Prot		custom
Protected Phases		2			6	4					4		4 5
Permitted Phases			Free			6						
Actuated Green, G (s)		58.5	120.0		47.5	95.9					48.4		60.3
Effective Green, g (s)		58.5	120.0		47.5	95.9					48.4		60.3
Actuated g/C Ratio		0.49	1.00		0.40	0.80					0.40		0.50
Clearance Time (s)		7.5			7.5	5.6					5.6		
Vehicle Extension (s)		2.0			2.0	2.0					2.0		
Lane Grp Cap (vph)		2478	2707		2012	1241					1384		1400
v/s Ratio Prot		0.33			c0.54	0.14					0.25		c0.80
v/s Ratio Perm			0.19			0.14						
v/c Ratio		0.68	0.19		1.36	0.35					0.61		1.58
Uniform Delay, d1		23.5	0.0		36.2	3.3					28.3		29.9
Progression Factor		1.00	1.00		1.10	0.06					1.00		1.00
Incremental Delay, d2		1.5	0.2		164.4	0.0					0.5		266.6
Delay (s)		25.1	0.2		204.1	0.2					28.8		296.4
Level of Service		C	A		F	A					C		F
Approach Delay (s)		19.1			170.7				0.0		223.3	
Approach LOS		B			F				A		F	

Intersection Summary					
HCM 2000 Control Delay	150.6	HCM 2000 Level of Service		F	
HCM 2000 Volume to Capacity ratio	1.57				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		17.8	
Intersection Capacity Utilization	130.0%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: I-805 NB Ramps & Miramar Road

NT + Construction AM
02/27/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1390	874	0	1760	468	1255	0	468	0	0	0
Future Volume (vph)	0	1390	874	0	1760	468	1255	0	468	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	5.6		7.5	4.0	5.6		4.7			
Lane Util. Factor		0.91	1.00		0.86	1.00	0.97		0.88			
Frpb, ped/bikes		1.00	0.99		1.00	0.97	1.00		1.00			
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00		1.00			
Frt		1.00	0.85		1.00	0.85	1.00		0.85			
Flt Protected		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (prot)		5085	1561		6408	1538	3433		2787			
Flt Permitted		1.00	1.00		1.00	1.00	0.95		1.00			
Satd. Flow (perm)		5085	1561		6408	1538	3433		2787			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	1562	982	0	1978	526	1410	0	526	0	0	0
RTOR Reduction (vph)	0	0	191	0	0	0	0	0	21	0	0	0
Lane Group Flow (vph)	0	1562	791	0	1978	526	1410	0	505	0	0	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Confl. Bikes (#/hr)			10			10			10			10
Turn Type		NA	pm+ov		NA	Free	Prot		custom			
Protected Phases		2	8		6		8		1 8			
Permitted Phases			2			Free						
Actuated Green, G (s)		44.1	96.7		54.3	120.0	52.6		63.7			
Effective Green, g (s)		44.1	96.7		54.3	120.0	52.6		58.1			
Actuated g/C Ratio		0.37	0.81		0.45	1.00	0.44		0.48			
Clearance Time (s)		7.5	5.6		7.5		5.6					
Vehicle Extension (s)		2.0	2.0		2.0		2.0					
Lane Grp Cap (vph)		1868	1257		2899	1538	1504		1349			
v/s Ratio Prot		c0.31	0.28		c0.31		c0.41		0.18			
v/s Ratio Perm			0.23			0.34						
v/c Ratio		0.84	0.63		0.68	0.34	0.94		0.37			
Uniform Delay, d1		34.7	4.6		26.0	0.0	32.1		19.5			
Progression Factor		0.94	34.73		1.00	1.00	1.00		1.00			
Incremental Delay, d2		3.5	0.5		1.3	0.6	11.2		0.1			
Delay (s)		36.0	160.0		27.3	0.6	43.3		19.6			
Level of Service		D	F		C	A	D		B			
Approach Delay (s)		83.8			21.7			36.9			0.0	
Approach LOS		F			C			D			A	

Intersection Summary				
HCM 2000 Control Delay	48.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.8	
Intersection Capacity Utilization	73.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM 6th Signalized Intersection Summary
14: Genesee Avenue & Esplanade Court

