

# UPTOWN, NORTH PARK AND GOLDEN HILL CPU

## Traffic Impact Study



JUNE 2015 | FINAL  
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## EXECUTIVE SUMMARY

This study, prepared by Kimley-Horn and Associates, Inc., evaluates the potential traffic-related impacts associated with the Uptown, North Park and Golden Hill Community Plan Updates (CPU). One preferred land use alternative was presented and analyzed as part of this study. The preferred land use alternative will be used to regulate and guide the strategic growth within the three communities. In addition to the land use alternative, a Mobility Element was prepared based on the existing roadway conditions, potential future transportation deficiencies and improvement recommendations based on an extensive input from the community stakeholders.

The analysis concluded that the land use for the **Uptown** community would have cumulative traffic related impact at the following locations:

### Intersections

- Washington Street & Fourth Avenue
- Washington Street & Eighth Avenue/ SR-163 Off-Ramp
- Washington Street/ Normal Street & Campus Avenue/ Polk Avenue
- University Avenue & Sixth Avenue
- Elm Street & Sixth Avenue
- Cedar Street & Second Avenue

### Segments

- First Avenue: Washington Street to University Avenue
- First Avenue: University Avenue to Robinson Avenue
- First Avenue: Robinson Avenue to Grape Street
- Fourth Avenue: Arbor Drive to Washington Street
- Fourth Avenue: Walnut Avenue to Laurel Street
- Fifth Avenue: Robinson Avenue to Walnut Avenue
- Sixth Avenue: Washington Street to University Avenue
- Sixth Avenue: University Avenue to Laurel Street
- Sixth Avenue: Laurel Street to Elm Street
- Ninth Avenue: Washington Street to University Avenue
- Campus Avenue/ Polk Avenue: Washington Street to Park Boulevard
- Cleveland Avenue: Tyler Street to Richmond Street
- Fort Stockton Drive: Sunset Boulevard to Goldfinch Street
- Grape Street: First Avenue to Third Avenue
- Grape Street: Third Avenue to Sixth Avenue
- Hawthorn Street: First Avenue to Third Avenue
- Hawthorn Street: Third Avenue to Sixth Avenue
- India Street: Washington Street to Winder Street
- India Street: Glenwood Drive to Sassafrass Street
- India Street: Sassafrass Street to Redwood Street
- Laurel Street: Columbia Street to Sixth Avenue
- Lincoln Avenue: Washington Street to Park Boulevard
- Park Boulevard: Mission Avenue to El Cajon Boulevard
- Park Boulevard: Robinson Avenue to Upas Street

- Richmond Street: Cleveland Avenue to Upas Street
- Robinson Avenue: First Avenue to Third Avenue
- Robinson Avenue: Third Avenue to Eighth Avenue
- San Diego Avenue: Hortensia Street to Pringle Street
- State Street: Laurel Street to Juniper Street
- University Avenue: Ibis Street to Fifth Avenue
- University Avenue: Sixth Avenue to Eighth Avenue
- University Avenue: Normal Street to Park Boulevard
- Washington Street: Fourth Avenue to Sixth Avenue
- Washington Street: Richmond Street to Normal Street

#### Freeway Mainline Segments

- I-5 NB: Old Town Avenue to Imperial Avenue
- I-5 SB: Old Town Avenue to Imperial Avenue
- I-8 WB: Hotel Circle (W) to SR-15
- I-8 EB: Hotel Circle (W) to SR-15
- SR-163 NB: I-8 to Robinson Avenue
- SR-163: SB: I-8 to I-5

#### Freeway Interchange Ramps

- Hancock St to I-5 SB
- Kettner Boulevard to I-5 SB
- Fifth Avenue to I-5 SB

Mitigation proposals for the impacted intersections and segments are provided in Chapter 5. In addition, it is noted that the following corridors would benefit from ITS technology:

- *Sixth Avenue*
- *University Avenue*
- *Washington Street*

The analysis concluded that the land use for the **North Park** community would have cumulative traffic related impact at the following locations:

#### Intersections

- Madison Avenue & Texas Street
- El Cajon Boulevard & 30<sup>th</sup> Street
- El Cajon Boulevard & I-805 SB Ramps
- University Avenue & 30<sup>th</sup> Street
- University Avenue, Wabash Avenue & I-805 NB Ramps
- North Park Way/ I-805 SB Ramps & Boundary Street/33<sup>rd</sup> Street
- Upas Street & 30<sup>th</sup> Street (W)

#### Segments

- 30<sup>th</sup> Street: Meade Avenue to El Cajon Boulevard
- 30<sup>th</sup> Street: Howard Avenue to University Avenue
- 30<sup>th</sup> Street: North Park Way to Upas Street
- 30<sup>th</sup> Street: Upas Street to Juniper Street
- 32<sup>nd</sup> Street: University Avenue to Upas Street
- Adams Avenue: Texas Street to 30<sup>th</sup> Street
- Boundary Street: University Avenue to North Park Way
- El Cajon Boulevard: 30<sup>th</sup> Street to I-805 Ramps

- Florida Street: El Cajon Boulevard to Upas Street
- Howard Avenue: Texas Street to 32nd Street
- Madison Avenue: Texas Street to Ohio Street
- Meade Avenue: Park Boulevard to Iowa Street
- Redwood Street: 28<sup>th</sup> Street to 30<sup>th</sup> Street
- Texas Street: Adams Avenue to El Cajon Boulevard
- Texas Street: Howard Avenue to University Avenue
- University Avenue: Park Boulevard to Florida Street
- University Avenue: Texas Street to 32<sup>nd</sup> Street
- University Avenue: 32<sup>nd</sup> Street to Boundary Street
- Upas Street: Alabama Street to Pershing Road
- Upas Street: Pershing Road to 30<sup>th</sup> Street
- Utah Street: Howard Avenue to Lincoln Avenue
- Utah Street: North Park Way to Upas Street

#### Freeway Mainline Segments

- SR15 NB: I-805 to SR-94
- SR-15 SB: I-805 to SR-94
- I-805 NB: I-8 to SR-15
- I-805 SB: I-8 to SR-15
- SR-163 NB: I-8 to Robinson Avenue
- SR-163: SB: I-8 to I-5

Mitigation proposals for the impacted intersections and segments are provided in Chapter 5. In addition, it is noted that the following corridors would benefit from ITS technology:

- *University Avenue*
- *El Cajon Boulevard*

The analysis concluded that the land use for the **Golden Hill** community would have cumulative traffic related impact at the following locations:

#### Intersections

- B Street & 17<sup>th</sup> Street/ I-5 SB Off-Ramp
- SR-94 WB Ramps & Broadway
- SR-94 WB Ramp & 28<sup>th</sup> Street
- SR-94 EB Ramp & 28<sup>th</sup> Street
- F Street & 25<sup>th</sup> Street
- G Street & 25<sup>th</sup> Street

#### Segments

- 25<sup>th</sup> Street: Broadway to F Street
- 28<sup>th</sup> Street: Russ Boulevard to SR-94
- 30<sup>th</sup> Street: Grape Street to SR-94
- B Street: 25<sup>th</sup> Street to 28<sup>th</sup> Street
- C Street: 30<sup>th</sup> Street to 34<sup>th</sup> Street
- Fern Street: Juniper Street to A Street
- Grape Street: 30<sup>th</sup> Street to 31<sup>st</sup> Street

#### Freeway Mainline Segments

- SR-94 WB: 25th Street to SR-15
- SR-94 EB: 25th Street to SR-15

Mitigation proposals for the impacted intersections and segments are provided in Chapter 5.



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## Appendices

Appendix A Existing Traffic Signal Timing Sheets

Appendix B Existing Intersection Geometrics

Appendix C Traffic Count Sheets

Appendix D Synchro Peak-Hour Intersection Analysis Sheets

Appendix E Ramp Meter Rates

Appendix F Post-Model Volume Adjustments

Appendix G Peak-Hour Volumes Forecast Worksheets

# 1 INTRODUCTION

The following traffic study has been prepared to determine and evaluate the traffic impacts associated with the Uptown, North Park and Golden Hill Community Plans Updates. This evaluation assesses the impacts of the proposed Land Use and Mobility Elements.

## 1.1 PROJECT DESCRIPTION

One preferred land use alternative was presented and analyzed as part of this study. The preferred land use alternative will be used to regulate and guide the strategic growth within the three communities. In addition to the land use alternative, a Mobility Element was prepared based on the existing roadway conditions, potential future transportation deficiencies and improvement recommendations based on an extensive input from the community stakeholders. **Figure 1-1** depicts the location of the Uptown, North Park, and Golden Hill Communities within the regional context. **Figure 1-2** shows the overall project boundary study area for the Community Plan Update and each individual community boundary. **Tables 1-1 through 1-7** show the trip generation comparison for base year 2008, adopted community plan, and proposed Land Use plan for each of the communities. **Figures 1-3, 1-4 and 1-5** illustrate the proposed Land Use for each community.

## 1.2 ANALYSIS SCENARIOS

A total of two scenarios were analyzed as part of the project, which are listed below:

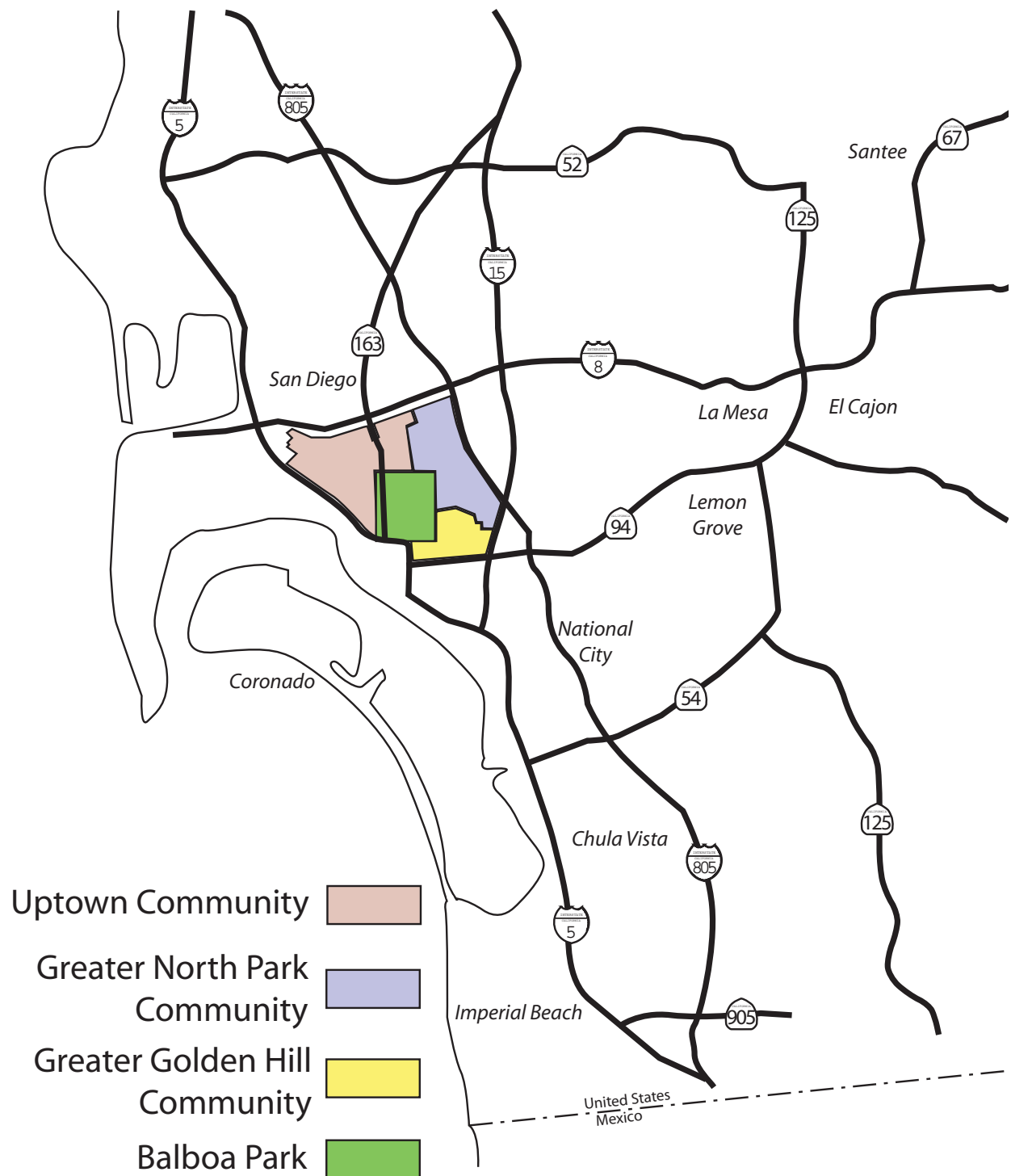
### Existing Conditions

- 1) Existing Conditions: Represents the traffic conditions of the existing street network.

### Future Year Conditions

- 2) Future Year Conditions: Represents the traffic conditions of the street network assumed to be in place under Buildout conditions with the implementation of the land use changes per the Land Use Element of each plan.

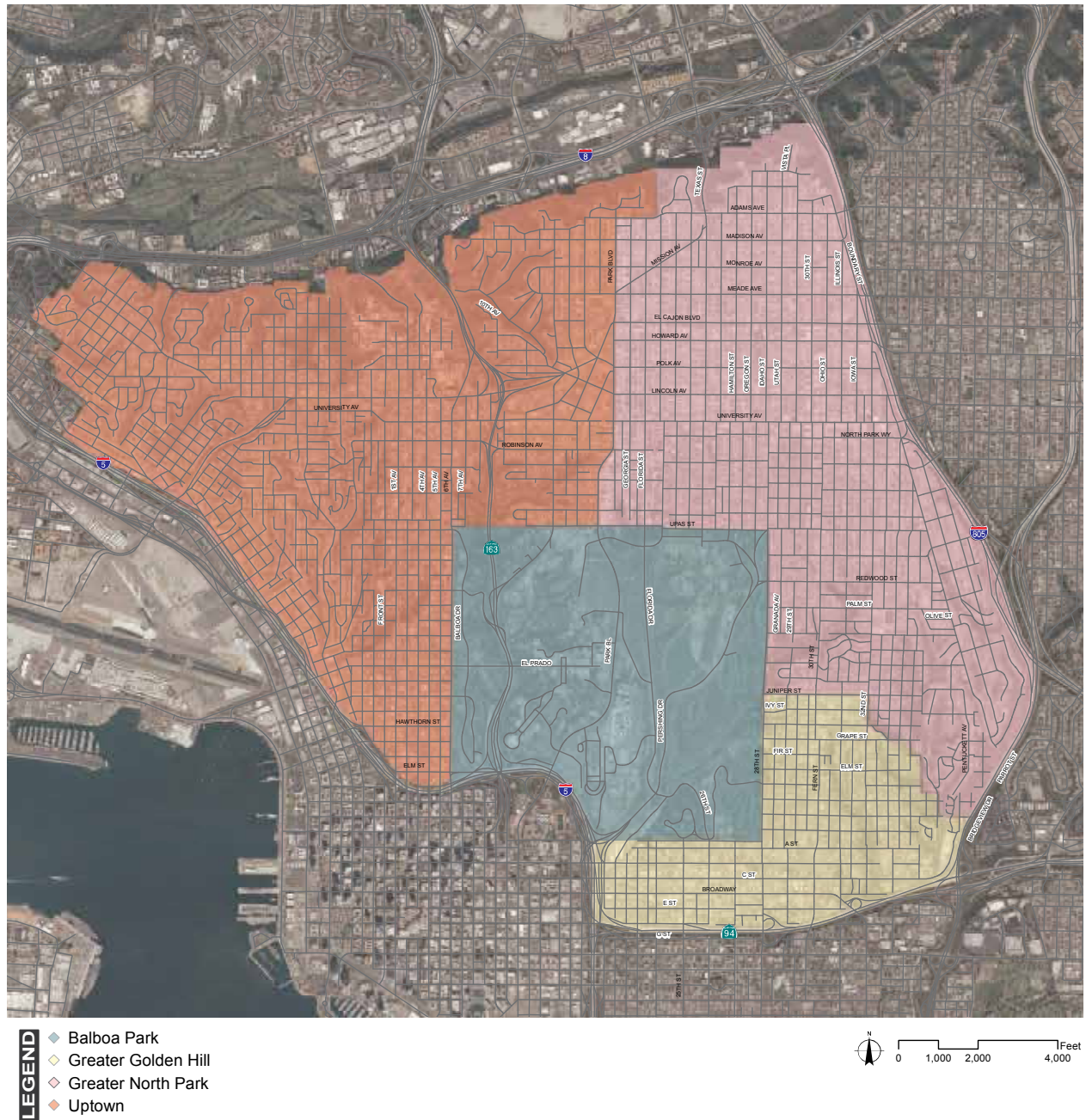
FIGURE 1-1



*Regional Vicinity Map*

Uptown, North Park, Golden Hill | Draft Report  
June 2015 | Final

FIGURE 1-2



### Project Area Boundary

Uptown, North Park, Golden Hill | Draft Report  
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Revised September 7, 2016



**Table 1-1** Trip Generation Comparison: Uptown

Land Use	2008		Adopted		Proposed	
	Amount	Vehicle	Amount	Vehicle	Amount	Vehicle
ACTIVE PARK (AC)	27.7 acre	1382	27.7 acre	1381	47.7 acre	2378
ARTERIAL COMMERCIAL	869.6 ksf	34620	791.2 ksf	31499	752.5 ksf	29954
AUTO DEALERSHIP (KSF)	6.9 ksf	346	0 ksf	0	0 ksf	0
AUTO RENTAL SERV (LS-KSF)	4.5 ls-ksf	57	0 ls-ksf	0	0 ls-ksf	0
AUTO REPAIR (KSF)	48.7 ksf	1007	12.5 ksf	257	12.5 ksf	257
Carwash (F service-site)	1.0 site	922	0 site	0	0 site	0
CHURCH (NO DAY-CARE KSF)	345.4 ksf	1724	343.1 ksf	1712	343.1 ksf	1712
CHURCH (W/DAY-CARE KSF)	114.3 ksf	1713	80.5 ksf	1207	80.5 ksf	1207
CHURCH (W/O DAYCARE-AC)	1.0 acre	32	1 acre	30	1 acre	30
COMMUNICATION OR UTILITY	3.0 ksf	8	2.9 ksf	7	2.9 ksf	7
COMMUNITY COMMERCIAL (KSF)	107.6 ksf	7513	1828.6 ksf	127713	1833.9 ksf	128093
CONVALESCENT/NURSING (BED)	23.0 bed	67	23 bed	67	23 bed	67
CONVALESCENT/NURSING(BED)	105.0 bed	304	104 bed	301	104 bed	301
CORPORATE HEADQTRS/SING(KSF)	19.9 ksf	199	0 ksf	0	0 ksf	0
DAY CARE/PRE-SCHOOL (STU)	70.0 stu	352	0 stu	0	0 stu	0
DMV (KSF)	15.5 ksf	2678	15.5 ksf	2678	15.5 ksf	2678
DRINKING PLACE (KSF)	20.3 ksf	2646	5.8 ksf	758	5.8 ksf	758
DRUG STORE (KSF)	58.7 ksf	5288	58.7 ksf	5288	58.7 ksf	5288
ELEMENTARY SCHOOL (STU)	2519.0 stu	7319	3062 stu	8897	3062 stu	8897
FINAN INST(W/O-DR/THR-KSF)	24.0 ksf	3392	24 ksf	3392	24 ksf	3392
FINANCIAL INST(W DR/THR-KSF)	49.0 ksf	9252	49 ksf	9252	49 ksf	9252
FIRE OR POLICE STATION	3.0 site	684	3 site	684	3 site	684
FURNITURE STORE (KSF)	56.5 ksf	340	8.1 ksf	49	8.1 ksf	49
GAS STA W MART/CARWASH(PUMP)	12.0 pump	1856	12 pump	1856	12 pump	1856