NT + Construction AM
10/01/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	43	191	54	23	86	101	1840	145	99	390	131
Future Volume (veh/h)	209	43	191	54	23	86	101	1840	145	99	390	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.91	1.00		0.98	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	264	0	210	59	78	60	111	2022	159	109	429	144
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	333	0	127	580	305	236	132	2692	210	141	1991	636
Arrive On Green	0.09	0.00	0.09	0.16	0.16	0.16	0.15	1.00	1.00	0.08	1.00	1.00
Sat Flow, veh/h	3563	0	1361	3563	1870	1447	1781	4820	376	3456	3791	1211
Grp Volume(v), veh/h	264	0	210	59	78	60	111	1424	757	109	383	190
Grp Sat Flow(s),veh/h/ln	1781	0	1361	1781	1870	1447	1781	1702	1792	1728	1702	1598
Q Serve(g_s), s	10.2	0.0	13.1	2.0	5.1	5.1	8.5	0.0	0.0	4.3	0.0	0.0
Cycle Q Clear(g_c), s	10.2	0.0	13.1	2.0	5.1	5.1	8.5	0.0	0.0	4.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.76
Lane Grp Cap(c), veh/h	333	0	127	580	305	236	132	1901	1001	141	1788	839
V/C Ratio(X)	0.79	0.00	1.65	0.10	0.26	0.25	0.84	0.75	0.76	0.77	0.21	0.23
Avail Cap(c_a), veh/h	333	0	127	970	509	394	160	1901	1001	141	1788	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	62.1	0.0	63.4	49.9	51.2	51.2	58.8	0.0	0.0	63.7	0.0	0.0
Incr Delay (d2), s/veh	11.3	0.0	324.3	0.0	0.2	0.2	23.6	2.8	5.3	18.9	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	16.0	0.9	2.4	1.9	4.5	0.7	1.5	2.2	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.4	0.0	387.8	49.9	51.3	51.4	82.4	2.8	5.3	82.6	0.2	0.5
LnGrp LOS	E	A	F	D	D	D	F	A	A	F	A	A
Approach Vol, veh/h		474			197			2292			682	
Approach Delay, s/veh		212.7			50.9			7.5			13.5	
Approach LOS		F			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	84.2		18.0	14.8	79.5		27.7				
Change Period (Y+Rc), s	4.4	6.0		4.9	4.4	* 6		4.9				
Max Green Setting (Gmax), s	5.7	62.9		13.1	12.6	* 56		38.1				
Max Q Clear Time (g_c+I1), s	6.3	2.0		15.1	10.5	2.0		7.1				
Green Ext Time (p_c), s	0.0	41.0		0.0	0.0	6.6		0.5				

Intersection Summary			
HCM 6th Ctrl Delay	37.6		
HCM 6th LOS	D		

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	524	142	101	337	82	267	1730	211	122	325	99
Future Volume (veh/h)	201	524	142	101	337	82	267	1730	211	122	325	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.94	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	216	563	153	109	362	88	287	1860	227	131	349	106
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	822	348	157	709	298	341	1950	851	114	2466	748
Arrive On Green	0.08	0.23	0.23	0.05	0.20	0.20	0.10	0.55	0.55	0.07	0.97	0.97
Sat Flow, veh/h	3456	3554	1505	3456	3554	1492	3456	3554	1551	3456	5106	1549
Grp Volume(v), veh/h	216	563	153	109	362	88	287	1860	227	131	349	106
Grp Sat Flow(s),veh/h/ln	1728	1777	1505	1728	1777	1492	1728	1777	1551	1728	1702	1549
Q Serve(g_s), s	8.6	20.3	12.2	4.4	12.7	7.0	11.4	69.4	10.8	4.6	0.4	0.4
Cycle Q Clear(g_c), s	8.6	20.3	12.2	4.4	12.7	7.0	11.4	69.4	10.8	4.6	0.4	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	822	348	157	709	298	341	1950	851	114	2466	748
V/C Ratio(X)	0.81	0.68	0.44	0.69	0.51	0.30	0.84	0.95	0.27	1.15	0.14	0.14
Avail Cap(c_a), veh/h	442	899	381	437	888	373	558	1950	851	114	2466	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.6	49.1	46.0	65.8	49.9	47.7	62.0	29.9	16.7	65.4	1.2	1.2
Incr Delay (d2), s/veh	2.2	2.3	1.2	2.0	0.6	0.6	2.9	12.1	0.8	131.7	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	9.3	4.7	2.0	5.8	2.7	5.2	31.9	4.1	4.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.8	51.4	47.3	67.9	50.5	48.2	64.9	42.0	17.5	197.1	1.4	1.6
LnGrp LOS	E	D	D	E	D	D	E	D	B	F	A	A
Approach Vol, veh/h		932			559			2374			586	
Approach Delay, s/veh		54.0			53.6			42.4			45.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	82.7	10.8	37.5	18.2	73.5	15.2	33.0
Change Period (Y+Rc), s	4.4	* 5.9	4.4	* 5.1	4.4	5.9	4.4	5.1
Max Green Setting (Gmax), s	4.6	* 63	17.7	* 35	22.6	44.7	17.9	35.0
Max Q Clear Time (g_c+I1), s	6.6	71.4	6.4	22.3	13.4	2.4	10.6	14.7
Green Ext Time (p_c), s	0.0	0.0	0.1	4.8	0.4	4.3	0.2	2.7

Intersection Summary	
HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	372	738	174	1785	0	0
Future Volume (veh/h)	372	738	174	1785	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	392	777	183	1879		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	6539	5006	218	9957		
Arrive On Green	1.00	1.00	0.13	1.00		
Sat Flow, veh/h	3647	2721	3456	5274		
Grp Volume(v), veh/h	392	777	183	1879		
Grp Sat Flow(s),veh/h/ln	1777	1360	1728	1702		
Q Serve(g_s), s	0.0	0.0	5.2	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	5.2	0.0		
Prop In Lane		1.00	1.00			
Lane Grp Cap(c), veh/h	6539	5006	218	9957		
V/C Ratio(X)	0.06	0.16	0.84	0.19		
Avail Cap(c_a), veh/h	6539	5006	218	9957		
HCM Platoon Ratio	1.00	1.00	2.00	2.00		
Upstream Filter(I)	0.96	0.96	0.69	0.69		
Uniform Delay (d), s/veh	0.0	0.0	43.2	0.0		
Incr Delay (d2), s/veh	0.0	0.1	17.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.6	0.0		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	0.1	60.4	0.0		
LnGrp LOS	A	A	E	A		
Approach Vol, veh/h	1169			2062		
Approach Delay, s/veh	0.0			5.4		
Approach LOS	A			A		

Timer - Assigned Phs	1	2	6
Phs Duration (G+Y+Rc), s	11.0	194.0	205.0
Change Period (Y+Rc), s	* 4.7	7.0	* 7
Max Green Setting (Gmax), s	* 6.3	82.0	* 96
Max Q Clear Time (g_c+I1), s	7.2	2.0	2.0
Green Ext Time (p_c), s	0.0	4.1	16.4

Intersection Summary	
HCM 6th Ctrl Delay	3.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
27: I-805 NB Off Ramp & Nobel Drive

NT + Construction AM
10/01/2019

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	370	0	0	738	1109	733
Future Volume (vph)	370	0	0	738	1109	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0			7.0	6.1	4.7
Lane Util. Factor	0.95			0.86	0.97	0.88
Frpb, ped/bikes	1.00			1.00	1.00	0.96
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3539			6408	3433	2687
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3539			6408	3433	2687
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	381	0	0	761	1143	756
RTOR Reduction (vph)	0	0	0	0	0	200
Lane Group Flow (vph)	381	0	0	761	1143	556
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		10				10
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6	8	1
Permitted Phases						8
Actuated Green, G (s)	42.2			52.4	34.5	40.0
Effective Green, g (s)	42.2			52.4	34.5	40.0
Actuated g/C Ratio	0.42			0.52	0.34	0.40
Clearance Time (s)	7.0			7.0	6.1	4.7
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	1493			3357	1184	1074
v/s Ratio Prot	c0.11			0.12	c0.33	c0.03
v/s Ratio Perm						0.18
v/c Ratio	0.26			0.23	0.97	0.52
Uniform Delay, d1	18.7			12.9	32.2	22.7
Progression Factor	1.01			1.00	1.00	1.00
Incremental Delay, d2	0.4			0.2	18.2	0.2
Delay (s)	19.2			13.0	50.3	22.9
Level of Service	B			B	D	C
Approach Delay (s)	19.2			13.0	39.4	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
29: Governor Drive & Genesee Avenue