**Table 1-2** Trip Generation Comparison: Uptown (cont.)

Land Use	2008		Adopted		Proposed	
	Amount	Vehicle	Amount	Vehicle	Amount	Vehicle
GAS STATION W FMART (PUMP)	52.0 pump	7782	52 pump	7782	52 pump	7782
GOV'T OFFICE/CENTER(KSF)	11.1 ksf	341	0 ksf	0	0 ksf	0
HIGH RISE OFFICE (KSF)	140.8 ksf	2255	140.8 ksf	2255	140.8 ksf	2255
HIGH-RISE HOTEL (ROOM)	74.0 room	739	74 room	739	74 room	739
HOSPITAL-GENERAL (KSF)	499.5 ksf	10308	499.5 ksf	10308	499.5 ksf	10308
INACTIVE USE	438.9 0	0	413.5 0	0	408.5 0	0
LIBRARY (KSF)	4.5 ksf	226	4.5 ksf	226	4.5 ksf	226
LIGHT INDUSTRY (KSF)	1.2 ksf	18	0 ksf	0	0 ksf	0
LOW-RISE HOTEL/MOTEL-ROOM	795.0 room	7145	146 room	1313	146 room	1313
LR OFFICE (10.1k-20k-KSF)	439.6 ksf	11741	398.1 ksf	11535	398.1 ksf	10633
LR OFFICE (20.1k-35k-KSF)	321.7 ksf	7431	321.7 ksf	7431	321.7 ksf	7431
LR OFFICE (35.1K-75K KSF)	158.3 ksf	3291	158.3 ksf	3291	158.3 ksf	3291
LR OFFICE (50.1k-75k-KSF)	163.8 ksf	3102	111.8 ksf	2117	111.8 ksf	2117
LR OFFICE (5K-10K KSF)	383.9 ksf	12142	123.1 ksf	3715	93.1 ksf	2944
LR OFFICE (U 5K KSF)	474.3 ksf	18513	96.4 ksf	3715	90.1 ksf	3517
MARKET OPEN 16HR/DAY (KSF)	5.6 ksf	2811	5.6 ksf	2811	5.6 ksf	2811
MARKET OPEN 24HR/DAY (KSF)	4.8 ksf	3360	4.8 ksf	3360	4.8 ksf	3360
MEDICAL OFFICE (KSF)	206.8 ksf	10661	236.1 ksf	12178	294.1 ksf	14911
MONASTERY (ksf)	3.6 ksf	5	0 ksf	0	0 ksf	0
MOVIE THEATER (KSF)	15.6 ksf	1218	15.6 ksf	1218	15.6 ksf	1218
MULTI-FAMILY (O 20DU/AC)	14329.0 du	86510	28504 du	172097	26379 du	159265
MULTI-FAMILY (U 20DU/AC)	549.0 du	4392	466 du	3728	473 du	3784
NEIGHBORHOOD COMM (KSF)	65.4 ksf	7838	39.4 ksf	4718	39.4 ksf	4718
NURSERY (KSF)	5.3 ksf	211	4.5 ksf	178	4.5 ksf	178
OTHER CHILD SCHOOL(KSF)	13.4 ksf	519	13.4 ksf	519	13.4 ksf	519

**Table 1-3** Trip Generation Comparison: Uptown (cont.)

Land Use	2008		Adopted		Proposed	
	Amount	Vehicle	Amount	Vehicle	Amount	Vehicle
OTHER GROUP QUARTERS	4.3 acre	13	1 acre	3	1 acre	3
OTHER GROUP QUARTERS (DU)	1.0 du	4	0 du	0	0 du	0
OTHER HEALTH CARE (KSF)	603.3 ksf	30192	541.7 ksf	27109	541.7 ksf	27109
OTHER PUBLIC SERVICE	0.7 ksf	208	0 ksf	0	0 ksf	0
OTHER RECREATION-LOW	2.9 ksf	13	2.4 ksf	11	0 ksf	0
OTHER RETAIL COMM. (KSF)	52.5 ksf	2090	8.2 ksf	326	8.2 ksf	326
OTHER SCHOOL (STU)	125.0 stu	361	125 stu	361	125 stu	361
OTHER UNIV./COLLEGE (KSF)	850.0 ksf	1382	0 ksf	0	0 ksf	0
PARKING	28.5 acre	0	9.3 acre	0	3.4 acre	0
POST OFFICE W/MAIL DROP(KSF)	15.9 ksf	4783	15.9 ksf	4783	15.9 ksf	4783
RBALL/TENNIS/HEALTH(KSF)	18.0 ksf	703	18 ksf	703	18 ksf	703
RESTAURANT (FAST-FOOD KSF)	22.2 ksf	15627	22.2 ksf	15627	22.2 ksf	15627
RESTAURANT (SIT-DOWN KSF)	127.8 ksf	16644	103.7 ksf	13506	103.7 ksf	13506
RESTUARANT (QUALITY-KSF)	195.7 ksf	19593	183.1 ksf	18337	168.1 ksf	16837
RETIREMENT/SENIOR HOME (DU)	0.0 du	0	84 du	336	84 du	336
RETIREMENT/SENIOR HOME(DU)	140.0 du	560	154 du	616	154 du	616
RIGHT-OF-WAY	756.9 ksf	0	732.1 ksf	0	740 ksf	0
SCHOOL DISTRICT OFF (ksf)	139.9 ksf	4387	139.9 ksf	4387	139.9 ksf	4387
SINGLE FAMILY (DETACHED)	4762.0 du	42536	4252 du	37981	4284 du	38264
SINGLE-MULTI UNIT	2770.0 du	22039	1286 du	10234	1155 du	9193
SPECIALTY COMMERCIAL(KSF)	46.5 ksf	1822	2.5 ksf	100	19 ksf	1656
SPORT FACILITY-IN (AC)	0.2 acre	7	0 acre	0	0 acre	0
SUPERMARKET (KSF)	63.8 ksf	9597	19.3 ksf	2905	19.3 ksf	2905
UCSD Hospital (ksf)	183.9 ksf	3659	183.9 ksf	3659	368 ksf	7320
UNDER CONSTRUCTION	2.4 acre	11	0 acre	0	0 acre	0
WAREHOUSING (KSF)	18.5 ksf	93	0 ksf	0	0 ksf	0
<b>Grand Total</b>		<b>462584</b>		<b>593246</b>		<b>584112</b>

**Table 1-4** Trip Generation Comparison: North Park

Land Use	2008		Vehicle	Adopted		Vehicle	Proposed		Vehicle
	Amount			Amount			Amount		
ACTIVE PARK (AC)	15.5	acre	773	15.5	acre	773	16	acre	798
ARTERIAL COMMERCIAL (KSF)	1163.9	ksf	46126	608.3	ksf	24213	608.3	ksf	24213
AUTO DEALERSHIP (KSF)	32.3	ksf	1621	0.6	ksf	30	0.6	ksf	30
AUTO PART SALE (KSF)	18.7	ksf	1198	0	ksf	0	0	ksf	0
AUTO RENTAL SERV (LS-KSF)	2.8	ls-ksf	36	0	ls-ksf	0	0	ls-ksf	0
AUTO REPAIR (KSF)	82.6	ksf	1703	14.4	ksf	296	14.4	ksf	296
CAR-WASH (SELF-WASH STALL)	8	stalls	797	0	stalls	0	0	stalls	0
CASINO (ksf)	0.3	ksf	3	0	ksf	0	0	ksf	0
CHURCH (NO DAY-CARE KSF)	358.2	ksf	1791	358.2	ksf	1791	358.2	ksf	1791
CLINIC (KSF)	0	ksf	0	1	ksf	33	1	ksf	33
COMMUNICATION OR UTILITY	1	acre	3	1	acre	2	1	acre	2
COMMUNITY COMMERCIAL (KSF)	12.6	ksf	879	637.5	ksf	44531	613.8	ksf	42876
CONVALESCENT/NURSING (BED)	12	bed	35	12	bed	35	12	bed	35
DAY CARE/PRE-SCHOOL (STU)	250	stu	1259	250	stu	1259	250	stu	1259
DRINKING PLACE (KSF)	29.6	ksf	3838	10.7	ksf	1384	10.7	ksf	1384
DRUG STORE (KSF)	37.7	ksf	3397	37.7	ksf	3397	37.7	ksf	3397
ELEMENTARY SCHOOL (STU)	1282	stu	3725	1897	stu	5512	1897	stu	5512
FINAN INST(W/O-DR/THR-KSF)	20.3	ksf	2870	20.3	ksf	2870	20.3	ksf	2870
FINANCIAL INST(W DR/THR-KSF)	11.7	ksf	2207	11.7	ksf	2207	11.7	ksf	2207
FIRE OR POLICE STATION	0	site	0	1	site	228	1	site	228
FURNITURE STORE (KSF)	47.1	ksf	283	2	ksf	12	2	ksf	12
GAS STATION W FMART (PUMP)	56	pump	8379	56	pump	8379	56	pump	8379
GOV'T OFFICE/CENTER(KSF)	15.5	ksf	475	0	ksf	0	0	ksf	0
HIGH RISE OFFICE (KSF)	2.8	ksf	45	0	ksf	0	0	ksf	0
HOSPITAL-GENERAL (KSF)	75.7	ksf	1562	75.7	ksf	1562	75.7	ksf	1562
INACTIVE USE	175.3	acre	0	167.6	acre	0	165.4	acre	0
LIBRARY (KSF)	18.8	ksf	939	18.8	ksf	939	18.8	ksf	939
LIGHT INDUSTRY (KSF)	17.4	ksf	263	0	ksf	0	0	ksf	0
LOW-RISE HOTEL/MOTEL-ROOM	217	room	1950	205	room	1842	205	room	1842
LR OFFICE (10.1k-20k-KSF)	97.2	ksf	2598	97.2	ksf	2598	83.6	ksf	2234
LR OFFICE (20.1k-35k-KSF)	25.2	ksf	582	25.2	ksf	582	25.2	ksf	582
LR OFFICE (35.1K-75K KSF)	44.6	ksf	927	44.6	ksf	927	44.6	ksf	927
LR OFFICE (5K-10K KSF)	81	ksf	2568	81	ksf	2568	81	ksf	2568

**Table 1-5 Trip Generation Comparison: North Park (cont.)**

Land Use	2008		Adopted		Proposed	
	Amount	Vehicle	Amount	Vehicle	Amount	Vehicle
LR OFFICE (U 5K KSF)	73.4 ksf	2869	73.4 ksf	2869	73.4 ksf	2869
MARKET OPEN 16HR/DAY (KSF)	78.5 ksf	39395	78.5 ksf	39395	78.5 ksf	39395
MARKET OPEN 24HR/DAY (KSF)	9.8 ksf	6843	9.8 ksf	6843	9.8 ksf	6843
MEDICAL OFFICE (KSF)	33 ksf	1707	32 ksf	1653	32 ksf	1653
MOVIE THEATER (KSF)	23 ksf	1796	23 ksf	1796	23 ksf	1796
MULTI-FAMILY (O 20DU/AC)	17330 du/acre	104633	26946 du/acre	162689	27947 du/acre	168735
MULTI-FAMILY (U 20DU/AC)	1908 du/acre	15264	2276 du/acre	18209	2451 du/acre	19609
NEIGHBORHOOD COMM (KSF)	45.2 ksf	5411	45.2 ksf	5411	45.2 ksf	5411
NURSERY (KSF)	0.2 ksf	8	0 ksf	0	0 ksf	0
OTHER GROUP QUARTERS (DU)	13 du	48	13 du	48	12 du	44
OTHER HEALTH CARE (KSF)	66.5 ksf	3339	66.5 ksf	3339	66.5 ksf	3339
OTHER PUBLIC SERVICE	0.9 acre	213	0.3 acre	86	0.3 acre	86
OTHER RECREATION-HIGH	2.8 acre	109	2.6 acre	104	2.6 acre	104
OTHER RETAIL COMM. (KSF)	1.5 ksf	59	0 ksf	0	0 ksf	0
PARKING	12.3 acre	0	4.9 acre	0	4.8 acre	0
POST OFFICE W/MAIL DROP(KSF)	6.2 ksf	1865	0 ksf	0	0 ksf	0
PUBLIC STORAGE(KSF)	20.3 ksf	41	0 ksf	0	0 ksf	0
RBALL/TENNIS/HEALTH(KSF)	12.7 ksf	495	12.7 ksf	495	12.7 ksf	495
RESTAURANT (FAST-FOOD KSF)	29.4 ksf	20652	29.4 ksf	20652	29.4 ksf	20652
RESTAURANT (SIT-DOWN KSF)	104.2 ksf	13569	104.2 ksf	13569	104.2 ksf	13569
RESTUARANT (QUALITY-KSF)	76.7 ksf	7709	76.7 ksf	7709	76.7 ksf	7709
RIGHT-OF-WAY	760.4 acre	0	760.4 acre	0	760.4 acre	0
SENIOR HIGH SCHOOL(STU)	1441 stu	2594	1441 stu	2594	1441 stu	2594
SINGLE FAMILY (DETACHED)	5007 du	44721	4633 du	41384	4640 du	41447
SINGLE-MULTI UNIT	961 du	7646	614 du	4885	614 du	4885
SPECIALTY COMMERCIAL(KSF)	3.7 ksf	143	0 ksf	0	0 ksf	0
SPORT FACILITY-IN (AC)	0.3 ksf	10	0.3 ksf	9	0.3 ksf	9
SUPERMARKET (KSF)	86.5 ksf	13011	86.5 ksf	13011	86.5 ksf	13011
TIRE STORE (KSF)	4.8 ksf	124	0 ksf	0	0 ksf	0
UNDER CONTRUCTION	0.7 ksf	3	0 ksf	0	0 ksf	0
WAREHOUSING (KSF)	5 ksf	25	0 ksf	0	0 ksf	0
<b>Grand Total</b>		<b>387134</b>		<b>454720</b>		<b>460231</b>

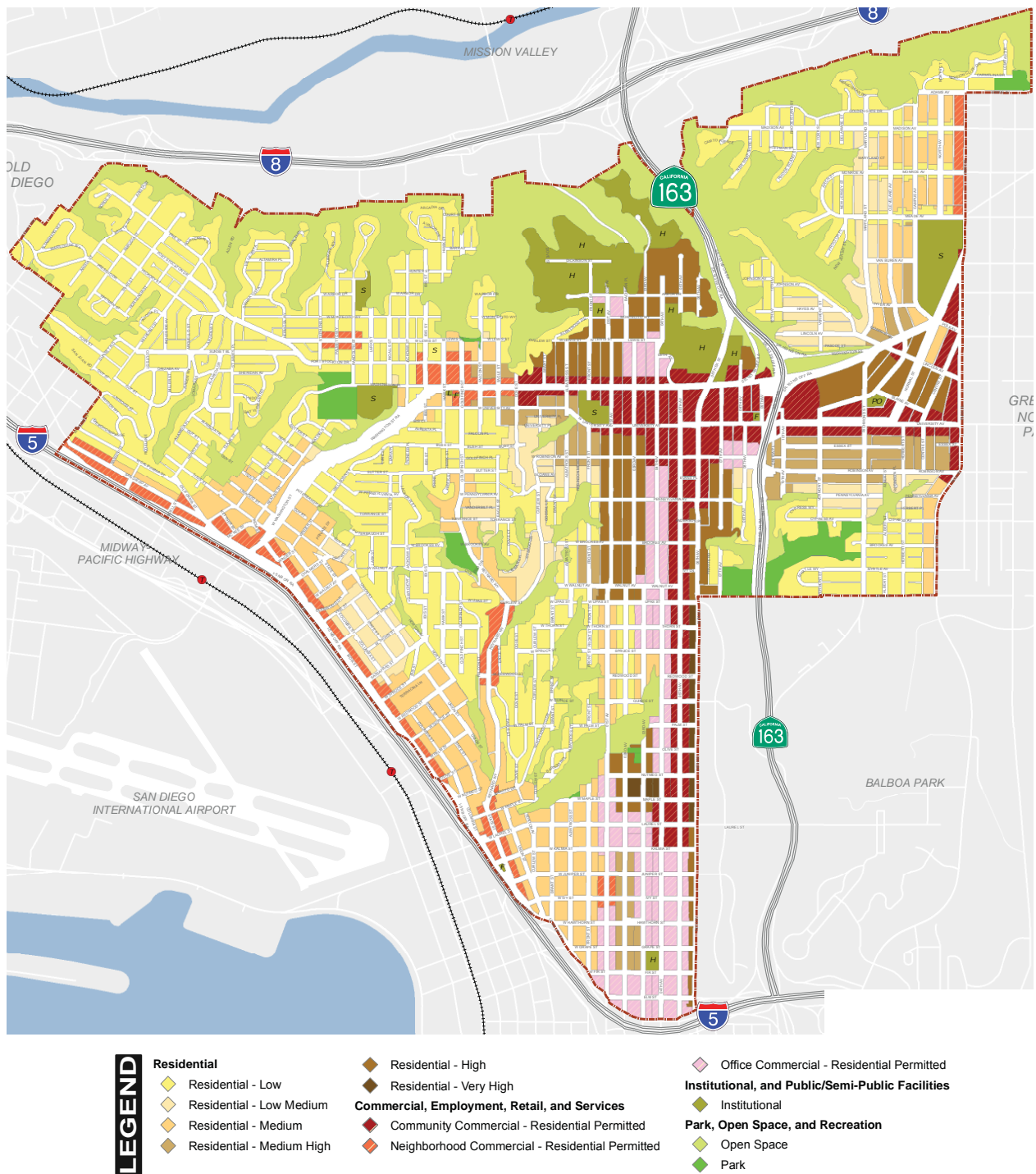
**Table 1-6 Trip Generation Comparison: Golden Hill**

Land Use	2008		Adopted		Proposed	
	Amount	Vehicle	Amount	Vehicle	Amount	Vehicle
ARTERIAL COMMERCIAL (KSF)	124.3 ksf	4942	33.9 ksf	1355	35.9 ksf	1437
AUTO REPAIR (KSF)	6.2 ksf	128	2 ksf	41	2 ksf	41
CHURCH (NO DAY-CARE KSF)	44.5 ksf	222	44.5 ksf	222	44.5 ksf	222
CHURCH (W/DAY-CARE KSF)	21.4 ksf	321	21.4 ksf	321	21.4 ksf	321
COMMUNITY COMMERCIAL (KSF)	0 ksf	0	264 ksf	18439	214.6 ksf	14999
CONVALESCENT/NURSING (KSF)	32 ksf	235	28 ksf	205	28 ksf	205
DRINKING PLACE (KSF)	4.6 ksf	604	4.6 ksf	604	4.6 ksf	604
ELEMENTARY SCHOOL (STU)	949 stu	2758	1226 stu	3563	1226 stu	3563
ESTATE HOUSING (DU)	1 du	12	1 du	12	1 du	12
FIRE OR POLICE STATION	1 site	228	1 site	228	1 site	228
FURNITURE STORE (KSF)	2.1 ksf	13	0 ksf	0	0 ksf	0
GAS STATION W FMART (PUMP)	12 pump	1796	12 pump	1796	12 pump	1796
INACTIVE USE	109.2 acre	0	96.3 acre	0	54.3 acre	0
LIGHT INDUSTRY (KSF)	112.8 ksf	1696	102.6 ksf	1543	102.6 ksf	1543
LR OFFICE (10.1k-20k-KSF)	14 ksf	374	14 ksf	374	14 ksf	374
LR OFFICE (U 5K KSF)	18.7 ksf	729	18.7 ksf	729	18.7 ksf	729
MARKET OPEN 16HR/DAY (KSF)	20.1 ksf	10036	20.1 ksf	10036	20.1 ksf	10036
MEDICAL OFFICE (KSF)	4.5 ksf	231	4.5 ksf	231	4.5 ksf	231
MULTI-FAMILY (O 20DU/AC)	3903 du/acre	23565	6389 du/acre	38574	6365 du/acre	38430
MULTI-FAMILY (U 20DU/AC)	237 du/acre	1896	305 du/acre	2441	305 du/acre	2441
NEIGHBORHOOD COMM (KSF)	12.4 ksf	1489	7.2 ksf	864	17.2 ksf	2062
OTHER CHILD SCHOOL(KSF)	6 ksf	232	0 ksf	0	0 ksf	0
OTHER GROUP QUARTERS	0.8 acre	3	0 acre	0	0 acre	0
OTHER GROUP QUARTERS (DU)	7 du	26	7 du	26	7 du	26
OTHER HEALTH CARE (KSF)	10.7 ksf	534	10.7 ksf	534	10.7 ksf	534
OTHER PUBLIC SERVICE	0.7 ksf	196	0 ksf	0	0 ksf	0
OTHER RETAIL COMM. (KSF)	2.1 ksf	83	2.1 ksf	83	2.1 ksf	83
POST OFFICE W/MAIL DROP(KSF)	3.8 ksf	1126	0 ksf	0	0 ksf	0
RESTAURANT (FAST-FOOD KSF)	2.8 ksf	1930	2.8 ksf	1930	2.8 ksf	1930

**Table 1-7** Trip Generation Comparison: Golden Hill (cont.)

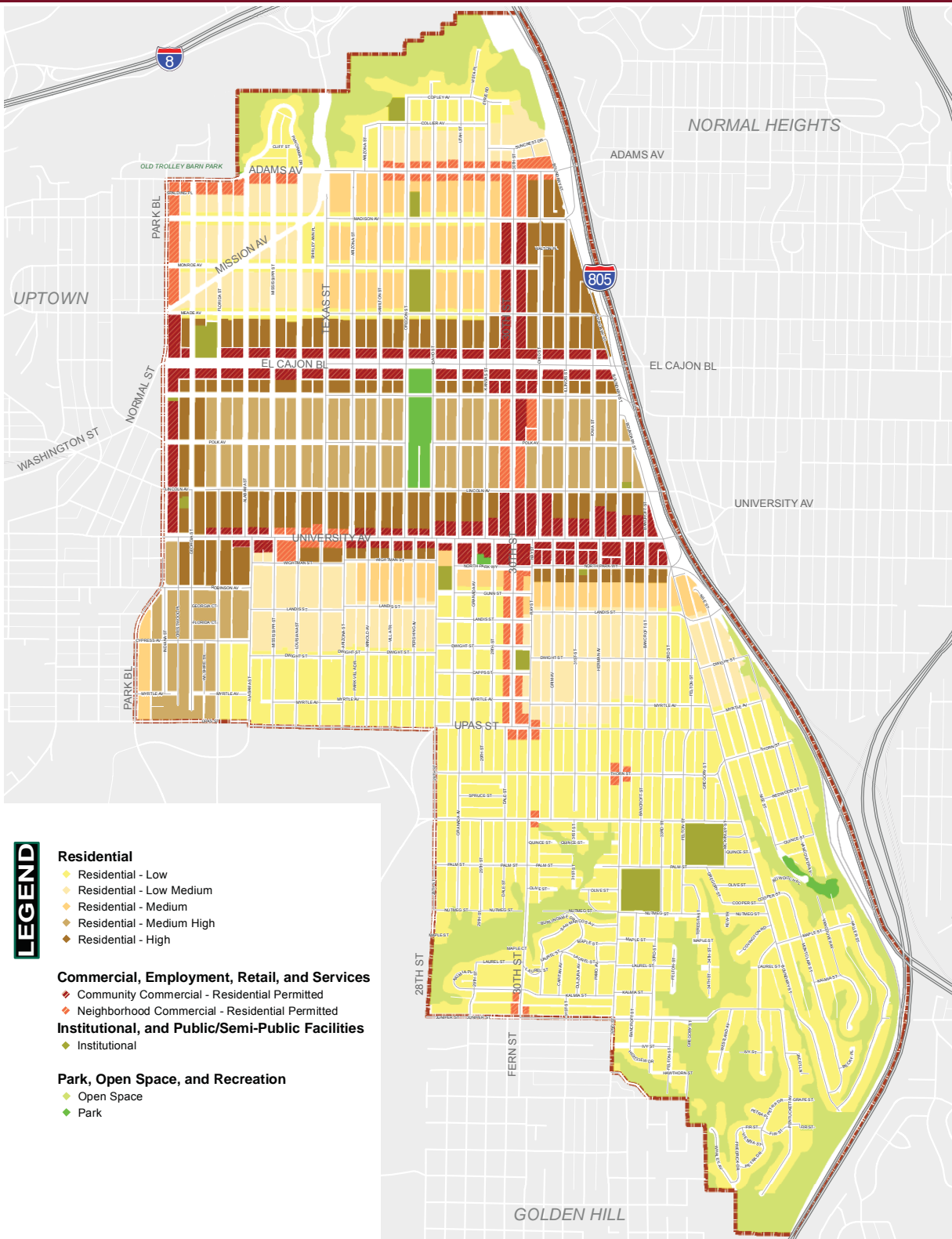
Land Use	2008		Adopted		Proposed	
	Amount	Vehicle	Amount	Vehicle	Amount	Vehicle
RESTAURANT (SIT-DOWN KSF)	10.3 ksf	1349	10.3 ksf	1349	10.3 ksf	1349
RESTUARANT (QUALITY-KSF)	6.4 ksf	638	6.4 ksf	638	6.4 ksf	638
RETIREMENT/SENIOR HOME(DU)	0 du	0	4 du	16	4 du	16
RIGHT-OF-WAY	227.6 acre	0	228 acre	0	228.2 acre	0
SINGLE FAMILY (DETACHED)	1356 du	12110	1087 du	9709	1114 du	9950
SINGLE-MULTI UNIT	1564 du	12441	844 du	6713	844 du	6713
SPORT FACILITY-IN (AC)	0.1 acre	3	0.1 acre	3	0.1 acre	3
SUPERMARKET (KSF)	36.1 ksf	5433	36.1 ksf	5433	36.1 ksf	5433
<b>Grand Total</b>		<b>87900</b>		<b>108535</b>		<b>106389</b>

FIGURE 1-3



*Proposed Land Use: Uptown*

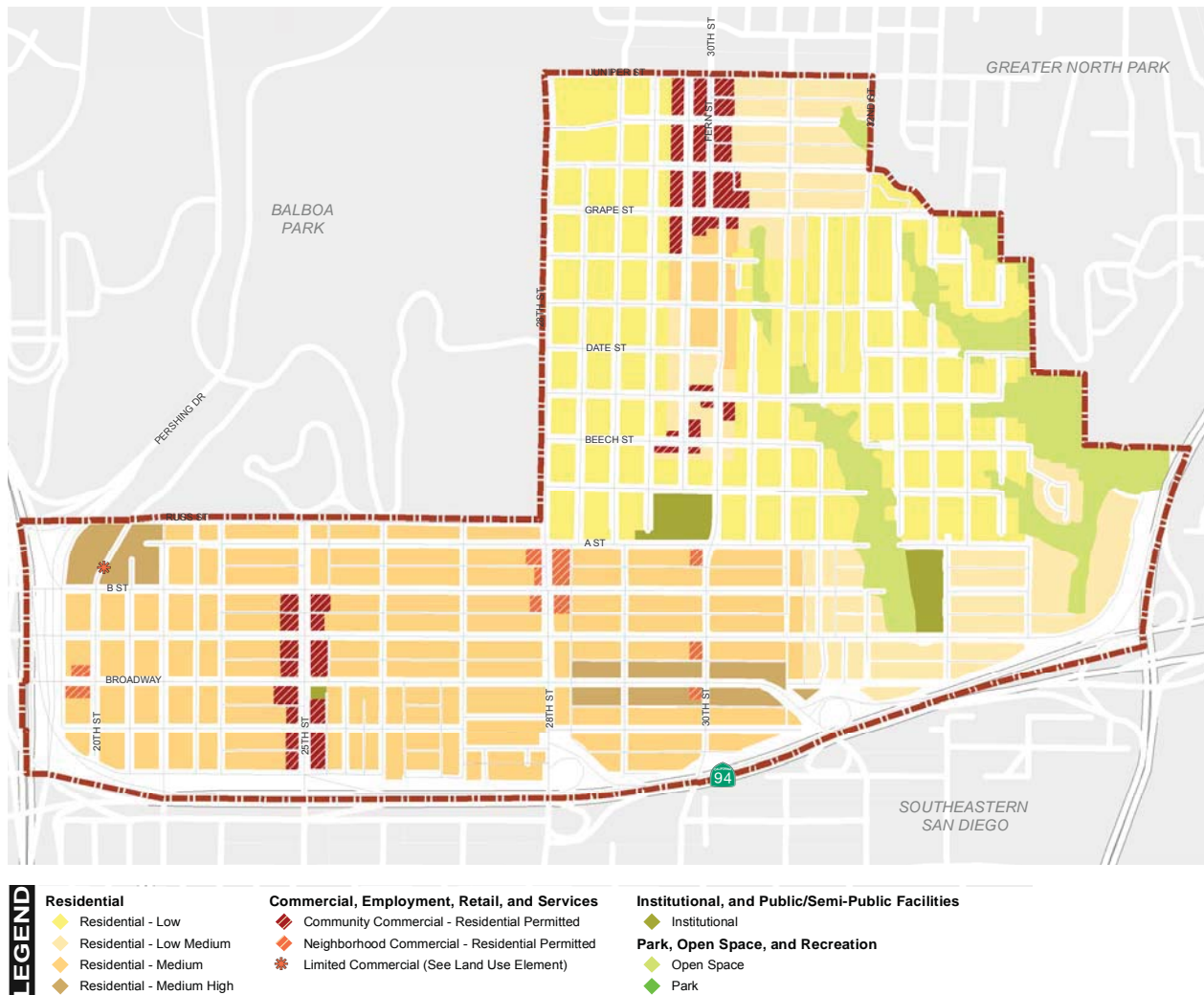
**FIGURE 1-4**



*Proposed Land Use: North Park*



**FIGURE 1-5**



*Proposed Land Use: Golden Hill*

## 2 METHODOLOGY

The following section describes the methodology used to determine study intersections, perform capacity analysis, and determine significant impacts.

### 2.1 STUDY INTERSECTIONS

Intersections within the project boundary were selected to be studied based on several factors, which included the following:

- Existing circulation element roadways intersecting with other existing circulation element roadways where both roadways function or are classified as a collector or higher
- Intersections that provide access to/from freeways
- Anticipated circulation element roadways intersecting with other existing and/or anticipated circulation element roadway where both roadways function or are classified as a collector or higher
- Key intersections where both intersecting streets meet one of the following conditions:
  - 4-lanes (or greater)
  - 3-lanes and carries over 15,000 ADT
  - 2-lanes and carries over 10,000 ADT
- Additional intersections which the community has expressed concerns

Based on the criteria listed above, a total of 53 intersections have been selected for analyses (30 intersections are located within Uptown; 11 within North Park; and 12 within Golden Hill) and are shown in **Table 2-1**. **Figure 2-1** displays the location of each of the study intersections

**Table 2-1** Study Intersections: Uptown

Intersection	Traffic Control
<b>1</b> Washington St & Hancock St	Traffic Signal
<b>2</b> Washington St & San Diego Ave	Traffic Signal
<b>3</b> Washington St & India St	Traffic Signal
<b>4</b> Washington St & Fourth Ave	Traffic Signal
<b>5</b> Washington St & Fifth Ave	Traffic Signal
<b>6</b> Washington St & Eighth Ave/SR-163 Off-Ramp (Caltrans)	Traffic Signal
<b>7</b> Washington St & Richmond St/SR-163 On-Ramp (Caltrans)	Traffic Signal
<b>8</b> Washington St/Normal St & Campus Ave/Polk Ave	Traffic Signal
<b>9</b> Normal St/El Cajon Blvd & Park Blvd	Traffic Signal
<b>10</b> University Ave & Fourth Ave	Traffic Signal
<b>11</b> University Ave & Fifth Ave	Traffic Signal
<b>12</b> University Ave & Sixth Ave	Traffic Signal
<b>13</b> University Ave & Tenth St	Traffic Signal
<b>14</b> University Ave & Normal St	Traffic Signal

15	University Ave & Park Blvd	Traffic Signal
16	Robinson Ave & Fourth Ave	Traffic Signal
17	Robinson Ave & Fifth Ave	Traffic Signal
18	Robinson Ave & Sixth Ave	Traffic Signal
19	Vine St & India St	Traffic Signal
20	Sassafras St & Kettner Blvd	Traffic Signal
21	Sassafras St & India St	Traffic Signal
22	Laurel St & India St/ I-5 NB On-Ramp	Traffic Signal
23	Laurel St & Fourth Ave	Traffic Signal
24	Laurel St & Fifth Ave	Traffic Signal
25	Laurel St & Sixth Ave	Traffic Signal
26	Hawthorn St & Brant St	Two-way stop controlled
27	Grape St & State St	Traffic Signal
28	Elm St & First Ave	Traffic Signal
29	Elm St & Sixth Ave	Traffic Signal
30	Cedar St & Second Ave	Two-way stop controlled

As shown in the table, 28 of the 30 intersections evaluated in the Uptown community are signalized while 2 intersections are unsignalized with vehicles required to stop on two legs of the intersection. The majority of the intersections include at least one of the major roadways within the community, which are Washington Street, University Avenue, Robinson Avenue, Upas Street, and Laurel Street.

**Table 2-1.2** Study Intersections: North Park

	Intersection	Traffic Control
31	Madison Ave & Texas St	Traffic Signal
32	El Cajon Blvd & Texas St	Traffic Signal
33	El Cajon Blvd & 30th St	Traffic Signal
34	El Cajon Blvd & I-805 SB Ramps	Traffic Signal
35	El Cajon Blvd & I-805 NB Ramps	Traffic Signal
36	University Ave & Texas St	Traffic Signal
37	University Ave & 30th St	Traffic Signal
38	University Ave & Boundary St	Traffic Signal
39	University Ave & I-805 NB Ramps	Traffic Signal
40	North Park Way/I-805 SB Ramps & Boundary St/33rd St	All-way stop controlled
41	Upas St & 30th St (W)	All-way stop controlled

As shown in the table, 9 of the 11 intersections evaluated in the North Park community are signalized while 2 intersections are all-way stop controlled unsignalized. The majority of the intersections include at least one of the major roadways within the community, which are El Cajon Boulevard, University Avenue, and Upas Street.

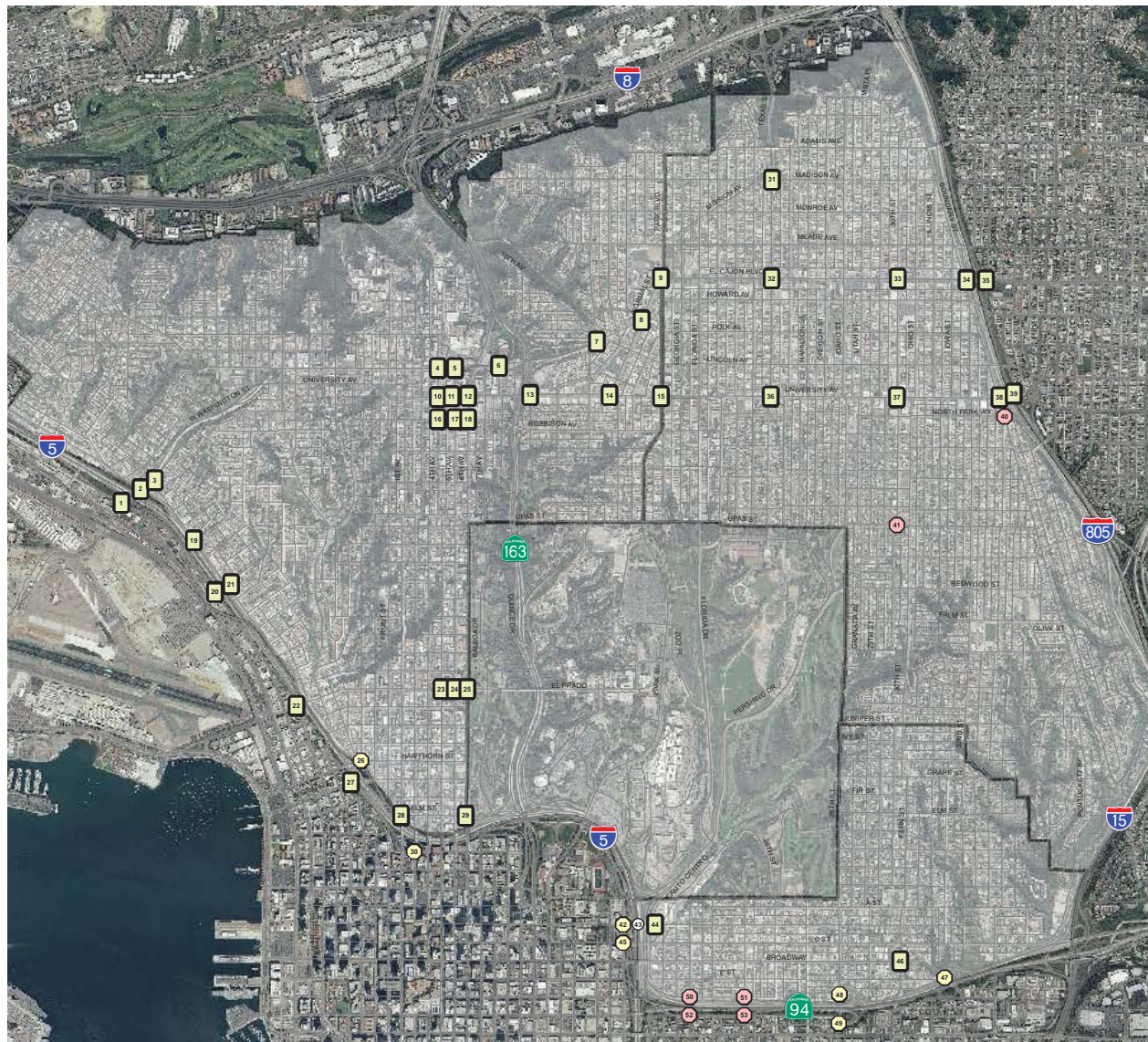
**Table 2-1.3** Study Intersections: Golden Hill

	Intersection	Traffic Control
42	B St & 17th St/I-5 SB Off-Ramp	One-way stop controlled
43	B St & I-5 NB Off-Ramp	None
44	B St & 19th St/I-5 NB On-Ramp	Traffic Signal
45	C St & 17 St	One-way stop controlled
46	Broadway & 30th St	Traffic Signal
47	SR-94 WB Ramps & Broadway	One-way stop controlled
48	SR-94 WB Ramps & 28th St	Two-way stop controlled
49	SR-94 EB Ramps & 28th St	One-way stop controlled
50	F St & 22nd St	All-way stop controlled
51	F St & 25th St	All-way stop controlled
52	G St & 22nd St	All-way stop controlled
53	G St & 25th St	All-way stop controlled

As shown in the table, only 2 of the 12 intersections evaluated in the Golden Hill community are signalized while the other 10 intersections are unsignalized. The intersection of B Street and I-5 Northbound Off-Ramp has no conflicting movements and therefore does not require any traffic control.



FIGURE 2-1



**LEGEND** Intersection

- SIGNAL
- AWSC
- TWSC

0 1,000 2,000 4,000 Feet

## Study Intersections

Uptown, North Park, Golden Hill | Draft Report  
June 2015 | Final

## 2.2 ANALYSIS PROCESS

The analysis process includes determining the a.m. and p.m. peak-hour operations at the study intersections, freeway segments and freeway ramps, and operations daily along the roadway segments. Intersections were measured and quantified using the Synchro traffic analysis software package. Results will be compared to the City's thresholds to determine if the project has any significant traffic impacts.

### 2.2.1 ANALYSIS SOFTWARE

To analyze the operations of both signalized and unsignalized intersections, Synchro 8.0 (Trafficware) was used for the analysis. Synchro 8.0 uses the methodologies outlined in the 2000 Highway Capacity Manual (HCM). The existing intersection peak-hour factor (PHF) was used for Existing and Near Term scenarios. A PHF of 0.92 was used for Future Year conditions to account for the unknown change in traffic patterns.

Existing traffic signal timing parameters were provided by the City of San Diego and Caltrans and are included in **Appendix A**.

### 2.2.2 SIGNALIZED AND UNSIGNALIZED INTERSECTIONS

The 2010 Highway Capacity Manual (HCM) published by the Transportation Research Board establishes a system whereby highway facilities are rated for their ability to process traffic volumes. The terminology "level of service" is used to provide a "qualitative" evaluation based on certain "quantitative" calculations, which are related to empirical values.

Level of service (LOS) for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in addition to the stop delay. The level of service for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. The criteria for the various levels of service designations for signalized and unsignalized intersections are given in **Table 2-2**.

Within the City of San Diego, all signalized and unsignalized intersections are considered deficient if they operate at LOS E or F.

**Table 2-2** Level of Service (LOS) Criteria for Intersections

LOS	Signalized (Control Delay) (sec/veh) <sup>(a)</sup>	Unsignalized (Control Delay) (sec/veh) <sup>(b)</sup>	Description
<b>A</b>	≤10.0	≤10.0	Operations with very low delay and most vehicles do not stop.
<b>B</b>	>10.0 and ≤20.0	>10.0 and ≤15.0	Operations with good progression but with some restricted movement.
<b>C</b>	>20.0 and ≤35.0	>15.0 and ≤25.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
<b>D</b>	>35.0 and ≤55.0	>25.0 and ≤35.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines.
<b>E</b>	>55.0 and ≤80.0	>35.0 and ≤50.0	Operations where there is significant delay, extensive queuing, and poor progression.
<b>F</b>	>80.0	>50.0	Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.
Source:			
(a) 2000 Highway Capacity Manual, Chapter 16, Page 2, Exhibit 16-2			
(b) 2000 Highway Capacity Manual, Chapter 17, Page 2, Exhibit 17-2			

### 2.2.3 ROADWAY SEGMENTS

In order to determine the impacts on the study area roadway segments, **Table 2-3** has been developed by the City of San Diego and is used as a reference. The segment traffic volumes under LOS E as shown in this table are considered at capacity because at LOS E the v/c Ratio is equal to 1.0.