NT + Construction AM
02/26/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	631	316	156	260	242	330	84	1607	232	240	621	349
Future Volume (veh/h)	631	316	156	260	242	330	84	1607	232	240	621	349
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	717	359	177	298	275	375	95	1826	264	273	706	397
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	1156	467	138	1156	501	71	1395	613	138	1395	618
Arrive On Green	0.04	0.33	0.33	0.04	0.33	0.33	0.04	0.39	0.39	0.04	0.39	0.39
Sat Flow, veh/h	3456	3554	1436	3456	3554	1541	1781	3554	1561	3456	3554	1573
Grp Volume(v), veh/h	717	359	177	298	275	375	95	1826	264	273	706	397
Grp Sat Flow(s),veh/h/ln	1728	1777	1436	1728	1777	1541	1781	1777	1561	1728	1777	1573
Q Serve(g_s), s	4.0	7.6	9.5	4.0	5.7	21.7	4.0	39.3	12.4	4.0	15.1	20.5
Cycle Q Clear(g_c), s	4.0	7.6	9.5	4.0	5.7	21.7	4.0	39.3	12.4	4.0	15.1	20.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	1156	467	138	1156	501	71	1395	613	138	1395	618
V/C Ratio(X)	5.19	0.31	0.38	2.16	0.24	0.75	1.33	1.31	0.43	1.97	0.51	0.64
Avail Cap(c_a), veh/h	138	1411	570	138	1386	601	71	1395	613	138	1395	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	25.3	26.0	48.0	24.7	30.1	48.0	30.4	22.2	48.0	23.0	24.7
Incr Delay (d2), s/veh	1900.2	0.3	1.1	543.4	0.2	5.7	219.1	144.1	2.2	463.7	1.3	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.2	3.2	3.3	12.1	2.4	8.6	6.1	43.2	4.8	10.6	6.1	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1948.2	25.6	27.0	591.4	24.9	35.8	267.1	174.5	24.4	511.7	24.3	29.8
LnGrp LOS	F	C	C	F	C	D	F	F	C	F	C	C
Approach Vol, veh/h		1253			948			2185			1376	
Approach Delay, s/veh		1126.0			207.3			160.4			122.6	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	45.0	8.4	38.2	8.4	45.0	8.4	38.2
Change Period (Y+Rc), s	4.4	5.7	4.4	* 5.7	4.4	* 5.7	4.4	5.7
Max Green Setting (Gmax), s	4.0	32.8	4.0	* 40	4.0	* 33	4.0	39.0
Max Q Clear Time (g_c+I1), s	6.0	41.3	6.0	11.5	6.0	22.5	6.0	23.7
Green Ext Time (p_c), s	0.0	0.0	0.0	6.3	0.0	7.2	0.0	5.1

Intersection Summary		
HCM 6th Ctrl Delay	369.0	
HCM 6th LOS	F	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	153	0	0	896	439	1049	0	0	976	127
Future Vol, veh/h	0	0	153	0	0	896	439	1049	0	0	976	127
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	None	-	-	Yield
Storage Length	-	-	0	-	-	0	270	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	16974	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	166	0	0	974	477	1140	0	0	1061	138

Major/Minor	Minor2					Major1			Major2		
Conflicting Flow All	-	-	531			1061	0	-	-	-	0
Stage 1	-	-	-			-	-	-	-	-	-
Stage 2	-	-	-			-	-	-	-	-	-
Critical Hdwy	-	-	6.94			4.3	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-			-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-			-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32			2.22	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	493			622	-	0	0	-	-
Stage 1	0	0	-			-	-	0	0	-	-
Stage 2	0	0	-			-	-	0	0	-	-
Platoon blocked, %							-			-	-
Mov Cap-1 Maneuver	-	0	493			622	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-			-	-	-	-	-	-
Stage 1	-	0	-			-	-	-	-	-	-
Stage 2	-	0	-			-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	622	-	493	-	-
HCM Lane V/C Ratio	0.767	-	0.337	-	-
HCM Control Delay (s)	27.3	-	16	-	-
HCM Lane LOS	D	-	C	-	-
HCM 95th %tile Q(veh)	7.1	-	1.5	-	-

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	199	1352	769	439	675
Future Volume (veh/h)	140	199	1352	769	439	675
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	216	1470	0	477	734
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	291	259	1447		388	2426
Arrive On Green	0.16	0.16	0.41	0.00	0.22	0.68
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	152	216	1470	0	477	734
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.4	10.8	33.3	0.0	17.8	6.8
Cycle Q Clear(g_c), s	6.4	10.8	33.3	0.0	17.8	6.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	291	259	1447		388	2426
V/C Ratio(X)	0.52	0.83	1.02		1.23	0.30
Avail Cap(c_a), veh/h	697	620	1447		388	2426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	33.1	24.2	0.0	32.0	5.2
Incr Delay (d2), s/veh	0.5	2.7	27.6	0.0	124.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.2	17.6	0.0	20.4	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.8	35.8	51.8	0.0	156.1	5.5
LnGrp LOS	C	D	F		F	A
Approach Vol, veh/h	368		1470	A		1211
Approach Delay, s/veh	34.2		51.8			64.8
Approach LOS	C		D			E
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.5	40.8		18.5		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		* 7.5
Max Green Setting (Gmax), s	* 18	32.9		32.0		* 56
Max Q Clear Time (g_c+I1), s	19.8	35.3		12.8		8.8
Green Ext Time (p_c), s	0.0	0.0		0.6		3.2

Intersection Summary	
HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX V

PARKING OCCUPANCY COUNTS AND PARKING RATES

Table 1
Existing Parking Demand

Time	Monday		Tuesday		Wednesday		Thursday		Friday		Average		Saturday	
	Spaces Occupied	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**	**Spaces Occupied**	**%**
11:00 a.m. – 12:00 p.m.	501	52%	473	49%	507	52%	462	48%	554	57%	499	52%	490	51%
12:00 p.m. – 1:00 p.m.	**658**	**68%**	**690**	**71%**	730	75%	698	72%	726	75%	700	72%	506	52%
1:00 p.m. – 2:00 p.m.	648	67%	664	69%	655	68%	697	72%	777	80%	688	71%	544	56%
2:00 p.m. – 3:00 p.m.													**565**	**58%**
3:00 p.m. – 4:00 p.m.													514	53%
4:00 p.m. – 5:00 p.m.	522	54%	470	49%	505	52%	552	57%	624	64%	535	55%	471	49%
5:00 p.m. – 6:00 p.m.	559	58%	566	58%	607	63%	628	65%	686	71%	609	63%		
6:00 p.m. – 7:00 p.m.	631	65%	652	67%	**771**	**80%**	**762**	**79%**	**789**	**82%**	**721**	**74%**		
7:00 p.m. – 8:00 p.m.	573	59%	593	61%	702	73%	694	72%	718	74%	656	68%		
Total Existing Supply	968													

General Notes:
1. Existing parking supply = 968 spaces. Occupied percentage calculated as observed parking demand divided by 968.

Table 1
Monday, April 18, 2016 Parking Demand Counts

Time	Parking Zone 1[a]	Parking Zone 2[b]	Parking Zone 3[c]	Parking Zone 4[d]	Parking Zone 5[e]	Parking Zone 6[f]	Parking Zone 7[g]	Total Parking Demand	% Occupied
Spaces Provided	**50**	**160**	**33**	**40**	**355**	**150**	**180**		
11:00 a.m. – 12:00 p.m.	**36**	105	**34**	26	153	125	22	501	51.76%
12:00 p.m. – 1:00 p.m.	35	**132**	31	**37**	211	**154**	58	**658**	**67.98%**
1:00 p.m. – 2:00 p.m.	29	121	30	32	**230**	148	58	648	66.94%
2:00 p.m. – 3:00 p.m.									
3:00 p.m. – 4:00 p.m.									
4:00 p.m. – 5:00 p.m.	30	93	21	33	154	133	58	522	53.93%
5:00 p.m. – 6:00 p.m.	33	87	21	33	167	135	83	559	57.75%
6:00 p.m. – 7:00 p.m.	30	84	20	29	176	146	**146**	631	65.19%
7:00 p.m. – 8:00 p.m.	27	76	18	26	160	133	133	573	59.19%
Total Existing Supply	968								

Foonotes:

a. Parking Zone 1 is located on the southwest corner of the project site and fronting McDonalds.
b. Parking Zone 2 is located on the southeast corner of the project site, fronting Coco's Bakery Restaurant, Wells Fargo and Bristol Farms.
c. Parking Zone 3 is located behind the Shopping Center, on the western portion of the project site and used solely for employee parking.
d. Parking Zone 4 is located on the eastern portion of the project site and fronting Sleep Train Mattress Centers.
e. Parking Zone 5 is an underground parking structure located directly below Parking Zone 6.
f. Parking Zone 6 is located just north of Parking Zone 4 and fronting Barnes & Noble.
g. Parking Zone 7 is located in the northern portion of the project site and fronting Draft Republic.

Table 2
Tuesday, April 12, 2016 Parking Demand Counts

Time	Parking Zone 1[a]	Parking Zone 2[b]	Parking Zone 3[c]	Parking Zone 4[d]	Parking Zone 5[e]	Parking Zone 6[f]	Parking Zone 7[g]	Total Parking Demand	% Occupied
Spaces Provided	**50**	**160**	**33**	**40**	**355**	**150**	**180**		
11:00 a.m. – 12:00 p.m.	29	94	**32**	32	126	132	28	473	48.86%
12:00 p.m. – 1:00 p.m.	**33**	134	27	35	198	**153**	110	**690**	**71.28%**
1:00 p.m. – 2:00 p.m.	32	**136**	28	**36**	**215**	149	68	664	68.60%
2:00 p.m. – 3:00 p.m.									
3:00 p.m. – 4:00 p.m.									
4:00 p.m. – 5:00 p.m.	28	73	19	28	147	133	42	470	48.55%
5:00 p.m. – 6:00 p.m.	30	92	18	35	148	137	106	566	58.47%
6:00 p.m. – 7:00 p.m.	**33**	114	21	33	175	133	**143**	652	67.36%
7:00 p.m. – 8:00 p.m.	30	104	19	30	159	121	130	593	61.26%
Total Existing Supply	968								

Foonotes:
a. Parking Zone 1 is located on the southwest corner of the project site and fronting McDonalds.
b. Parking Zone 2 is located on the southeast corner of the project site, fronting Coco's Bakery Restaurant, Wells Fargo and Bristol Farms.
c. Parking Zone 3 is located behind the Shopping Center, on the western portion of the project site and used solely for employee parking.
d. Parking Zone 4 is located on the eastern portion of the project site and fronting Sleep Train Mattress Centers.
e. Parking Zone 5 is an underground parking structure located directly below Parking Zone 6.
f. Parking Zone 6 is located just north of Parking Zone 4 and fronting Barnes & Noble.
g. Parking Zone 7 is located in the northern portion of the project site and fronting Draft Republic.