**Table 2-3** City of San Diego Roadway Segment Capacity and Level of Service

Road Class	Lanes	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	30,000	42,000	60,000	70,000	80,000
Prime Arterial (two-way)	6	25,000	35,000	50,000	55,000	60,000
Major Arterial (two-way)	6	20,000	28,000	40,000	45,000	50,000
Major Arterial (two-way)	4	15,000	21,000	30,000	35,000	40,000
Major Arterial (two-way)	3	11,250	15,750	22,500	26,250	30,000
Major Arterial (one-way)	3	12,500	16,500	22,500	25,000	27,500
Major Arterial (one-way)	2	10,000	13,000	17,500	20,000	22,500
Collector (two-way)	4	10,000	14,000	20,000	25,000	30,000
Collector (No center lane) (Continuous left-turn lane)	4 2	5,000	7,000	10,000	13,000	15,000
Collector (No fronting property)	2	4,000	5,500	7,500	9,000	10,000
Collector (two-way)	3	7,500	10,500	15,000	17,500	20,000
Collector (no center turn lane)	3	4,000	5,500	7,500	10,000	11,500
Collector (Commercial/Industrial fronting)	2	2,500	3,500	5,000	6,500	8,000
Collector (Multi-family)	2	2,500	3,500	5,000	6,500	8,000
Collector (one-way)	3	11,000	14,000	19,000	22,500	26,000
Collector (one-way with one lane dedicated for bike facility)	3	7,500	9,500	12,500	15,000	17,500
Collector (one-way)	2	7,500	9,500	12,500	15,000	17,500
Collector (one-way)	1	2,500	3,500	5,000	6,250	7,500
Sub-Collector (Single family)	2	–	–	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. Capacities for any classification not identified in the sources noted below were developed based on interpolation from similar classifications.

Sources: City of San Diego Traffic Impact Study Manual, Table 2, Page 8, July 1998.

City of San Diego Planning Department Mobility Section



## 2.2.4 FREEWAY SEGMENTS

In order to determine the impacts on the study area freeway segments, **Table 2-4** has been developed by Caltrans District 11 and is used as a reference. The procedure involves comparing the peak-hour volume of the mainline freeway segment to the theoretical capacity of the segment, which results in a v/c ratio. The calculated v/c ratio is then compared to the accepted ranges of v/c ratio values corresponding to the respective LOS.

**Table 2-4** LOS Criteria For Freeway Segment Analysis

LOS	v/c Ratio	Congestion/Delay	Traffic Description
<b>A</b>	<0.41	None	Free Flow
<b>B</b>	0.41 – 0.62	None	Free to stable flow, light to moderate volumes
<b>C</b>	0.63 – 0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
<b>D</b>	0.81 – 0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, and very limited freedom to maneuver
<b>E</b>	0.93 – 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor
<b>F<sub>0</sub></b>	1.01 – 1.25	Considerable 0-1 hour delay	Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection
<b>F<sub>1</sub></b>	1.26 – 1.35	Severe 1-2 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go
<b>F<sub>3</sub></b>	1.36 – 1.45	Very severe 2-3 hour delay	Extremely heavy congestion, very long queues
<b>F<sub>4</sub></b>	>1.46	Extremely severe 3+ hour delay	Gridlock
Notes: Based on the 1992 Caltrans guidelines.			

## 2.2.5 FREEWAY RAMP METERING

Ramp metering is a means of controlling the volume of traffic entering the freeway with the goal of improving the traffic operations and flow on the freeway main lanes. Freeway ramp meter analysis estimates the peak hour queues and delays at freeway ramps by comparing existing volumes to the meter rate at the given location. The excess demand, if any, forms the basis for calculating the maximum queues and maximum delays anticipated at each location. Substantial queues and delays can form where demand significantly exceeds the meter rate. This approach assumes a static meter rate throughout the course of the peak hour. However, Caltrans has indicated that the meter rates are continually adjusted based on the level of traffic using the on-ramp. To the extent possible, the meter rate is set such that the queue length does not exceed the available storage, smooth flows on the freeway mainline is maintained, and there is no interference to arterial traffic.

## 2.3 SIGNIFICANCE DETERMINATION

The City of San Diego and Caltrans have developed acceptable threshold standards to determine the significance of project impacts to intersections, roadway segments, freeway segments, and freeway ramp metering. At intersections, the measurement of effectiveness (MOE) is based on allowable increases in delay. Along roadway segments and freeway segments, the MOE is based on allowable increases in the volume-to-capacity (v/c) ratio. At a freeway ramp meter, the MOE is based on allowable increases in delay, measured in minutes.

LOS F is not acceptable for any approach leg except for side streets on an interconnected arterial system. If vehicle trips from a project cause an intersection approach leg to operate at LOS F, except in the cases of side streets on an interconnected arterial system, this would be considered a significant project traffic impact that requires mitigation. At intersections that are expected to operate at LOS E or F without the project, the allowable increase in delay is two seconds at LOS E and one second at LOS F with the addition of the project. If vehicle trips from a project cause the delay at an intersection to increase by more than the allowable threshold, this would be considered a significant project impact that requires mitigation. Also, if the project causes an intersection that was operating at an acceptable LOS to operate at LOS E or F, this would be considered a significant project impact that requires mitigation.

For roadway segments that are forecasted to operate at LOS E or F with the project, the allowable increase in v/c ratio is 0.02 at LOS E and 0.01 at LOS F. If vehicle trips from a project cause the v/c ratio to increase by more than the allowable threshold, this would be considered a significant project traffic impact that requires mitigation. Also, if the project causes a street segment that was operating at an acceptable LOS to operate at LOS E or F, this would be considered a significant impact that requires mitigation.

Where the roadway segment operates at LOS E or F, if the intersections at the ends of the segment are calculated to operate at an acceptable LOS with the project; and a peak hour HCM arterial analysis for the same segment shows that the segment operates at an acceptable LOS with the project; then the project impacts are determined to be less than significant and no mitigation is required. If analysis shows either the intersections or segment under the peak hour HCM analysis do not operate acceptably, the project impacts are considered significant and unmitigated, requiring the adoption of findings of infeasibility and a statement of over-riding considerations before the project may be approved.

In certain instances mitigation may not be required even if a roadway segment operates at LOS E or LOS F. In such cases the following three conditions must all be met:

1. The roadway is built to its ultimate classification per the community plan;
2. The intersections on both ends of the failing segment operate at an acceptable LOS; and
3. An HCM arterial analysis indicates an acceptable LOS on the segment.

For freeway segments that are forecasted to operate at LOS E or F with the project, the allowable increase in v/c ratio is 0.01 at LOS E and 0.005 at LOS F. If vehicle trips from a project cause the v/c ratio to increase by more than the allowable threshold, this would be considered a significant project traffic impact that requires mitigation. Also, if the project causes a freeway segment that was operating at an acceptable LOS to operate at LOS E or F, this would be considered a significant impact that requires mitigation.

If vehicle trips from a project cause a metered ramp with a delay of 15 minutes per vehicle or higher to increase its delay by more than 2 minutes per vehicle, this would be considered a significant project traffic impact that requires mitigation if the freeway segment operates at LOS E or F.

Two classes of impacts are measured for significance: Direct Impacts and Cumulative Impacts. Direct traffic impacts are those projected to occur at the time the proposed study development becomes operational. During this time, other developments not presently operational but which are anticipated to be operational during the Near Term scenario are included. Cumulative traffic impacts are those projected to occur at some point after the proposed study development becomes operational, such as during subsequent phases

of the project, and when additional proposed developments in the area become operational (short-term cumulative) or when the affected community plan area reaches full planned build out (long-term cumulative). The project applicant would be responsible for mitigating direct impacts by improving operation to better than pre-project conditions. The project applicant would provide their fair share contribution toward installing improvements to mitigate cumulative impacts. A fair share contribution is based on the project's proportionate traffic contribution to future increased traffic volumes on a facility.

**Table 2-5** shows the criteria for determining levels of significance for the different facilities in the study area.

**Table 2-5** Significance Criteria For Facilities in Study Area

Facility	Measures of Effectiveness (MOE)	Significance Threshold <sup>(a)</sup>
Intersection	Seconds of Delay	>2.0 seconds at LOS E or >1.0 second at LOS F
Roadway Segment	ADT, v/c Ratio	>0.02 at LOS E, or >0.01 at LOS F
Freeway Segment	v/c Ratio	>0.01 at LOS E, or >0.005 at LOS F
Freeway Ramp Meter	Minutes of delay per vehicle	>2.0 minutes for freeway segments operating at LOS E, and > 1.0 minutes for freeway segments operating at LOS F. The criteria only apply for ramp meters where the delay without project is 15 minutes or higher.
<p>Notes: If a project adds any increment of delay to cause the operations of an intersection to go from LOS D to either LOS E or LOS F, then the project is considered to cause a significant impact.</p> <p>Source: City of San Diego Significance Determination Thresholds, page 72, January 2011.</p> <p>(a) Significance threshold applies only when the type of facility operates at LOS E or F.</p>		

## 3 EXISTING CONDITIONS

This section summarizes the existing roadway circulation network, daily and peak-hour traffic volumes, and operations at the study intersections and roadway and freeway segments.

### 3.1 ROAD NETWORK

The following section provides a description of the existing study streets within the communities. Ultimate roadway classifications are taken from the Uptown Community Plan, last updated February 1988, the North Park Community Plan, last updated November 1986, and the Golden Hill Community Plan, last updated June 1990. The portions of the roadways described are intended to reflect the areas within the given community, and may not reflect the entirety of the roadway. Functional classifications are based on field observations performed during preparation of this report. **Figures 3-1, 3-2, and 3-3** illustrate the existing roadway classifications for each of the three communities. **Appendix B** provides the existing intersection geometrics used in this study. The City of San Diego Bicycle Master Plan (City BMP) proposes several bicycle facilities in these communities as noted in the roadway descriptions below.

#### UPTOWN

**First Avenue** functions as a north-south, 2-lane collector with a curb to curb width of 50 feet between I-5 and Arbor Avenue. It is two-way for the majority of its length between Grape Street and Washington Street, and one-way northbound otherwise. First Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street for the entire length of the street. Intermittent angled parking is available on First Avenue from Redwood Street to Palm Street. The posted speed limit ranges from 25 mph to 30 mph. Access to I-5 northbound is provided at the intersection of First Avenue and Elm Street. The ultimate adopted community plan street classification for First Avenue is a 3-lane collector. The City BMP proposes First Avenue as a Class III (Bike Route) facility between downtown and Lewis Street, with the option of a Class II (Bike Lanes) between Upas Street and Washington Street.

**Fourth Avenue** functions as a north-south roadway varying between a 2-lane collector and a 3-lane collector. It is a one-way southbound 3-lane collector with a curb to curb width of 50 feet between I-5 and Walnut Avenue, a one-way southbound 2-lane collector with a curb to curb width of 45 feet between Walnut Avenue and Washington Street, and a two-way, 2-lane collector with a curb to curb width of 50 feet north of Washington Street. It is currently functioning at its adopted plan ultimate classification. Fourth Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit ranges from 25 mph to 30 mph. It is currently classified as a Class III bicycle route south of Juniper Street and has a striped enhanced Class II (buffered bicycle lane) between Elm Street and Laurel Street. The City BMP identifies Fourth Avenue as a Class III (Bike Route) facility between downtown and Upas Street, as a Class II (Bike Lanes) facility between Upas Street and Washington Street, and a Class III facility between Washington Street and Lewis Street.

**Fifth Avenue** functions as a one-way northbound 3-lane collector with a curb to curb width of 50 feet between I-5 and Washington Street. It is currently functioning at its adopted plan ultimate classification. Fifth Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is ranges from 25mph to 30 mph. It is classified as a Class III bicycle route south of Laurel Street and has a striped enhanced Class II (buffered bicycle lane) between Elm Street and Laurel Street. The City BMP identifies Fifth Avenue as a Class II (Bike Lanes) facility between downtown and Washington Street, with the option of a Class III (Bike Route) between University Avenue and Washington Street.

**Sixth Avenue** functions as a north-south 4-lane collector with no center lane and a curb to curb width of 60 feet between I-5 and University Avenue, and provides access to SR-163 north of University Avenue. From Washington Street to University Avenue, it functions as a 3-lane collector with a curb to curb width of 65 feet. It is currently functioning at its adopted plan ultimate classification. Sixth Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. Balboa Park runs along the east side of Sixth Avenue. The posted speed limit is 30 mph, and it is classified as a Class III bicycle route south of Upas Street. The City BMP proposes Sixth Avenue as a Class II (Bike Lanes) facility between downtown and Upas Street.

**Ninth Avenue** is a short two-way, north-south roadway with a curb to curb width of 50 feet between University Avenue and Washington Street with a SR-163 southbound off-ramp connection. Ninth Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**Campus Avenue** functions as a north-south 2-lane collector with a curb to curb width of 50 feet between Washington Street and Madison Avenue. It is currently functioning at its adopted plan ultimate classification. Campus Avenue is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the west side of the street between Madison Avenue and Monroe Avenue and between Van Buren Avenue and Tyler Avenue. Parallel parking is available along the other sections. The posted speed limit is 25 mph.

**Cleveland Avenue** functions as a 2-lane collector with bike lanes, parallel parking, and sidewalks on both sides of the street with a curb to curb width of 50 feet between Washington Street and Madison Avenue. South of Washington Street, no bike lanes are provided but parallel parking and sidewalks continue to line the street on both sides. It is currently functioning at its adopted plan ultimate classification. The posted speed limit is 25 mph. The City BMP proposes Cleveland Avenue as a Class II (Bike Lanes) facility between Madison Avenue and Richmond Street.

**Curlew Street** functions as a 2-lane collector with a curb to curb width of 40 feet between Reynard Way and Robinson Avenue. It is currently functioning at its adopted plan ultimate classification. Curlew Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. The City BMP proposes the entirety of Curlew Street as a Class III (Bike Route) facility.

**Elm Street** functions as a two-way 3-lane collector with a curb to curb width of 50 feet from First Avenue to Second Avenue, a one-way westbound 2-lane collector with a curb to curb width of 50 feet from Second Avenue to Third Avenue, and a 3-lane collector with a curb to curb width of 50 feet between Third Avenue and Sixth Avenue. It is bounded by an I-5 northbound off-ramp on the east and a northbound I-5 on-ramp on the west. It is currently functioning at its adopted plan ultimate classification. Elm Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**Fort Stockton Drive** functions as a 2-lane collector with a curb to curb width of 40 feet between Ampudia Street and Eagle Street. It is currently functioning at its adopted plan ultimate classification. Fort Stockton Drive is lined with sidewalks and curbs with parallel parking available on both sides of the street. Bike lanes are provided on Fort Stockton Drive between Witherby Street and Hermosa Way. The posted speed limit is 25 mph.

**Front Street** is not continuous through the Uptown community with breaks between Washington Street and University Avenue, Robinson Avenue and Brookes Avenue, Spruce Street and Maple Street, and Fir Street and Date Street. For areas south of Washington Street, Front Street is a two-lane roadway with parking allowed that serves residential areas and is not studied in this report. However, the portion of Front Street

north of Washington Street provides access to UCSD Medical Center and is a key circulation roadway that is included in the study. This portion of Front Street functions as a north-south two-way 2-lane collector with a curb to curb width of 40 feet between Dickinson Street and Arbor Drive, a one-way southbound 2-lane collector with a curb to curb width of 40 feet between Arbor Drive and Lewis Street, and a one-way southbound 3-lane collector with a curb to curb width of 50 feet between Lewis Street and Washington Street. Its adopted plan ultimate classification is a 3-lane collector between Arbor Drive and Washington Street. The posted speed limit is 25 mph. Front Street is lined with sidewalks and curbs with parallel parking available on both sides of the street.

**Grape Street** functions as a one-way eastbound, 3-lane collector with a curb to curb width of 50 feet between I-5 and First Avenue, and as a two-way, 2-lane collector with a curb to curb width of 50 feet between First Avenue and Sixth Avenue. Its adopted plan ultimate classification is a 3-lane collector between First Avenue and Sixth Avenue. Grape Street is lined with sidewalks and curbs. Angle parking is available on the north side of the street between First Avenue and Fourth Avenue, on both sides of the street between Fourth Avenue and Fifth Avenue, and on the south side between Fifth Avenue and Sixth Avenue. The posted speed limit is 25 mph. The City BMP proposes Grape Street as a Class III (Bike Route) facility between First Avenue and Sixth Avenue.

**Hawthorn Street** functions as a one-way westbound 3-lane collector with a curb to curb width of 50 feet from Brant Street to First Avenue and a two-way, 2-lane collector with a curb to curb width of 50 feet from First Avenue to Sixth Avenue. Its adopted plan ultimate classification is a 3-lane collector for its entirety. Hawthorn Street is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the north side of the street between Third Avenue and Sixth Avenue. Parallel Parking is available along the other sections. Access is provided to I-5 northbound from Hawthorn Street. The posted speed limit is 30 mph. The City BMP proposes Hawthorn Street as a Class III (Bike Route) facility between First Avenue and Sixth Avenue.

**India Street** functions as a one-way northbound collector with a varying classification between 2 lanes and 3 lanes and between two-way and one-way between I-5 to San Diego Avenue. North of San Diego Avenue, India Street is a two-way, 2-lane collector until it terminates at Washington Street. India Street is lined with sidewalks and curbs with parallel parking available on the east side of the street only. It runs parallel to I-5, providing access to I-5 northbound at San Diego Avenue. The posted speed limit is 35 mph. The City BMP proposes India Street as a Class II (Bike Lanes) facility between Laurel Street and Washington Street.

**Juan Street** functions as a 2-lane collector with a curb to curb width of 35 feet between Witherby Street and the community boundary, providing access into the Old Town community. Juan Street was not included in the adopted community plan future classifications. Juan Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 30 mph. The City BMP proposes Juan Street as a Class III (Bike Route) facility between Sunset Boulevard and Taylor Street in the Old Town community.

**Laurel Street** functions as an east-west 4-lane collector with a curb to curb width of 50 feet between I-5 and Union Street, as a 2-lane collector with a two-way left-turn lane with a curb to curb width of 50 feet between Union Street and Sixth Avenue. East of Sixth Avenue, Laurel Street enters Balboa Park and changes name to El Prado. Its adopted plan ultimate classification is a 2-lane collector. Laurel Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. The City BMP proposes Laurel Street as a Class III (Bike Route) facility between Reynard Way and Sixth Avenue, joining with the existing bike route in Balboa Park to the east.



**Lewis Street** functions as an east-west 2-lane collector with a curb to curb width of 50 feet between Fort Stockton Drive and Hawk Street, and a one-way, 2-lane eastbound collector with a curb to curb width of 35 feet between Front Street and Fourth Avenue. Natural terrain severs Lewis Street between Goldfinch Street and Albatross Street. It is currently functioning at its adopted plan ultimate classification. Bike lanes are provided between Fort Stockton Drive and Ibis Street. Lewis Street is lined with sidewalks and curbs with parallel parking available on both sides of the street between Fort Stockton Drive and Ibis Street. Angle parking is available on the south side of the street between Ibis Street and Hawk Street. The posted speed limit is 25 mph.

**Normal Street** functions as a 4-lane major arterial with a curb to curb width of 110 feet between University Avenue and Washington Street, and as a 6-lane major arterial with a curb to curb width of 110 feet between Washington Street and Park Boulevard/El Cajon Boulevard. It is currently functioning at its adopted plan ultimate classification. Normal Street is lined with sidewalks and curbs on both sides of the street, with angled parking available on both sides of the street between University Avenue and Washington Street. The posted speed limit is 30 mph. The City BMP proposes Normal Street as a Class II (Bike Lanes) facility between Washington Street and El Cajon Boulevard.

**Park Boulevard** changes cross-sections multiple times throughout the study area. It functions as a north-south 2-lane collector with a two-way left-turn lane and a curb to curb width of 65 feet between Upas Street and Cypress Avenue, a 3-lane collector (2 northbound, 1 southbound) with a curb to curb width of 65 feet between Cypress Avenue and Essex Street, a 4-lane major with a curb to curb width of 110 feet between Essex Street and Normal Street/El Cajon Boulevard, a 3-lane collector with a curb to curb width of 50 feet between Normal Street/El Cajon Boulevard and Meade Avenue, and a 2-lane collector with a continuous two-way left-turn lane and a curb to curb width of 50 feet between Meade Avenue and Adams Avenue. Its adopted plan ultimate classification is to be a 4-lane major between Upas Street and Washington Street. Park Boulevard is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on both sides of the street between Normal Street and University Avenue. Parallel parking is along the other sections. The posted speed limit is 35 mph between Upas Street and Washington Street, and 30 mph north of Washington Street. Park Boulevard serves as the community boundary between Uptown and North Park. Beyond these communities, it continues into Balboa Park providing access to the attractions within the park including the San Diego Zoo. Park Boulevard is classified as a Class III bicycle facility. The City BMP proposes Park Boulevard as a Class II (Bike Lanes) facility between Adams Avenue and Upas Street, and throughout Balboa Park, with the option of keeping Class III (Bike Route) facilities between Upas Street and El Cajon Boulevard/Normal Street and north of Madison Avenue.

**Reynard Way** functions as a 2-lane collector with a continuous left-turn lane and a curb to curb width of 55 feet between Torrance Street and Maple Street. Reynard Way becomes Goldfinch Street north of Torrance Street and becomes State Street south of Maple Street. The posted speed limit is 30 mph. It is currently functioning at its adopted plan ultimate classification. Reynard Way is lined with sidewalks and curbs on both sides of the street. The City BMP proposes the entirety of Reynard Way as a Class III (Bike Route) facility.

**Richmond Street** functions as a north-south 2-lane collector with a curb to curb width of 50 feet between Upas Street and Washington Street. Its adopted plan ultimate classification is to be a 3-lane collector between Cleveland Avenue and Robinson Avenue, and a 2-lane collector between Robinson Avenue and Upas Street. Richmond Street is lined with sidewalks and curbs with parallel parking allowed on both sides of the street. The posted speed limit is 25 mph. The City BMP proposes Richmond Street as a Class II (Bike Lanes) facility between Upas Street and Cleveland Avenue.



**Robinson Avenue** functions as an east-west 2-lane collector with a curb to curb width of 35 feet between Curlew Street and Park Boulevard. Between Vermont Street and Park Boulevard, Robinson Avenue functions as a 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet. It is currently functioning at its adopted plan ultimate classification. Robinson Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. Parking is not available between 5<sup>th</sup> Avenue and 7<sup>th</sup> Avenue. It provides access to and from SR-163 between Eighth Avenue and Tenth Avenue. The posted speed limit is 25 mph between Curlew Street and Tenth Avenue and 30 mph between Tenth Avenue and Park Boulevard. The City BMP proposes Robinson Avenue as Class III (Bike Route) facility between First Avenue and Park Boulevard, and continuing east of Park Boulevard as a Bicycle Boulevard facility providing connection to Alabama Street.

**San Diego Avenue** functions as a 2-lane collector with a curb to curb width of 50 feet between India Street and the community boundary, with one segment between McKee Street and Washington Street that functions as a 3-lane collector with a curb to curb width of 50 feet. The roadway is one-way northbound between California Street and India Street. This roadway provides a connection to the Old Town community. It is currently functioning at its adopted plan ultimate classification. San Diego Avenue is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the east side of the street between Washington Street and India Street. Parallel parking is along the other sections. The posted speed limit is 35 mph. The City BMP proposes San Diego Avenue as a Class II (Bike Lanes) facility between India Street and Congress Street.

**State Street** functions as a 2-lane collector with a curb to curb width of 50 feet between Juniper Street and Laurel Street. It was not included in the future classifications. State Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. The City BMP proposes State Street as a Class III (Bike Route) facility between Laurel Street and downtown.

**Sunset Boulevard** functions as an east-west 2-lane collector with bike lanes and a curb to curb width of 50 feet between Witherby Street and Fort Stockton Drive. It is lined with sidewalks and curbs with parallel parking available on both sides of the street. It is currently functioning at its adopted plan ultimate classification. The posted speed limit is 25 mph.

**University Avenue** functions as an east-west 2-lane collector with a curb to curb width of 45 feet between Washington Street and Fifth Avenue, as a 4-lane collector between Fifth Avenue and Eighth Avenue (varying between with and without a center lane), as a 4-lane major between Vermont Street and Normal Street, and a 4-lane collector between Normal Street and Park Boulevard. University Avenue has a curb to curb width of 60 feet between Fifth Avenue and Tenth Avenue, 110 feet between Tenth Avenue and Normal Street, and 50 feet between Normal Street and Park Boulevard. It is currently functioning at its adopted plan ultimate classification. University Avenue is lined with sidewalks and curbs on both sides of the street. Angle parking is available on both sides of the street between Vermont Street and Normal Street. Parallel parking is available along the other sections between Fifth Avenue and Park Boulevard. The posted speed limit is 25 mph between Washington Street and Park Boulevard. It is classified as a Class III bicycle facility between Goldfinch Street and Third Avenue. The City BMP proposes University Avenue as a Class II (Bike Lanes) facility east of First Avenue beyond the community boundaries, with the option of a Class III (Bike Route) facility between Fifth Avenue and Florida Street.

**Upas Street** functions as an east-west 2-lane collector with a curb to curb width of 50 feet between Front Street and Sixth Avenue, and provides access to Balboa Park. Upas Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. It is classified as

a Class III bicycle facility east of Third Avenue. The City BMP proposes Upas Street as a Class III (Bike Route) facility between First Avenue and Third Avenue as well.

**Washington Street** functions as an east-west 4-lane major with a curb to curb width of 80 feet between I-5 and Richmond Street, and as a 6-lane major between Richmond Street and Normal Street. It is currently functioning at its adopted plan ultimate classification. Washington Street does not have sidewalks or curbs between I-5 and Hawk Street, and between SR-163 and Lincoln Avenue. It is lined with sidewalks and curbs on both sides of the street throughout the rest of the segment. Parallel parking is available on select segments between Hawk Street and Park Boulevard. The posted speed limit is 45 mph between I-5 and Hawk Street, and 35 mph from Hawk Street to Park Boulevard. It is classified as a Class II (Bike Lanes) facility between University Avenue and India Street. The City BMP proposes the entirety of Washington Street as a Class II (Bike Lanes) facility.

## NORTH PARK

**30<sup>th</sup> Street** functions as a north-south 2-lane collector with a curb to curb width of 50 feet between Juniper Street and Upas Street and a 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between Upas Street and Adams Avenue. It is currently functioning at its adopted plan ultimate classification. 30<sup>th</sup> Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. The City BMP proposes the entirety of 30<sup>th</sup> Street as either a Class II (Bike Lanes) or Class III (Bike Route) facility. 30<sup>th</sup> Street is the main roadway connecting the North Park community with the Golden Hill community.

**32<sup>nd</sup> Street** functions as a north-south 2-lane collector with a curb to curb width of 45 feet between Juniper Street and Howard Avenue. Its adopted plan ultimate classification is a 3-lane collector between Landis Street and Lincoln Avenue and a 2-lane collector for the remaining portions. 32<sup>nd</sup> Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**Adams Avenue** functions as an east-west 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between Park Boulevard and I-805. It is currently functioning at its adopted plan ultimate classification. 32<sup>nd</sup> Street is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the north side of the street from Mission Cliff Drive to Park Boulevard. Parallel parking is available along the other sections, The posted speed limit is 25 mph. The City BMP proposes Adams Avenue as either a Class II (Bike Lanes) or Class III (Bike Route) facility between Park Boulevard and communities east of North Park.

**Boundary Street** functions as a 2-lane collector with a curb to curb width of 40 feet between Maple Street and Myrtle Avenue and a one-way southbound 1-lane collector with a curb to curb width of 25 feet between Myrtle Avenue and North Park Way, with I-805 off-ramps at North Park Way. Boundary Street is lined with sidewalks and curbs with parallel parking available on both sides of the street for this portion. North of North Park Way, Boundary Street parallels I-805 as a 2-lane collector and provides sidewalk and curb on the west side of the street only. The posted speed limit is 25 mph. It is currently functioning at its adopted plan ultimate classification. The City BMP proposes Boundary Street as either a Class II (Bike Lanes) or Class III (Bike Route) facility between Lincoln Avenue and Landis Street and as a Class III facility from Landis Street to its southern terminus where a Class I (Bike Path) is proposed to provide connections with C Street and Ash Street.

**Commonwealth Avenue** is a short segment functioning as a 2-lane collector with a curb to curb width of 35 feet between Boundary Street and Juniper Street. It is currently functioning at its adopted plan ultimate

classification. Commonwealth Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. The City BMP proposes Commonwealth Avenue as a Class III (Bike Route) facility between Boundary Street and Juniper Street.

**El Cajon Boulevard** functions as an east-west 6-lane major between Park Boulevard and I-805. It is currently functioning at its adopted plan ultimate classification. El Cajon Boulevard provides access to I-805 northbound and southbound. It is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 35 mph. The City BMP proposes El Cajon Boulevard as a Class II (Bike Lanes) facility between Park Boulevard and east to adjacent communities, with the option of a Class III (Bike Route) between Park Boulevard and Utah Street.

**Florida Street** functions as a north-south 2-lane collector with a curb to curb width of 40 feet between Upas Street and El Cajon Boulevard. It is currently functioning at its adopted plan ultimate classification. Florida Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. It continues south into Balboa Park and changes name to Florida Drive. The posted speed limit is 25 mph. The City BMP proposes Florida Street as a Class II (Bike Lanes) facility between Upas Street and University Avenue, and as a Class III (Bike Route) facility between University Avenue and Adams Avenue.

**Howard Avenue** functions as an east-west 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between Park Boulevard and 32<sup>nd</sup> Street. It is currently functioning at its adopted plan ultimate classification. Howard Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. It continues east over I-805 and changes name to Orange Avenue. The posted speed limit is 25 mph and it is currently a designated Class III (Bike Route) facility. The City BMP proposes Howard Avenue as a dedicated Bicycle Boulevard between Georgia Street and east beyond the community boundary.

**Juniper Street** functions as an east-west 2-lane collector with a curb to curb width of 50 feet between 29<sup>th</sup> Street and Pentuckett Avenue. It is currently functioning at its adopted plan ultimate classification. Juniper Street is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the north side of the street west of 30<sup>th</sup> Street. Parallel parking is available along the other sections. The posted speed limit is 25 mph. The City BMP proposes Juniper Street as a Class III (Bike Route) between 30<sup>th</sup> Street and Commonwealth Avenue.

**Landis Street** functions as a 2-lane collector with a curb to curb width of 50 feet between Boundary Street and Nile Street and provides access across I-805. Its adopted plan ultimate classification is a 3-lane collector for this section. Landis Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. The City BMP proposes Landis Street as a Bicycle Boulevard between Alabama Street and Utah Street, as a Class III (Bike Route) facility between Utah Street and Boundary Street, joining the existing bike lanes east of Boundary Street.

**Lincoln Avenue** functions as an east-west 2-lane collector with a curb to curb width of 50 feet between Washington Street and Utah Street, and a 2-lane collector with a continuous two-way left-turn lane and a curb to curb width of 50 feet between Utah Street and I-805. Its adopted plan ultimate classification would be changing the section between Utah Street and I-805 into a two-way couplet system with University Avenue. Lincoln Avenue is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the north side of the street between Hamilton Street and Idaho Street. Parallel parking is available along the other sections. The posted speed limit is 25 mph west of 30<sup>th</sup> Street and 30 mph east of 30<sup>th</sup> Street. The City BMP proposes Lincoln Avenue as a Class II (Bike Lanes) facility between its western terminus and Park Boulevard, and as a Class III (Bike Route) facility between Park Boulevard and University Avenue with an option of a Class II (Bike Lanes) facility between 30<sup>th</sup> Street and Boundary Street.

**Madison Avenue** functions as an east-west 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between Park Boulevard and Texas Street and as a 2-lane collector with a curb to curb width of 50 feet between Texas Street and Boundary Street. Its adopted plan ultimate classification is a 2-lane collector for the entirety of the roadway. Madison Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**Meade Avenue** functions as an east-west 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between Cleveland Avenue and I-805, except between Campus Avenue and Park Boulevard where it is a 2-lane collector with a curb to curb width of 50 feet. Its adopted plan ultimate classification would be changing the section between Utah Street and I-805 into a two-way couplet system with University Avenue. Meade Avenue is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the south side of the street between North Avenue and Park Boulevard. Parallel parking is available along the other sections. The posted speed limit is 25 mph west of 30<sup>th</sup> Street and 30 mph east of 30<sup>th</sup> Street. The City BMP proposes Meade Avenue as a dedicated Bicycle Boulevard between Maryland Street and the community boundary to the east.

**Mission Avenue** runs diagonally through the grid network and functions as a one-way 2-lane collector with a curb to curb width of 50 feet between Park Boulevard and Texas Street. It is currently functioning at its adopted plan ultimate classification. Mission Avenue is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the north side of the street between Mississippi Avenue and Louisiana Street. Parallel parking is available along the other sections. The posted speed limit is 25 mph.

**Monroe Avenue** functions as an east-west 2-lane collector with a curb to curb width of 50 feet between Maryland Street and Ohio Street. Its adopted plan ultimate classification would be a 3-lane collector with a two-way left-turn lane. Monroe Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**Nile Street** functions as a 2-lane collector with a curb to curb width of 50 feet between Thorn Street and Landis Street. It is currently functioning at its adopted plan ultimate classification. Nile Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**North Park Way** functions as an east-west 2-lane collector between Utah Street and Boundary Street. North Park Way has a curb to curb width of 50 feet between Utah Street and Ray Street and 40 feet between Ray Street and Boundary Street. It is currently functioning at its adopted plan ultimate classification. North Park Way is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on both sides of the street west of 30<sup>th</sup> Street. Parallel parking is available along the other sections. The posted speed limit is 25 mph.

**Pentuckett Avenue** functions as a north-south 2-lane collector with a curb to curb width of 40 feet between Juniper Street and the south end of the road near SR-15. It is currently functioning at its adopted plan ultimate classification. Pentuckett Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**Redwood Street** functions as an east-west 2-lane collector with a curb to curb width of 40 feet between Pershing Drive and Boundary Street. It is currently functioning at its adopted plan ultimate classification. Redwood Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**Texas Street** functions as a north-south 2-lane collector with a curb to curb width of 40 feet between Upas Street and University Avenue, a 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between University Avenue and Mission Avenue, and transitioning to a 3-lane major with a curb to curb width of 60 feet between Mission Avenue and I-8. Its adopted plan ultimate classification would change it to a 4-lane major from El Cajon Boulevard to I-8. Texas Street is lined with sidewalks and curbs with parallel parking available on both sides of the street between Upas Street and Madison Street. From Madison Street to I-8, Texas Street runs through a canyon area; bike lanes are provided on both sides and sidewalk is provided on the west side. The posted speed limit is 25 mph between Upas Street and Madison Avenue, and 40 mph between Madison Avenue and I-8. The City BMP proposes the entirety of Texas Street as a Class II (Bike Lanes).

**University Avenue** functions as an east-west 4-lane collector with no center lane and a curb to curb width of 50 feet between Park Boulevard and Boundary Street, except between 30th Street and 32nd Street where it is a 3-lane collector (2 eastbound, 1 westbound) with a curb to curb width of 50 feet. Its adopted plan ultimate classification would be changing the section between Utah Street and I-805 into a two-way couplet system with Lincoln Avenue. University Avenue is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 30 mph between Park Boulevard and Utah Street and 25 mph between Utah Street and Boundary Street. The City BMP proposes University Avenue as a Class II (Bike Lanes) facility for all segments within the community boundaries with the option of a Class III (Bike Route) between Park Boulevard and Florida Street.

**Upas Street** functions as an east-west 2-lane collector with a curb to curb width of 40 feet between Alabama Street and Pershing Drive and between 30<sup>th</sup> Street and Boundary Street, and as a 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between Pershing Drive and 30<sup>th</sup> Street. It is currently functioning at its adopted plan ultimate classification. No sidewalks or curb are provided on the south side. East of Pershing Drive, Upas Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. Between Alabama Street and Pershing Drive, Upas Street borders Balboa Park to the north. Upas Street is classified as a Class III bicycle facility. The City BMP proposes Upas Street as a Class II (Bike Lanes) facility between Alabama Street and 30<sup>th</sup> Street with the option of a Class III (Bike Route) facility between Alabama Street and Pershing Avenue. Upas Street west of Morley Field Drive and 30<sup>th</sup> Street, and as a Class III facility between 30<sup>th</sup> Street and Boundary Street.

**Utah Street** functions as a north-south 2-lane collector with bike lanes and a curb to curb width of 50 feet between Upas Street and Copley Avenue, with a 3-lane section between Lincoln Avenue and University Avenue. Its adopted plan ultimate classification is a 3-lane collector. Utah Street is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the west side of the street between North Park Way and Gunn Street. Parallel parking is available along the other sections. The posted speed limit is 25 mph along Utah Street, except between University Avenue and El Cajon Boulevard where it increased to 30 mph.

## GOLDEN HILL

**25<sup>th</sup> Street** functions as a north-south 4-lane collector with a curb to curb width of 60 feet between SR-94 and B Street, and a 2-lane collector with a center turn lane and a curb to curb width of 60 feet between B Street and Russ Boulevard. It is currently functioning at its adopted plan ultimate classification. 25<sup>th</sup> Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. 25<sup>th</sup> Street provides access to SR-94 eastbound and also connects with Balboa Park to the north. The City BMP proposes 25<sup>th</sup> Street as a Class III (Bike Route) facility between Balboa Park and downtown with the option of a Class II (Bike Lanes) facility between Broadway and Market Street.



**26<sup>th</sup> Street** functions as a north-south 2-lane collector with a curb to curb width of 40 feet between F Street and Russ Boulevard. It is currently functioning at its adopted plan ultimate classification. 26<sup>th</sup> Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**28<sup>th</sup> Street** functions as a north-south 2-lane collector with a curb to curb width of 50 feet between SR-94 and Russ Boulevard. Its adopted plan ultimate classification is a 3-lane collector between SR-94 and B Street. 28<sup>th</sup> Street is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the east side of the street between A Street and B Street and on the west side of the street between C Street and Broadway. Parallel parking is available along other sections. The posted speed limit is 30 mph. 28<sup>th</sup> Street provides access to SR-94 eastbound and westbound. North of A Street, 28<sup>th</sup> Street serves as the eastern boundary of Balboa Park. 28<sup>th</sup> Street is classified as a Class III (Bike Route) facility south of Broadway. The City BMP proposes Class II (Bike Lane) between Broadway and SR-94, extending the 28<sup>th</sup> Street Class III (Bike Route) facility from Broadway north to Beech Street, and Class I (Bike Path) north of Beech Street.

**30<sup>th</sup> Street** functions as a north-south 2-lane collector with a curb to curb width of 40 feet between SR-94 and A Street where it changes name to Fern Street. 30<sup>th</sup> street picks up again offset one block to the west as a 2-lane collector with a curb to curb width of 50 feet. Its adopted plan ultimate classification has 30<sup>th</sup> Street as a 3-lane collector between SR-94 and C Street. It is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the west side of the street between Newton Avenue and National Avenue, between Greely Avenue and Ocean View Boulevard, between Juniper Street and Ivy Street, and between Grape Street and Hawthorn Street. Parallel parking is available along other sections. The posted speed limit is 30 mph. 30<sup>th</sup> Street is classified as a Class III bicycle facility. The City BMP proposes 30<sup>th</sup> Street as either a Class II (Bike Lanes) or Class III (Bike Route) facility north of Upas Street and a Class III (Bike Route) south of Upas Street. 30<sup>th</sup> Street and Fern Street is the main roadway connecting the Golden Hill community with the North Park community.

**31<sup>st</sup> Street** functions as a north-south 2-lane collector with a curb to curb width of 40 feet between B Street and Cedar Street and between Grape Street and Juniper Street, and as a one-way southbound 1-lane collector with a curb to curb width of 25 feet between Grape Street and Cedar Street. It is currently functioning at its adopted plan ultimate classification. 31<sup>st</sup> Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph.

**B Street** functions as an east-west 4-lane collector with no center lane and a curb to curb width of 50 feet between I-5 and 20<sup>th</sup> Street, and as a 2-lane collector with a curb to curb width of 50 feet between 20<sup>th</sup> Street and 32<sup>nd</sup> Street. It is currently functioning at its adopted plan ultimate classification. B Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 30 mph. The City BMP proposes B Street as a Class III (Bike Route) facility between 19<sup>th</sup> Street and Fern Street and as a Class II (Bike Lanes) facility west of 19<sup>th</sup> Street. B Street provides access to I-5 and downtown San Diego.