Table 3
Wednesday, April 13, 2016 Parking Demand Counts

Time	Parking Zone 1[a]	Parking Zone 2[b]	Parking Zone 3[c]	Parking Zone 4[d]	Parking Zone 5[e]	Parking Zone 6[f]	Parking Zone 7[g]	Total Parking Demand	% Occupied
Spaces Provided	**50**	**160**	**33**	**40**	**355**	**150**	**180**		
11:00 a.m. – 12:00 p.m.	34	94	**32**	29	155	129	34	507	52.38%
12:00 p.m. – 1:00 p.m.	34	**147**	29	**40**	218	154	108	730	75.41%
1:00 p.m. – 2:00 p.m.	35	129	31	**40**	203	145	72	655	67.67%
2:00 p.m. – 3:00 p.m.									
3:00 p.m. – 4:00 p.m.									
4:00 p.m. – 5:00 p.m.	31	72	26	31	143	136	66	505	52.17%
5:00 p.m. – 6:00 p.m.	**36**	88	26	31	179	140	107	607	62.71%
6:00 p.m. – 7:00 p.m.	29	110	27	36	**251**	**155**	**163**	**771**	**79.65%**
7:00 p.m. – 8:00 p.m.	26	100	25	33	229	141	148	702	72.52%
Total Existing Supply	968								

Foonotes:
a. Parking Zone 1 is located on the southwest corner of the project site and fronting McDonalds.
b. Parking Zone 2 is located on the southeast corner of the project site, fronting Coco's Bakery Restaurant, Wells Fargo and Bristol Farms.
c. Parking Zone 3 is located behind the Shopping Center, on the western portion of the project site and used solely for employee parking.
d. Parking Zone 4 is located on the eastern portion of the project site and fronting Sleep Train Mattress Centers.
e. Parking Zone 5 is an underground parking structure located directly below Parking Zone 6.
f. Parking Zone 6 is located just north of Parking Zone 4 and fronting Barnes & Noble.
g. Parking Zone 7 is located in the northern portion of the project site and fronting Draft Republic.

Table 3A
Wednesday, April 20, 2016 Parking Demand Counts

Time	Parking Zone 5[e]	Parking Zone 6[f]	Parking Zone 7[g]	Total Parking Demand	% Occupied
Spaces Provided	**355**	**150**	**180**		
6:00 p.m. – 6:30 p.m.	245	157	**167**	569	83.07%
6:30 p.m. – 7:00 p.m.	**248**	**158**	164	**570**	**83.21%**
7:00 p.m. – 7:30 p.m.	220	137	144	501	73.14%
7:30 p.m. – 8:00 p.m.	167	119	126	412	60.15%
Total Existing Supply					

Foonotes:
a. Parking Zone 1 is located on the southwest corner of the project site and fronting McDonalds.
b. Parking Zone 2 is located on the southeast corner of the project site, fronting Coco's Bakery Restaurant, Wells Fargo and Bristol Farms.
c. Parking Zone 3 is located behind the Shopping Center, on the western portion of the project site and used solely for employee parking.
d. Parking Zone 4 is located on the eastern portion of the project site and fronting Sleep Train Mattress Centers.
e. Parking Zone 5 is an underground parking structure located directly below Parking Zone 6.
f. Parking Zone 6 is located just north of Parking Zone 4 and fronting Barnes & Noble.
g. Parking Zone 7 is located in the northern portion of the project site and fronting Draft Republic.