**Beech Street** functions as an east-west 2-lane collector with a curb to curb width of 50 feet between 28<sup>th</sup> Street and Fern Street. It is currently functioning at its adopted plan ultimate classification. Beech Street is lined with sidewalks and curbs with parking available on both sides of the street. Angle parking is available on the south side of the street between Dale Street and 30<sup>th</sup> Street. Parallel parking is available along other sections. The posted speed limit is 30 mph. The City BMP proposes Beech Street as a Class III (Bike Route) facility between 28<sup>th</sup> Street and Edgemont Street.

**Broadway** functions as an east-west 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between 19<sup>th</sup> Street and 29<sup>th</sup> Street, and as a 2-lane collector with a curb to curb width of 50 feet east of 29<sup>th</sup> Street with widening by the SR-94 ramps. Its adopted plan ultimate classification would be a 4-lane major for the portion east of 30<sup>th</sup> Street. Broadway is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. Broadway provides access to SR-94 and downtown San Diego. Broadway is classified as a Class III bicycle facility. The City BMP proposes Broadway Street as potentially being a Class II (Bike Lanes) facility between 19<sup>th</sup> Street and 22<sup>nd</sup> Street and between 28<sup>th</sup> Street and SR-94.

**C Street** functions as an east-west 2-lane collector with a two-way left-turn lane and a curb to curb width of 50 feet between I-5 and 29<sup>th</sup> Street, and as a 2-lane collector with a curb to curb width of 50 feet between 29<sup>th</sup> Street and Delevan Drive. Its adopted plan ultimate classification is a 2-lane collector. C Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 30 mph. The City BMP proposes C Street as a Class III (Bike Route) facility between 19<sup>th</sup> Street and Delevan Drive.

**Cedar Street** functions as an east-west 2-lane collector between Fern Street and Gregory Street. Cedar Street has a curb to curb width of 40 feet between Fern Street and Edgemont Street and 40 feet between Edgemont Street and Gregory Street. It is currently functioning at its adopted plan ultimate classification. The segment between 32<sup>nd</sup> Street and Gregory Street is not identified in the future classifications. Cedar Street is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 30 mph.

**Fern Street** functions as a north-south 2-lane collector with a curb to curb width of 40 feet between C Street and Juniper Street. Its adopted plan ultimate classification has Fern Street as a 3-lane collector between C Street and A Street. It is lined with sidewalks and curbs with parallel parking available on both sides of the street. The posted speed limit is 25 mph. The City BMP proposes Fern Street as a Class III (Bike Route) north of B Street, a Class II (Bike Lanes) between B Street and SR-94 with the option of a Class III (Bike Route) facility between Broadway and SR-94.

**Grape Street** functions as an east-west 2-lane collector between 28<sup>th</sup> Street and Marlton Drive. Grape Street has a curb to curb width of 50 feet between 28<sup>th</sup> Street and 31<sup>st</sup> Street and 40 feet between 31<sup>st</sup> Street and Marlton Drive. It is currently functioning at its adopted plan ultimate classification. Grape Street is lined with sidewalks and curbs with parking available on both sides of the street. The posted speed limit is 25 mph.

## **FREEWAYS**

**Interstate 5** is a significant north-south interstate that traverses the United States from the Mexico border to the Canadian border through the states of California, Oregon, and Washington. Within California, I-5 connects the following major metropolitan areas: San Diego, Los Angeles, Sacramento, and the eastern portion of the San Francisco Bay Area. I-5 can be directly accessed from the Uptown and Golden Hill communities and provides access to I-8, SR-163, and SR-94 within the vicinity of the study area.

**Interstate 8** is a significant east-west interstate that traverses from the western coast of San Diego to central Arizona. I-8 runs just north of the study communities, with direct access from Texas Street. I-8 provides connections with I-5, SR-163, and I-805 within the vicinity of the study area.

**State Route 15 / Interstate 15** is a significant north-south interstate that traverses from San Diego to Salt Lake City through the states of California, Nevada, and Utah. SR-15 can be accessed by SR-94 and I-805, but direct access is not provided from within the vicinity of the study area.

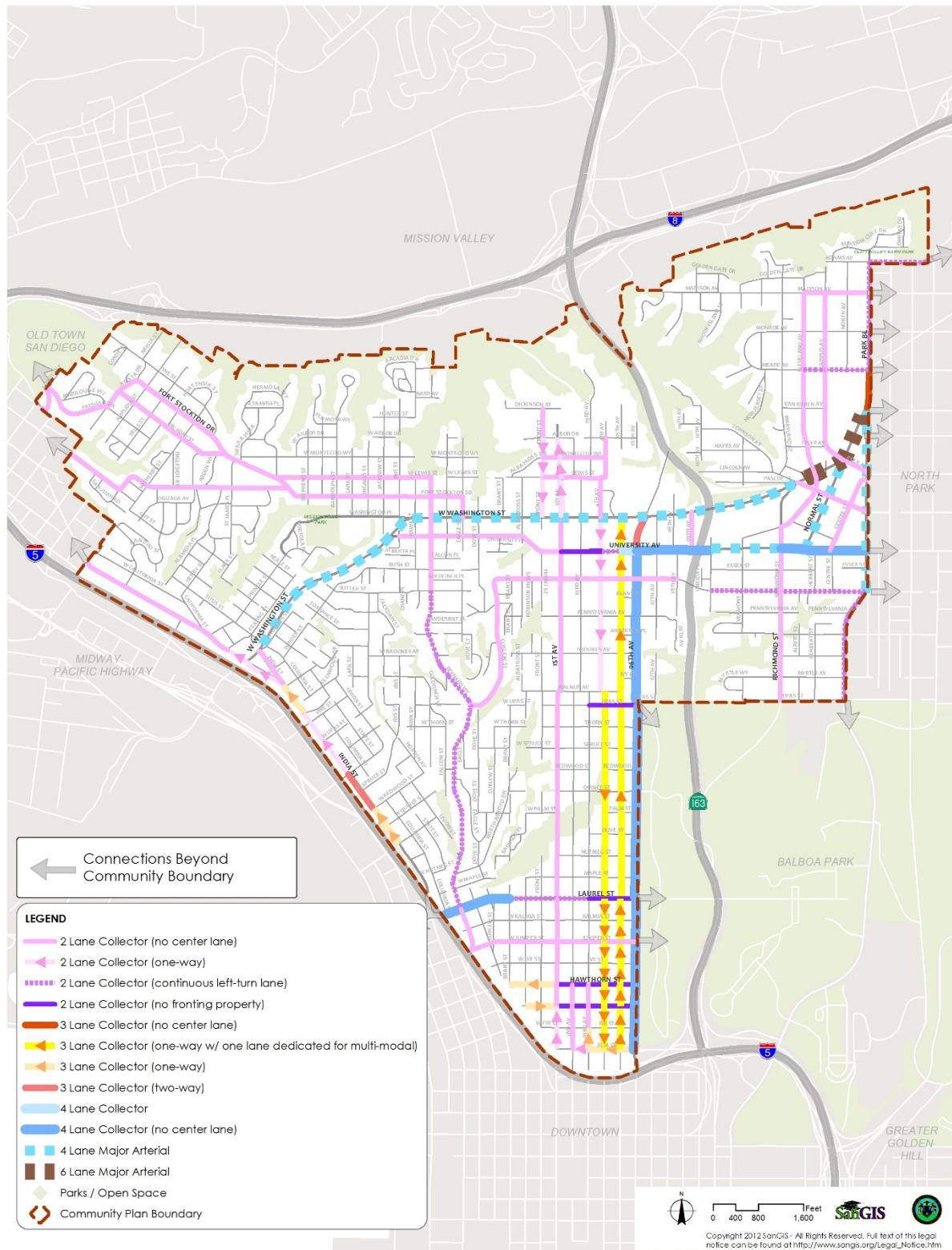


**Interstate 805** is largely contained within the San Diego metropolitan area. Termini are both located along Interstate 5, one near the Mexico border and the other near the Torrey Pines State Reserve and the University of California at San Diego. I-805 can be directly accessed from the North Park community and provides connections with I-8, SR-94 and SR-15 within the vicinity of the study area.

**State Route 94** connects San Diego with the rural areas east of San Diego. Termini are located at downtown San Diego and at I-8 near the community of Boulevard in southeastern San Diego County. SR-94 can be directly accessed from the Golden Hill community and provides connections with I-5, SR-15 and I-805 within the vicinity of the study area.

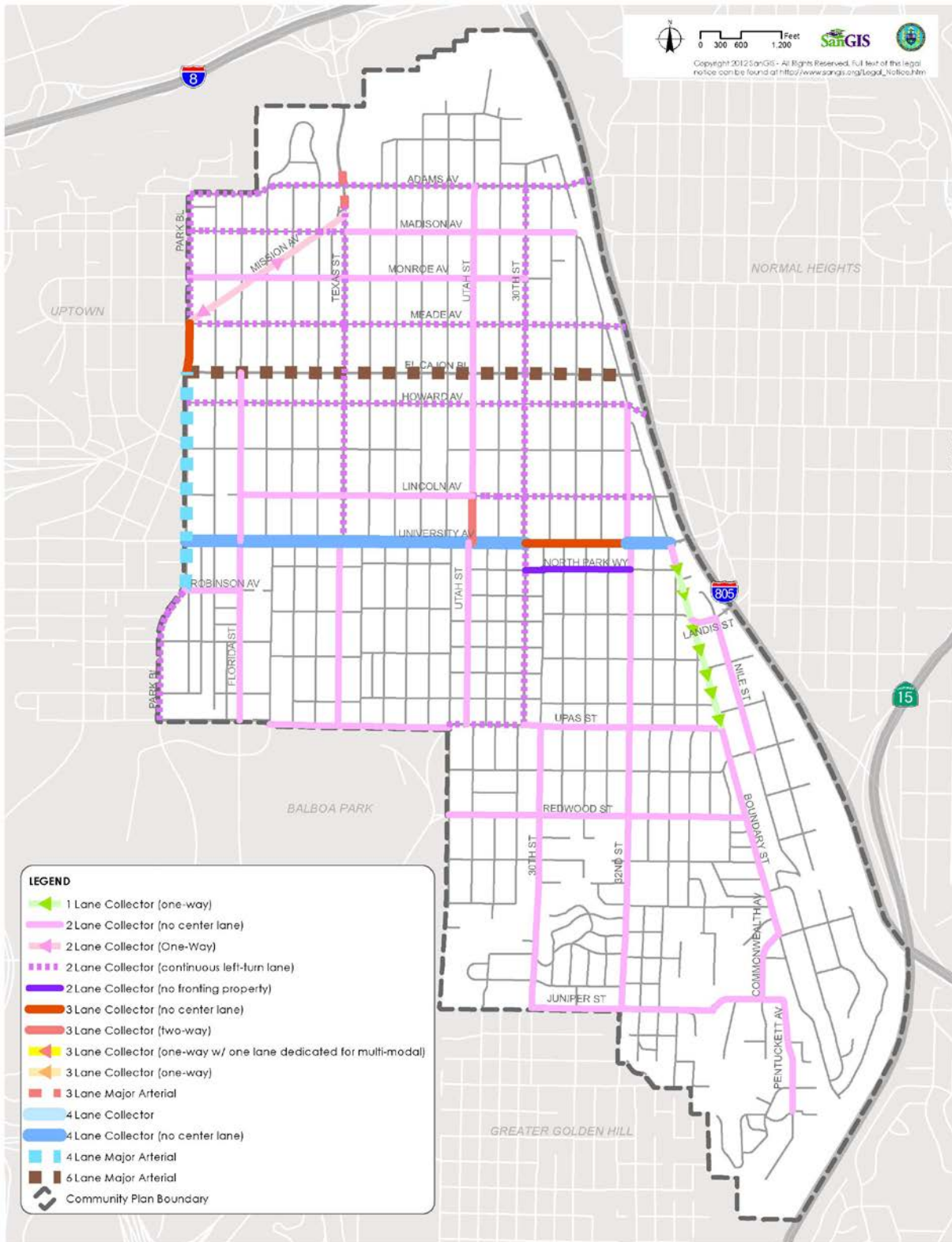
**State Route 163** is contained within the San Diego metropolitan area. Termini are located along Interstate 5 near Balboa Park, and along I-15 near Miramar. SR-163 can be directly accessed from the Uptown and North Park communities and provides connections with I-8 and I-5 within the vicinity of the study area.

Figure 3-1



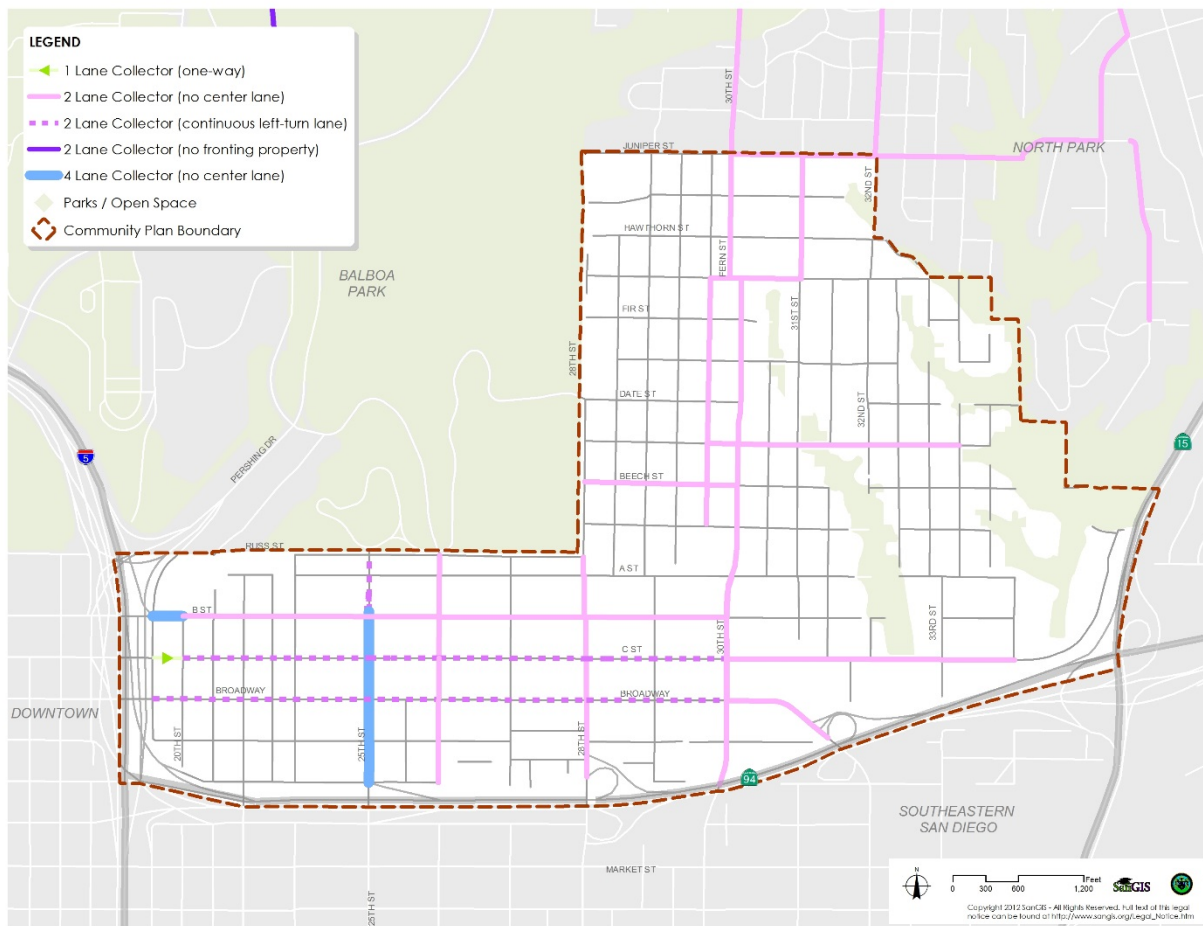
### Existing Functional Street Classifications: Uptown

Figure 3-2



Existing Functional Street Classifications: North Park

Figure 3-3



Existing Functional Street Classifications: Golden Hill

## 3.2 TRAFFIC VOLUMES

The peak-hour intersection turning movements and roadway segment traffic data were obtained from several sources. Prior to data collection and in coordination with the City, the count data was compared against adjacent segments with more recent count data, if applicable, and volumes in the City's traffic model. At locations where volumes were determined to not be reasonable, whether new development has occurred or older count data was not similar enough to more recent count information in the area, new counts were obtained as part of the data collection process for this project. Where appropriate, traffic counts from previous studies were utilized, including the Hillcrest Mobility Study and University Avenue Mobility Plan. The City of San Diego also provided counts that they had performed in 2007 to calibrate their traffic planning model. The rest of the locations were counted by True Count in 2010 or were obtained through the latest City of San Diego traffic count database (2010).

In accordance with the City of San Diego *Traffic Impact Study Manual* (1998), traffic counts should be no greater than two years old. Therefore, since the counts were gathered between 2006 and 2010, validation was required to determine if the counts still represent current traffic conditions for this report. Consequently, the roadway segment ADT counts were compared to current (i.e., Year 2012 and 2013) City of San Diego and Caltrans machine counts available for the Cluster communities and adjacent freeway ramp facilities to determine if the counts included were still valid. It was concluded that traffic volumes for all three communities stayed within a 10-percent fluctuation and the volume counts originally collected were still valid for use. Thus, although count dates may not be consistent, the volumes provide a good representation of volumes for existing conditions for a planning level study.

The existing traffic volume data is contained in **Appendix C**. Since the count data was obtained more than two years ago, justification that the count data is still applicable is also provided in the appendix.

**Figures 3-4, 3-5, 3-6, and 3-7** display the existing peak-hour traffic volumes at the study intersections for each community. **Figures 3-8, 3-9 and 3-10** illustrate the existing ADT volumes along the roadway segments in the study area for each community.



# FIGURE 3-4

1	<div>94 / 111</div> <div>178 / 202</div> <div>438 / 777</div> <div>Hancock St</div> <div>372 / 363</div> <div>399 / 394</div> <div>Washington St</div> <div>220 / 510</div> <div>84 / 130</div>	2	<div>San Diego Ave</div> <div>732 / 545</div> <div>651 / 573</div> <div>Washington St</div> <div>116 / 258</div> <div>551 / 1129</div> <div>124 / 122</div> <div>172 / 231</div> <div>9 / 27</div>	3	<div>3 / 17</div> <div>0 / 1</div> <div>1 / 5</div> <div>India St</div> <div>0 / 9</div> <div>1302 / 1061</div> <div>24 / 68</div> <div>Washington St</div> <div>4 / 27</div> <div>534 / 989</div> <div>10 / 85</div> <div>67 / 117</div> <div>0 / 9</div> <div>353 / 434</div>	4	<div>122 / 149</div> <div>167 / 190</div> <div>226 / 625</div> <div>Fourth Ave</div> <div>120 / 61</div> <div>1147 / 951</div> <div>271 / 304</div> <div>Washington St</div> <div>102 / 66</div> <div>509 / 1119</div> <div>113 / 116</div>
5	<div>13 / 47</div> <div>Fifth Ave</div> <div>0 / 116</div> <div>1379 / 979</div> <div>Washington St</div> <div>721 / 1524</div> <div>371 / 366</div> <div>0 / 106</div> <div>85 / 385</div>	6	<div>11 / 4</div> <div>13 / 9</div> <div>18 / 12</div> <div>Washington St</div> <div>735 / 2102</div> <div>67 / 216</div> <div>55 / 54</div> <div>8 / 12</div> <div>17 / 43</div> <div>11 / 4</div> <div>535 / 515</div> <div>SR-163 On-Ramp</div> <div>7 / 4</div> <div>833 / 515</div>	7	<div>SR-163 On-Ramp</div> <div>1409 / 761</div> <div>669 / 433</div> <div>Washington St</div> <div>430 / 714</div> <div>789 / 2073</div> <div>151 / 483</div> <div>Richmond St</div> <div>14 / 25</div>	8	<div>16 / 19</div> <div>1096 / 636</div> <div>21 / 18</div> <div>10 / 20</div> <div>Normal St</div> <div>11 / 11</div> <div>25 / 23</div> <div>285 / 116</div> <div>1 / 2</div> <div>8 / 20</div> <div>16 / 22</div> <div>0 / 4</div> <div>79 / 120</div> <div>151 / 80</div> <div>360 / 1230</div> <div>64 / 306</div> <div>21 / 12</div> <div>Campus Ave</div> <div>Polk Ave</div> <div>38 / 51</div> <div>18 / 25</div>
9	<div>324 / 170</div> <div>168 / 218</div> <div>39 / 69</div> <div>Normal St</div> <div>74 / 55</div> <div>511 / 391</div> <div>129 / 143</div> <div>El Cajon Blvd</div> <div>161 / 415</div> <div>197 / 611</div> <div>43 / 113</div> <div>47 / 65</div> <div>94 / 278</div> <div>72 / 198</div>	10	<div>19 / 39</div> <div>434 / 388</div> <div>20 / 110</div> <div>Fourth Ave</div> <div>42 / 416</div> <div>66 / 195</div> <div>University Ave</div> <div>56 / 310</div> <div>23 / 71</div>	11	<div>Fifth Ave</div> <div>258 / 248</div> <div>641 / 630</div> <div>University Ave</div> <div>19 / 54</div> <div>421 / 479</div> <div>70 / 109</div> <div>309 / 486</div> <div>137 / 304</div>	12	<div>448 / 417</div> <div>888 / 694</div> <div>187 / 287</div> <div>Sixth Ave</div> <div>203 / 187</div> <div>373 / 427</div> <div>134 / 140</div> <div>University Ave</div> <div>398 / 306</div> <div>158 / 358</div> <div>24 / 43</div> <div>43 / 44</div> <div>619 / 833</div> <div>34 / 102</div>
13	<div>30 / 69</div> <div>36 / 86</div> <div>5 / 28</div> <div>Tenth Ave</div> <div>16 / 23</div> <div>604 / 585</div> <div>179 / 108</div> <div>University Ave</div> <div>49 / 145</div> <div>385 / 895</div> <div>71 / 178</div> <div>94 / 85</div> <div>19 / 56</div> <div>14 / 47</div>	14	<div>58 / 76</div> <div>45 / 139</div> <div>Normal St</div> <div>56 / 40</div> <div>544 / 594</div> <div>University Ave</div> <div>44 / 117</div> <div>291 / 872</div>	15	<div>49 / 71</div> <div>251 / 301</div> <div>45 / 155</div> <div>Park Blvd</div> <div>97 / 81</div> <div>480 / 420</div> <div>110 / 79</div> <div>University Ave</div> <div>37 / 117</div> <div>204 / 569</div> <div>77 / 121</div> <div>72 / 111</div> <div>131 / 351</div> <div>49 / 152</div>	16	<div>31 / 55</div> <div>481 / 391</div> <div>110 / 149</div> <div>Fourth Ave</div> <div>151 / 265</div> <div>76 / 73</div> <div>Robinson Ave</div> <div>200 / 214</div> <div>34 / 43</div>
17	<div>Fifth Ave</div> <div>66 / 106</div> <div>228 / 231</div> <div>Robinson Ave</div> <div>53 / 53</div> <div>250 / 305</div> <div>58 / 101</div> <div>393 / 707</div> <div>79 / 195</div>	18	<div>86 / 119</div> <div>868 / 823</div> <div>1 / 7</div> <div>Sixth Ave</div> <div>9 / 34</div> <div>197 / 188</div> <div>87 / 128</div> <div>Robinson Ave</div> <div>150 / 145</div> <div>152 / 302</div> <div>24 / 26</div> <div>2 / 1</div> <div>506 / 738</div> <div>52 / 114</div>	19	<div>India St</div> <div>54 / 33</div> <div>26 / 21</div> <div>Vine St</div> <div>19 / 29</div> <div>1192 / 1933</div> <div>10 / 20</div>	20	<div>332 / 271</div> <div>1033 / 1459</div> <div>117 / 223</div> <div>Kettner Blvd</div> <div>118 / 60</div> <div>144 / 89</div> <div>Sassafras St</div> <div>62 / 218</div> <div>66 / 89</div>

## UPTOWN

### Legend

X / Y = AM / PM PEAK HOUR  
TURNING VOLUMES



NOT TO SCALE

## Existing Peak-Hour Intersection Volumes: Uptown

**FIGURE 3-5**

<p><b>21</b></p> <p>India St</p> <p>18 / 11 37 / 25</p> <p>Sassafras St</p> <p>84 / 285 14 / 43 81 / 114</p> <p>220 / 115 782 / 1380 9 / 25</p>	<p><b>22</b></p> <p>India St</p> <p>Laurel St</p> <p>125 / 174 6 / 0 182 / 202</p> <p>3 / 622 306 / 486</p> <p>28 / 32 16 / 7 97 / 220 16 / 42</p> <p>1/5 NB On-Ramp</p>	<p><b>23</b></p> <p>97 / 91 456 / 455 31 / 62</p> <p>Fourth Ave</p> <p>233 / 279 58 / 41</p> <p>Laurel St</p> <p>324 / 561 86 / 48</p>	<p><b>24</b></p> <p>Fifth Ave</p> <p>54 / 78 195 / 335</p> <p>Laurel St</p> <p>137 / 214 227 / 439</p> <p>85 / 69 593 / 764 58 / 105</p>
<p><b>25</b></p> <p>Sixth Ave</p> <p>140 / 136 477 / 522 69 / 103</p> <p>19 / 120 42 / 84 14 / 67</p> <p>Laurel St</p> <p>128 / 236 97 / 306 55 / 117</p> <p>64 / 81 326 / 395 26 / 62</p>	<p><b>26</b></p> <p>Brant St</p> <p>12 / 13</p> <p>379 / 786 55 / 129</p> <p>Hawthorn St</p> <p>3 / 2 0 / 1 48 / 108</p>	<p><b>27</b></p> <p>State St</p> <p>44 / 23 338 / 525 795 / 1648</p> <p>Grape St</p> <p>49 / 84 102 / 131</p>	<p><b>28</b></p> <p>First Ave</p> <p>76 / 18 209 / 486</p> <p>Elm St</p> <p>584 / 1368 140 / 219 33 / 45</p>
<p><b>29</b></p> <p>Sixth Ave</p> <p>84 / 38 588 / 620</p> <p>1082 / 356 1200 / 398 1166 / 468</p> <p>Elm St</p>	<p><b>30</b></p> <p>Second St</p> <p>108 / 234 149 / 130 63 / 43</p> <p>Cedar St</p> <p>644 / 412 214 / 49</p> <p>20 / 74 14 / 16</p>		

**UPTOWN**

**Legend**

X / Y = AM / PM PEAK HOUR  
TURNING VOLUMES



NOT TO SCALE

**Existing Peak-Hour Intersection Volumes: Uptown (Cont.)**



**FIGURE 3-6**

<b>31</b> <div> <div> 40 / 123  ↻ ↻ ↻  252 / 857  ↻ ↻ ↻  59 / 215  ↻ ↻ ↻  Texas St </div> <div> ↻ ↻ ↻  386 / 195  ↻ ↻ ↻  39 / 54  ↻ ↻ ↻  22 / 19  ↻ ↻ ↻  Madison Ave </div> </div> <div> 307 / 226  34 / 96  18 / 34  ↻ ↻ ↻ </div>	<b>32</b> <div> <div> 73 / 123  ↻ ↻ ↻  151 / 481  ↻ ↻ ↻  74 / 272  ↻ ↻ ↻  Texas St </div> <div> ↻ ↻ ↻  88 / 100  ↻ ↻ ↻  585 / 579  ↻ ↻ ↻  44 / 66  ↻ ↻ ↻  El Cajon Blvd </div> </div> <div> 75 / 165  312 / 821  10 / 28  ↻ ↻ ↻ </div>	<b>33</b> <div> <div> 45 / 61  ↻ ↻ ↻  146 / 302  ↻ ↻ ↻  107 / 164  ↻ ↻ ↻  30th St </div> <div> ↻ ↻ ↻  73 / 85  ↻ ↻ ↻  860 / 1083  ↻ ↻ ↻  71 / 192  ↻ ↻ ↻  El Cajon Blvd </div> </div> <div> 29 / 64  551 / 1151  41 / 94  ↻ ↻ ↻ </div>	<b>34</b> <div> <div> 357 / 793  ↻ ↻ ↻  2 / 2  ↻ ↻ ↻  137 / 607  ↻ ↻ ↻  I-805 SB Ramps </div> <div> ↻ ↻ ↻  946 / 943  ↻ ↻ ↻  188 / 280  ↻ ↻ ↻  El Cajon Blvd </div> </div> <div> 716 / 1123  502 / 601  ↻ ↻ ↻ </div>
<b>35</b> <div> <div> I-805 NB Ramps </div> <div> ↻ ↻ ↻  346 / 275  ↻ ↻ ↻  613 / 866  ↻ ↻ ↻  El Cajon Blvd </div> </div> <div> 513 / 265  341 / 1480  ↻ ↻ ↻ </div>	<b>36</b> <div> <div> 73 / 66  ↻ ↻ ↻  55 / 136  ↻ ↻ ↻  71 / 171  ↻ ↻ ↻  Texas St </div> <div> ↻ ↻ ↻  48 / 62  ↻ ↻ ↻  434 / 490  ↻ ↻ ↻  9 / 12  ↻ ↻ ↻  University Ave </div> </div> <div> 58 / 87  283 / 640  14 / 39  ↻ ↻ ↻ </div>	<b>37</b> <div> <div> 49 / 81  ↻ ↻ ↻  176 / 407  ↻ ↻ ↻  40 / 95  ↻ ↻ ↻  30th St </div> <div> ↻ ↻ ↻  38 / 59  ↻ ↻ ↻  384 / 399  ↻ ↻ ↻  109 / 141  ↻ ↻ ↻  University Ave </div> </div> <div> 67 / 98  365 / 538  39 / 69  ↻ ↻ ↻ </div>	<b>38</b> <div> <div> 1 / 2  ↻ ↻ ↻  62 / 101  ↻ ↻ ↻  26 / 31  ↻ ↻ ↻  Boundary St </div> <div> ↻ ↻ ↻  0 / 2  ↻ ↻ ↻  437 / 557  ↻ ↻ ↻  180 / 233  ↻ ↻ ↻  University Ave </div> </div> <div> 1 / 2  807 / 810  111 / 189  ↻ ↻ ↻ </div>
<b>39</b> <div> <div> 13 / 30  ↻ ↻ ↻  52 / 30  ↻ ↻ ↻  20 / 54  ↻ ↻ ↻  Wabash Ave </div> <div> ↻ ↻ ↻  8 / 17  ↻ ↻ ↻  290 / 372  ↻ ↻ ↻  265 / 159  ↻ ↻ ↻  University Ave </div> </div> <div> 5 / 8  252 / 527  681 / 511  ↻ ↻ ↻ </div>	<b>40</b> <div> <div> 45 / 43  ↻ ↻ ↻  23 / 39  ↻ ↻ ↻  308 / 433  ↻ ↻ ↻  Boundary St </div> <div> ↻ ↻ ↻  187 / 413  ↻ ↻ ↻  107 / 229  ↻ ↻ ↻  88 / 309  ↻ ↻ ↻  I-805 SB Ramps </div> </div> <div> 107 / 238  6 / 17  ↻ ↻ ↻ </div>	<b>41</b> <div> <div> 157 / 159  ↻ ↻ ↻  127 / 307  ↻ ↻ ↻  30th St (W) </div> <div> ↻ ↻ ↻  244 / 236  ↻ ↻ ↻  287 / 207  ↻ ↻ ↻  Upas St </div> </div> <div> 91 / 176  103 / 313  ↻ ↻ ↻ </div>	

## NORTH PARK

### Legend

X / Y = AM / PM PEAK HOUR  
TURNING VOLUMES



### Existing Peak-Hour Intersection Volumes: North Park

# FIGURE 3-7

<div>42</div> <div> <div> <div>↖ 427 / 294</div> <div>↗ 23 / 52</div> </div> <div>I-5 SB Ramps</div> </div> <div> <div>↖ 1159 / 536</div> <div>↗ 80 / 45</div> </div> <div>B St</div> <div>17th St</div>	<div>43</div> <div> <div>↖ 391 / 144</div> </div> <div>B St</div> <div>I-5 NB Off-Ramp</div> <div> <div>↖ 813 / 426</div> <div>↗ 21 / 36</div> </div>	<div>44</div> <div> <div> <div>↖ I-5 NB Off-Ramp</div> <div>↗ 19th St</div> </div> <div> <div>↖ 16 / 21</div> <div>↗ 346 / 101</div> </div> <div>337 / 125</div> <div>B St</div> <div> <div>↖ 2 / 0</div> <div>↗ 17 / 17</div> </div> <div> <div>↖ 61 / 28</div> <div>↗ 232 / 146</div> </div> <div> <div>↖ 97 / 234</div> <div>↗ 8 / 20</div> </div> </div>	<div>45</div> <div> <div>↖ 13 / 25</div> <div>↗ 66 / 73</div> </div> <div>17th St</div> <div>C St</div> <div> <div>↖ 326 / 754</div> <div>↗ 129 / 289</div> </div>
<div>46</div> <div> <div>↖ 14 / 30</div> <div>↗ 106 / 164</div> </div> <div>501 / 384</div> <div> <div>↖ 498 / 484</div> <div>↗ 161 / 75</div> </div> <div>17 / 52</div> <div>Broadway</div> <div> <div>↖ 14 / 40</div> <div>↗ 35 / 57</div> </div> <div>29 / 38</div> <div>30th St</div> <div> <div>↖ 60 / 32</div> <div>↗ 101 / 111</div> </div> <div>25 / 31</div>	<div>47</div> <div> <div>↖ 533 / 454</div> <div>↗ 51 / 50</div> </div> <div>Broadway</div> <div> <div>↖ 577 / 511</div> <div>↗ 249 / 285</div> </div> <div>SR-94 WB Ramps</div> <div> <div>↖ 83 / 90</div> <div>↗ 48 / 67</div> </div>	<div>48</div> <div> <div>↖ 0 / 4</div> <div>↗ 293 / 444</div> </div> <div>60 / 68</div> <div>28th St</div> <div> <div>↖ 278 / 181</div> <div>↗ 15 / 13</div> </div> <div>147 / 257</div> <div>SR-94 WB Ramps</div> <div> <div>↖ 2 / 2</div> <div>↗ 2 / 2</div> </div> <div>24 / 20</div> <div> <div>↖ 6 / 6</div> <div>↗ 194 / 253</div> </div> <div>38 / 67</div>	<div>49</div> <div> <div>↖ 256 / 359</div> <div>↗ 297 / 446</div> </div> <div>28th St</div> <div> <div>↖ 81 / 153</div> <div>↗ 46 / 73</div> </div> <div>SR-94 EB Ramps</div> <div> <div>↖ 161 / 168</div> <div>↗ 210 / 286</div> </div>
<div>50</div> <div> <div>↖ 32 / 21</div> <div>↗ 55 / 81</div> </div> <div>22nd St</div> <div> <div>↖ 20 / 13</div> <div>↗ 549 / 97</div> </div> <div>62 / 62</div> <div>F St</div> <div> <div>↖ 142 / 75</div> <div>↗ 80 / 76</div> </div>	<div>51</div> <div> <div>↖ 66 / 40</div> <div>↗ 353 / 539</div> </div> <div>25th St</div> <div> <div>↖ 174 / 200</div> <div>↗ 399 / 78</div> </div> <div>99 / 212</div> <div>F St</div> <div> <div>↖ 130 / 70</div> <div>↗ 220 / 196</div> </div>	<div>52</div> <div> <div>↖ 51 / 84</div> <div>↗ 61 / 53</div> </div> <div>22nd St</div> <div>G St</div> <div> <div>↖ 45 / 62</div> <div>↗ 103 / 200</div> </div> <div>22 / 71</div> <div> <div>↖ 169 / 89</div> <div>↗ 85 / 40</div> </div>	<div>53</div> <div> <div>↖ 255 / 388</div> <div>↗ 217 / 369</div> </div> <div>25th St</div> <div>G St</div> <div> <div>↖ 41 / 63</div> <div>↗ 102 / 135</div> </div> <div>30 / 104</div> <div> <div>↖ 307 / 196</div> <div>↗ 146 / 281</div> </div>

## GOLDEN HILL

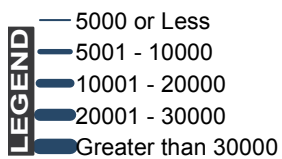
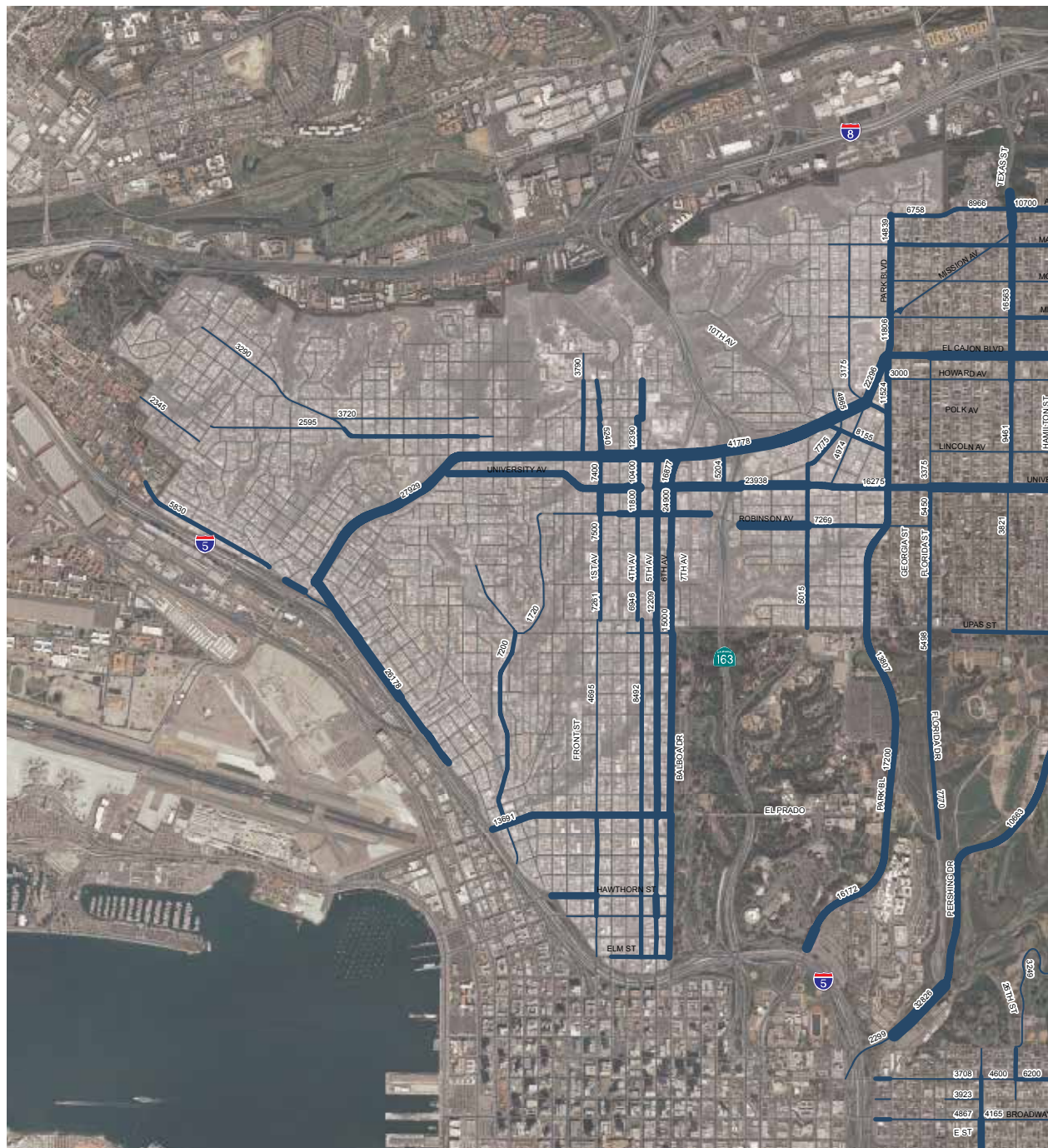
### Legend