Table 4
Thursday, April 14, 2016 Parking Demand Counts

Time	Parking Zone 1[a]	Parking Zone 2[b]	Parking Zone 3[c]	Parking Zone 4[d]	Parking Zone 5[e]	Parking Zone 6[f]	Parking Zone 7[g]	Total Parking Demand	% Occupied
Spaces Provided	**50**	**160**	**33**	**40**	**355**	**150**	**180**		
11:00 a.m. – 12:00 p.m.	30	87	**34**	22	145	117	27	462	47.73%
12:00 p.m. – 1:00 p.m.	**39**	124	**34**	**40**	208	**151**	102	698	72.11%
1:00 p.m. – 2:00 p.m.	38	**145**	30	39	223	142	80	697	72.00%
2:00 p.m. – 3:00 p.m.									
3:00 p.m. – 4:00 p.m.									
4:00 p.m. – 5:00 p.m.	27	88	20	33	164	148	72	552	57.02%
5:00 p.m. – 6:00 p.m.	31	104	23	30	168	140	132	628	64.88%
6:00 p.m. – 7:00 p.m.	28	127	28	37	**227**	146	**169**	**762**	**78.72%**
7:00 p.m. – 8:00 p.m.	25	116	25	34	207	133	154	694	71.69%
Total Existing Supply	968								

Foonotes:
a. Parking Zone 1 is located on the southwest corner of the project site and fronting McDonalds.
b. Parking Zone 2 is located on the southeast corner of the project site, fronting Coco's Bakery Restaurant, Wells Fargo and Bristol Farms.
c. Parking Zone 3 is located behind the Shopping Center, on the western portion of the project site and used solely for employee parking.
d. Parking Zone 4 is located on the eastern portion of the project site and fronting Sleep Train Mattress Centers.
e. Parking Zone 5 is an underground parking structure located directly below Parking Zone 6.
f. Parking Zone 6 is located just north of Parking Zone 4 and fronting Barnes & Noble.
g. Parking Zone 7 is located in the northern portion of the project site and fronting Draft Republic.

Table 4A
Thursday, April 21, 2016 Parking Demand Counts

Time	Parking Zone 5[e]	Parking Zone 6[f]	Parking Zone 7[g]	Total Parking Demand	% Occupied
Spaces Provided	**355**	**150**	**180**		
6:00 p.m. – 6:30 p.m.	245	144	**165**	554	80.88%
6:30 p.m. – 7:00 p.m.	**278**	**152**	**165**	**595**	**86.86%**
7:00 p.m. – 7:30 p.m.	236	138	160	534	77.96%
7:30 p.m. – 8:00 p.m.	208	144	137	489	71.39%
Total Existing Supply					

Foonotes:
a. Parking Zone 1 is located on the southwest corner of the project site and fronting McDonalds.
b. Parking Zone 2 is located on the southeast corner of the project site, fronting Coco's Bakery Restaurant, Wells Fargo and Bristol Farms.
c. Parking Zone 3 is located behind the Shopping Center, on the western portion of the project site and used solely for employee parking.
d. Parking Zone 4 is located on the eastern portion of the project site and fronting Sleep Train Mattress Centers.
e. Parking Zone 5 is an underground parking structure located directly below Parking Zone 6.
f. Parking Zone 6 is located just north of Parking Zone 4 and fronting Barnes & Noble.
g. Parking Zone 7 is located in the northern portion of the project site and fronting Draft Republic.

Table 5
Friday, April 15, 2016 Parking Demand Counts

Time	Parking Zone 1[a]	Parking Zone 2[b]	Parking Zone 3[c]	Parking Zone 4[d]	Parking Zone 5[e]	Parking Zone 6[f]	Parking Zone 7[g]	Total Parking Demand	% Occupied
Spaces Provided	**50**	**160**	**33**	**40**	**355**	**150**	**180**		
11:00 a.m. – 12:00 p.m.	**37**	105	**34**	29	165	134	50	554	57.23%
12:00 p.m. – 1:00 p.m.	33	146	33	**44**	221	**151**	98	726	75.00%
1:00 p.m. – 2:00 p.m.	36	**148**	32	38	247	**151**	125	777	80.27%
2:00 p.m. – 3:00 p.m.									
3:00 p.m. – 4:00 p.m.									
4:00 p.m. – 5:00 p.m.	28	110	24	30	179	132	121	624	64.46%
5:00 p.m. – 6:00 p.m.	27	114	24	38	178	136	169	686	70.87%
6:00 p.m. – 7:00 p.m.	33	122	23	36	**254**	147	**174**	**789**	**81.51%**
7:00 p.m. – 8:00 p.m.	30	111	21	33	231	134	158	718	74.17%
Total Existing Supply	968								

Foonotes:
a. Parking Zone 1 is located on the southwest corner of the project site and fronting McDonalds.
b. Parking Zone 2 is located on the southeast corner of the project site, fronting Coco's Bakery Restaurant, Wells Fargo and Bristol Farms.
c. Parking Zone 3 is located behind the Shopping Center, on the western portion of the project site and used solely for employee parking.
d. Parking Zone 4 is located on the eastern portion of the project site and fronting Sleep Train Mattress Centers.
e. Parking Zone 5 is an underground parking structure located directly below Parking Zone 6.
f. Parking Zone 6 is located just north of Parking Zone 4 and fronting Barnes & Noble.
g. Parking Zone 7 is located in the northern portion of the project site and fronting Draft Republic.

Table 6
Saturday, April 16, 2016 Parking Demand Counts

Time	Parking Zone 1[a]	Parking Zone 2[b]	Parking Zone 3[c]	Parking Zone 4[d]	Parking Zone 5[e]	Parking Zone 6[f]	Parking Zone 7[g]	Total Parking Demand	% Occupied
Spaces Provided	**50**	**160**	**33**	**40**	**355**	**150**	**180**		
11:00 a.m. – 12:00 p.m.	35	**100**	29	**34**	123	136	33	490	50.62%
12:00 p.m. – 1:00 p.m.	36	85	26	28	135	144	52	506	52.27%
1:00 p.m. – 2:00 p.m.	**38**	96	27	**34**	130	146	**73**	544	56.20%
2:00 p.m. – 3:00 p.m.	34	94	30	32	**147**	**155**	**73**	**565**	**58.37%**
3:00 p.m. – 4:00 p.m.	27	78	**31**	25	137	145	71	514	53.10%
4:00 p.m. – 5:00 p.m.	33	81	25	29	119	119	65	471	48.66%
5:00 p.m. – 6:00 p.m.									
6:00 p.m. – 7:00 p.m.									
Total Existing Supply	968								

Foonotes:
a. Parking Zone 1 is located on the southwest corner of the project site and fronting McDonalds.
b. Parking Zone 2 is located on the southeast corner of the project site, fronting Coco's Bakery Restaurant, Wells Fargo and Bristol Farms.
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Veterinary clinics & hospitals	2.5	2.1	N/A
Offices[4]			
Business & professional/ Government/ Regional & corporate headquarters (except in IS Zone)	3.3	2.9	5.0
Medical, dental, & health practitioners (except in IS Zone)	4.0	3.5	6.0
All office uses in the IS Zone	1.0[5]	1.0[5]	5.0
Vehicle & Vehicular Equipment Sales & Service			
Automobile service stations	2 per Station; with Maintenance Facility, 3 per Station Plus 1 per Service Bay Retail Sales: 3.0	85% of Minimum	N/A
Vehicle repair & maintenance	5.0	4.3	N/A
Vehicle sales & rentals	1 per each 10 display cars	85% of Minimum	N/A
Distribution and Storage[4]			
All distribution and storage uses	1.0 [5]	1.0[5]	4.0
Self Storage Facilities	1.0 space/10,000 sq ft plus 3.3 space per 1,000 square foot of accessory office space	N/A	N/A
Industrial			
Heavy Manufacturing (except in IS Zone)	1.5 [6]	1.5 [6]	4.0
Light manufacturing (except in IS Zone)	2.5 [6]	2.1 [6]	4.0
Research & development (except in IS Zone)	2.5	2.1	4.0
All industrial uses in the IS Zone	1.0 [5]	1.0 [5]	4.0

Use	**Parking Spaces Required per 1,000 Square Feet of *Floor* Area Unless Otherwise Noted** (*Floor* Area Includes *Gross Floor Area* plus below *Grade Floor* Area, and Excludes *Floor* Area Devoted to Parking)		
	Required Automobile Parking Spaces(1)		
	Minimum Required Outside a *Transit Area* or *Transit Priority Area*	**Minimum Required Within a *Transit Area* or *Transit Priority Area*** (2)	**Maximum Permitted**
Eating & Drinking Establishments	See Table 142-05F		
Public assembly & entertainment			
Theaters	1-3 screens: 1 per 3 seats 4+ screens: 1 per 3.3 seats Per assembly area if not fixed seats: 50.0	85% of Minimum	N/A
Health clubs	5.0 Clubs with Courts: 1 additional space per the maximum number of authorized players (Amateur Athletic Union) per court	85% of Minimum	N/A
Swimming pools	Commercial: 1 per 100 sq. ft. of pool surface area Community: 1 per 175 sq. ft. of pool surface area	85% of Minimum	N/A
All other assembly and entertainment	1 per 3 seats or 1 per 60 inches of bench or pew seating, whichever is greater; or 30 per 1,000 square feet of assembly area if seating is not fixed	85% of Minimum	N/A
Visitor accommodations	1 per *guest room* Conference Area: 10.0	1 per *guest room* Conference Area: 10.0	N/A
Separately Regulated Uses			
Child Care Centers	1 per staff	85% of Minimum	N/A
Funeral parlors & Mortuaries	1 per 3 seats; 30.0 for assembly area if no fixed seats	85% of minimum	N/A
Private clubs, lodges, fraternal organizations (except	1 per *guest room*, or 2.5, whichever is greater(3)	85% of Minimum	N/A