X / Y = AM / PM PEAK HOUR  
TURNING VOLUMES



## Existing Peak-Hour Intersection Volumes: Golden Hill

FIGURE 3-8



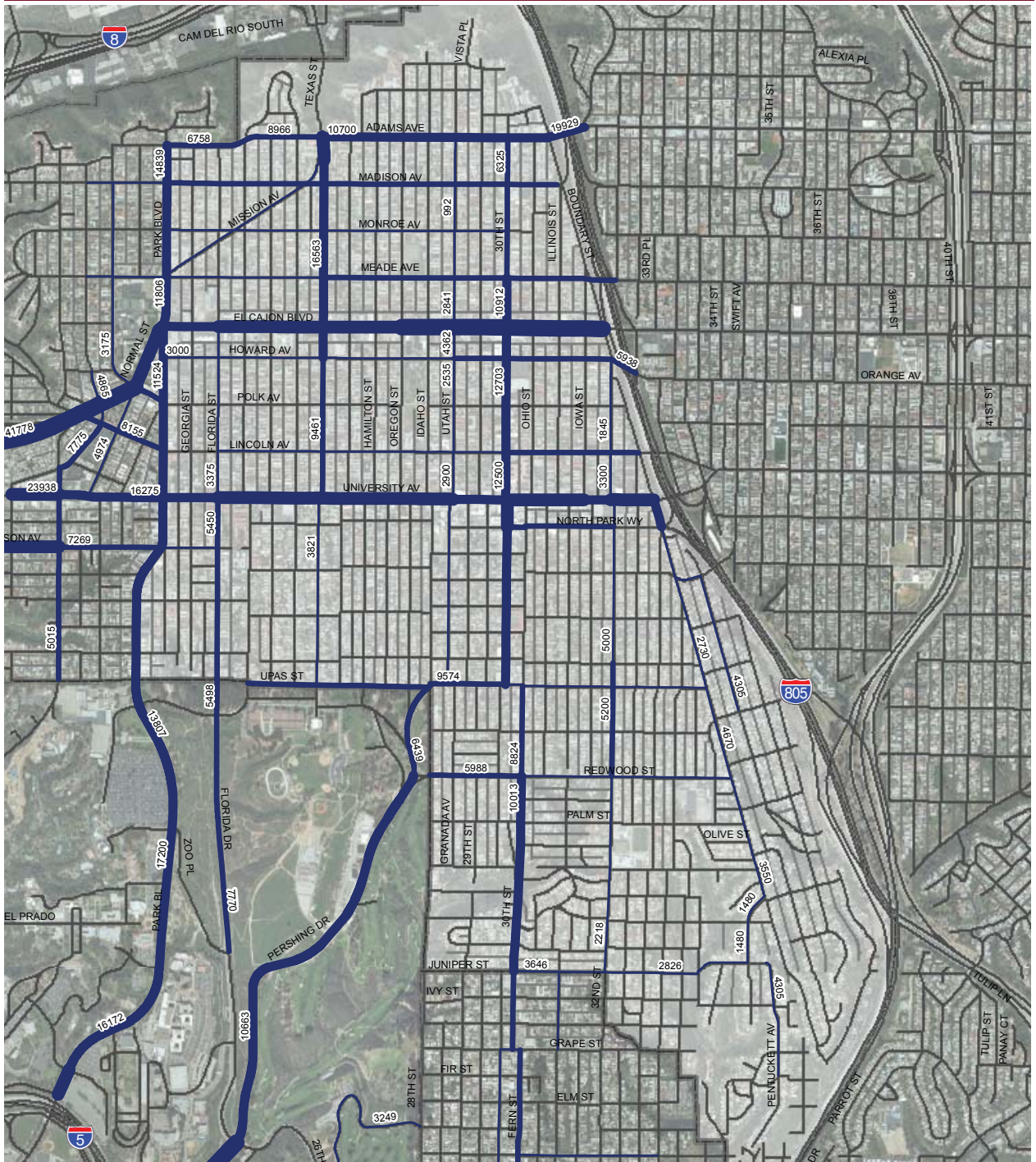
*Existing Roadway Segment ADT Volumes: Uptown*

Uptown, North Park, Golden Hill | Draft Report  
June 2015 | Final

Revised September 7, 2016



FIGURE 3-9



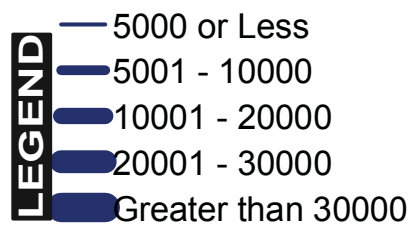
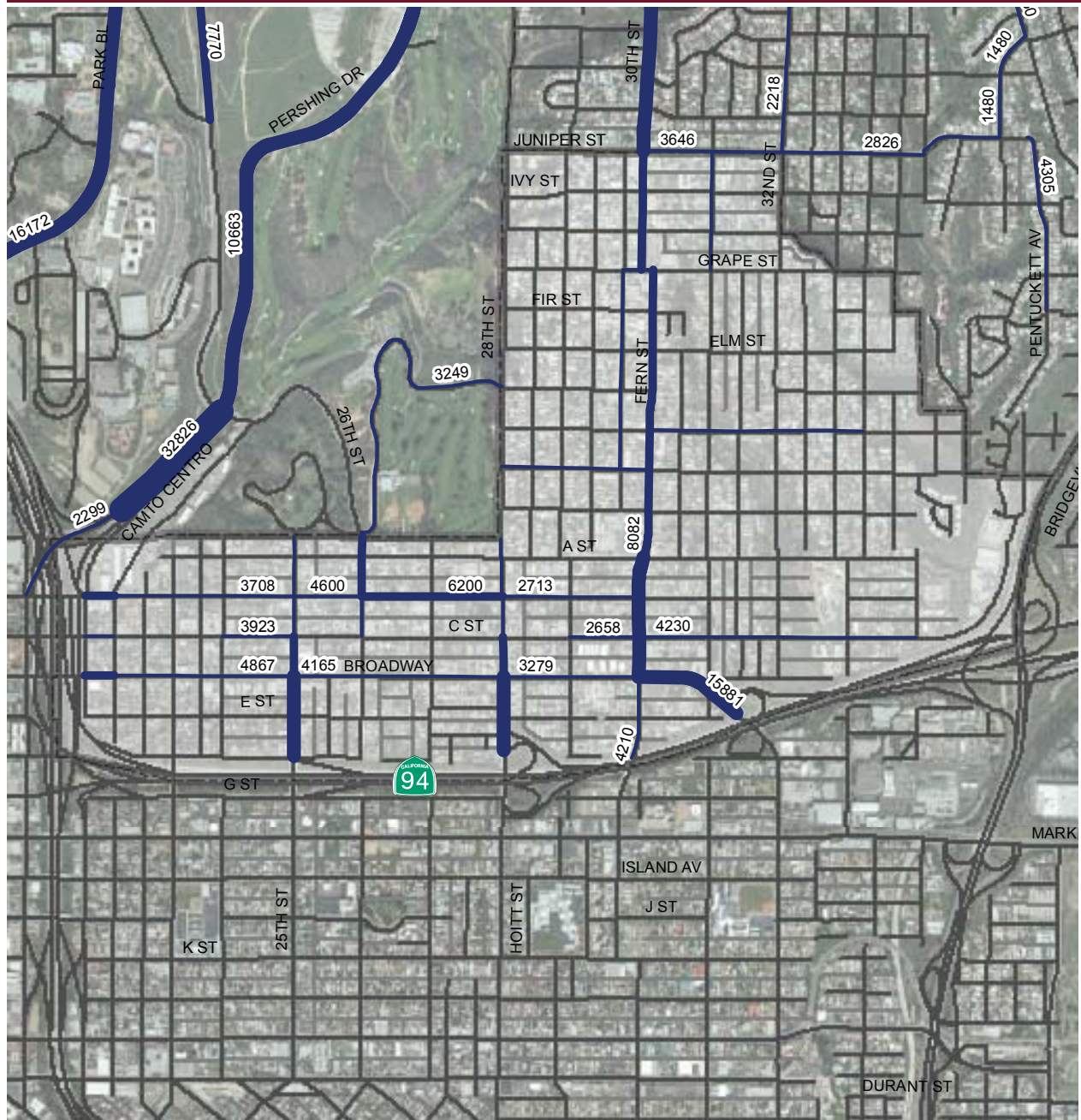
**LEGEND**

- 5000 or Less
- 5001 - 10000
- 10001 - 20000
- 20001 - 30000
- Greater than 30000

*Existing Roadway Segment ADT Volumes: North Park*



**FIGURE 3-10**



*Existing Roadway Segment ADT Volumes: Golden Hill*

### 3.3 INTERSECTION ANALYSIS

**Tables 3-1, 3-2 and 3-3** display the LOS analysis results for the study intersections under Existing Conditions. As shown in the table and figures, all intersections currently operate at LOS D or better during both peak periods, except for the following intersections:

#### UPTOWN

- Washington Street & Eighth Ave/SR-163 Off-Ramp (LOS F – p.m. peak)

At the intersection of Washington Street and SR-163, the eastbound through volumes are over 2,100 during the p.m. peak period. The existing two eastbound lanes do not have the capacity to adequately handle this demand.

#### NORTH PARK

- Madison Avenue & Texas Street (LOS E – a.m. peak)
- El Cajon Boulevard & Texas Street (LOS F – p.m. peak)
- El Cajon Boulevard & I-805 SB Ramps (LOS F – p.m. peak)
- University Avenue & Texas Street (LOS E – p.m. peak)

At the intersection of Madison Avenue and Texas Street, there are 307 vehicles making the eastbound left turn movement from Madison Avenue to Texas Street in the a.m. peak, which is above the capacity of the single left turn lane that is provided.

At the intersection of El Cajon Boulevard and Texas Street, the southbound movement does not have adequate time to pass all the vehicles through the intersection given the existing timing plan. The southbound movement is split phased.

At the intersection of El Cajon Boulevard and I-805 SB Ramps, the poor LOS is primarily caused by the southbound right turn movement having to merge with traffic on El Cajon Boulevard. The southbound right turn movement has 793 vehicles during the p.m. peak trying to merge into the closest of three lanes that are carrying 943 westbound through vehicles. Delays at the merge point can affect the speeds on the ramp and the overall intersection operations.

At the intersection of University Avenue and Texas Street there is a pedestrian-only phase and split phasing for the northbound and southbound movements. There is a good amount of vehicles coming from all directions at this intersection and the timing cannot keep the delays down for every movement, especially when pedestrians are using the intersection frequently as well.

#### GOLDEN HILL

- B Street & 17<sup>th</sup> St/I-5 SB Off-Ramp (LOS F – a.m. peak)
- SR-94 WB Ramps & Broadway (LOS F – both peaks)
- SR-94 WB Ramps & 28<sup>th</sup> Street (LOS E – a.m. peak, LOS F – p.m. peak)
- SR-94 EB Ramps & 28<sup>th</sup> Street (LOS F – p.m. peak)

At the intersection of B Street and I-5 Southbound Off-Ramp, vehicles looking to go through the intersection in the southbound direction have trouble finding gaps in traffic. During the a.m. peak, there are 1,159 vehicles in the westbound direction that the southbound through movement has to cross. Gaps are created briefly when the upstream traffic signal changes phases, but it does not provide enough gaps for all the vehicles to cross.

At the intersection of SR-94 Westbound Ramps and Broadway, the westbound left-turn movement from the off-ramp is stop-controlled while Broadway has free movements. These left turning vehicles have to wait for gaps in traffic along Broadway. Due to the volumes on Broadway, gaps are not provided often enough to operate at an adequate LOS during either peak-hour.

At the intersections of SR-94 Westbound Ramps and 28<sup>th</sup> Street and SR-94 Eastbound Ramps and 28<sup>th</sup> Street, the westbound left-turn movements from the off-ramps are stop-controlled while 28<sup>th</sup> Street has free movements. These left turning vehicles have to wait for gaps in traffic along 28<sup>th</sup> Street. Due to the volume on 28<sup>th</sup> Street, gaps are not provided often enough to operate at an adequate LOS during either peak-hour.

**Appendix D** contains the LOS calculation worksheets.



**Table 3-1 Existing Conditions Summary of Intersection Analysis**

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	EXISTING	
				DELAY (a)	LOS (b)
UPTOWN					
1	Washington St & Hancock St	Signal	AM	24.9	C
			PM	28.2	C
2	Washington St & San Diego Ave	Signal	AM	19.7	B
			PM	17.6	B
3	Washington St & India St	Signal	AM	11.7	B
			PM	14.2	B
4	Washington St & Fourth Ave	Signal	AM	25.2	C
			PM	37.3	D
5	Washington St & Fifth Ave	Signal	AM	15.2	B
			PM	16.3	B
6	Washington St & Eighth Ave/SR-163 Off-Ramp	Signal	AM	42.6	D
			PM	ECL	F
7	Washington St & Richmond St/SR-163 On-Ramp	Signal	AM	18.6	B
			PM	13.2	B
8	Washington St/Normal St & Campus Ave/Polk Ave	Signal	AM	43.0	D
			PM	50.0	D
9	Normal St/El Cajon Blvd & Park Blvd	Signal	AM	25.2	C
			PM	34.3	C
10	University Ave & Fourth Ave	Signal	AM	29.1	C
			PM	28.2	C
11	University Ave & Fifth Ave	Signal	AM	12.9	B
			PM	25.3	C
12	University Ave & Sixth Ave	Signal	AM	32.9	C
			PM	54.8	D
13	University Ave & Tenth St	Signal	AM	18.6	B
			PM	20.6	C
14	University Ave & Normal St	Signal	AM	5.6	A
			PM	10.6	B
15	University Ave & Park Blvd	Signal	AM	24.5	C
			PM	39.4	D
16	Robinson Ave & Fourth Ave	Signal	AM	21.4	C
			PM	18.4	B
17	Robinson Ave & Fifth Ave	Signal	AM	10.8	B
			PM	15.0	B
18	Robinson Ave & Sixth Ave	Signal	AM	21.6	C
			PM	27.6	C
19	Vine St & India St	Signal	AM	5.6	A
			PM	7.3	A
20	Sassafras St & Kettner Blvd	Signal	AM	10.4	B
			PM	12.5	B
21	Sassafras St & India St	Signal	AM	6.3	A
			PM	20.9	C
Notes:					
Bold values indicate intersections operating at LOS E or F.					
ECL = Exceeds Calculable Limit. Reported when delay exceeds 180 seconds.					
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement.					
(b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 7.0					

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**Table 3-2 Existing Conditions Summary of Intersection Analysis (Cont.)**

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	EXISTING	
				DELAY (a)	LOS (b)
UPTOWN (cont.)					
22	Laurel St & India St/I-5 NB On-Ramp	Signal	AM	17.0	B
			PM	21.4	C
23	Laurel St & Fourth Ave	Signal	AM	12.2	B
			PM	14.9	B
24	Laurel St & Fifth Ave	Signal	AM	12.3	B
			PM	12.7	B
25	Laurel St & Sixth Ave	Signal	AM	13.7	B
			PM	20.5	C
26	Hawthorn St & Brant St	Two-Way Stop	AM	9.9	A (SB R)
			PM	12.9	B (SB R)
27	Grape St & State St	Signal	AM	15.7	B
			PM	18.7	B
28	Elm St & First Ave	Signal	AM	13.3	B
			PM	21.6	C
29	Elm St & Sixth Ave	Signal	AM	54.4	D
			PM	14.8	B
30	Cedar St & Second Ave	Two-Way Stop	AM	31.8	D (SB R)
			PM	18.0	C (SB R)
NORTH PARK					
31	Madison Ave & Texas St	Signal	AM	77.4	E
			PM	34.7	C
32	El Cajon Blvd & Texas St	Signal	AM	35.9	D
			PM	106.8	F
33	El Cajon Blvd & 30th St	Signal	AM	26.0	C
			PM	50.2	D
34	El Cajon Blvd & I-805 SB Ramps	Signal	AM	18.4	B
			PM	80.9	F
35	El Cajon Blvd & I-805 NB Ramps	Signal	AM	27.9	C
			PM	19.2	B
36	University Ave & Texas St	Signal	AM	19.5	B
			PM	72.7	E
37	University Ave & 30th St	Signal	AM	25.0	C
			PM	49.2	D
38	University Ave & Boundary St	Signal	AM	23.0	C
			PM	42.1	D
39	University Ave & I-805 NB Ramps	Signal	AM	29.0	C
			PM	35.6	D
40	North Park Way/I-805 SB Ramps & Boundary St/33rd St	All-Way Stop	AM	18.1	C
			PM	10.6	B
Notes: Bold values indicate intersections operating at LOS E or F. ECL = Exceeds Calculable Limit. Reported when delay exceeds 180 seconds. (a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement. (b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 7.0					

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**Table 3-3** Existing Conditions Summary of Intersection Analysis (Cont.)

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	EXISTING	
				DELAY (a)	LOS (b)
NORTH PARK (cont.)					
41	Upas St & 30th St (W)	All-Way Stop	AM	24.4	C
			PM	25.9	D
GOLDEN HILL					
42	B St & 17th St/I-5 SB Off-Ramp	One-Way Stop	AM	130.7	<b>F</b> (SB TR)
			PM	29.3	D (SB TR)
43	B St & I-5 NB Off-Ramp	No Conflicting Movements	AM	N/A	N/A
			PM	N/A	N/A
44	B St & 19th St/I-5 NB On-Ramp	Signal	AM	9.4	A
			PM	6.8	A
45	C St & 17 St	One-Way Stop	AM	13.7	B (SB TR)
			PM	23.3	C (SB TR)
46	Broadway & 30th St	Signal	AM	14.2	B
			PM	11.9	B
47	SR-94 WB Ramps & Broadway	One-Way Stop	AM	63.0	F (WB L)
			PM	55.3	F (WB L)
48	SR-94 WB Ramps & 28th St	Two-Way Stop	AM	46.6	<b>E</b> (WB LT)
			PM	370.9	<b>F</b> (WB LT)
49	SR-94 EB Ramps & 28th St	One-Way Stop	AM	26.7	D (WB L)
			PM	507.0	F (WB L)
50	F St & 22nd St	All-Way Stop	AM	13.6	B
			PM	8.6	A
51	F St & 25th St	All-Way Stop	AM	20.8	C
			PM	16.2	C
52	G St & 22nd St	All-Way Stop	AM	9.6	A
			PM	9.4	A
53	G St & 25th St	All-Way Stop	AM	12.4	B
			PM	16.0	C
Notes: <b>Bold</b> values indicate intersections operating at LOS E or F. ECL = Exceeds Calculable Limit. Reported when delay exceeds 180 seconds. (a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement. (b) LOS calculations are based on the methodology outlined in the <i>2000 Highway Capacity Manual</i> and performed using Synchro 7.0					

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### 3.4 ROADWAY SEGMENT ANALYSIS

**Tables 3-4 through 3-10** display the roadway segments analysis under Existing Conditions for a typical weekday. As shown in the table, based on planning-level analysis using ADT volumes, it is estimated that all roadway segments function at an acceptable LOS D or better in the study area, except for the following segments. The segments listed below have volumes near or above their existing capacity, resulting in periods of congestion.

#### UPTOWN

- First Avenue between Washington Avenue and University Avenue (LOS E)
- First Avenue between University Avenue and Robinson Avenue (LOS F)
- First Avenue between Robinson Avenue and Pennsylvania Avenue (LOS E)
- First Avenue between Pennsylvania Avenue and Walnut Avenue (LOS E)
- First Avenue between Laurel Street and Hawthorn Street (LOS E)
- Fourth Avenue between Arbor Drive and Washington Avenue (LOS F)
- Sixth Avenue between University Avenue and Robinson Avenue (LOS F)
- Sixth Avenue between Robinson Avenue and Upas Street (LOS F)
- Sixth Avenue between Upas Street and Laurel Street (LOS F)
- Cleveland Avenue between Lincoln Street and Richmond Street (LOS E)
- Fort Stockton Drive between Hawk Street and Goldfinch Street (LOS F)
- India Street between Glenwood Drive and Sassafras Street (LOS F)
- India Street between Sassafras Street and Redwood Street (LOS E)
- Laurel Street between Columbia Street and Union Street (LOS E)
- Lincoln Avenue between Washington Street and Park Boulevard (LOS F)
- Park Boulevard between Adams Avenue and Mission Avenue (LOS E)
- Park Boulevard between Mission Avenue and El Cajon Boulevard (LOS F)
- Richmond Street between Cleveland Avenue and University Avenue (LOS E)
- Robinson Avenue between Third Avenue and Eighth Avenue (LOS F)
- University Avenue between Ibis Street and Albatross Street (LOS F)
- University Avenue between Albatross Street and First Avenue (LOS F)
- University Avenue between First Avenue and Fourth Avenue (LOS F)
- University Avenue between Fourth Avenue and Fifth Avenue (LOS F)
- University Avenue between Sixth Avenue and Eighth Avenue (LOS F)
- University Avenue between Normal Street and Park Boulevard (LOS F)
- Washington Street between Fifth Avenue and Sixth Avenue (LOS E)
- Washington Street between Sixth Avenue and Richmond Street (LOS F)

#### NORTH PARK

- 30th Street between Upas Street and Redwood Street (LOS F)
- 30th Street between Redwood Street and Juniper Street (LOS F)
- 32nd Street between Myrtle Avenue and Upas Street (LOS E)
- Adams Avenue between 30th Street and West Mountain View Drive (LOS F)
- Boundary Street between University Avenue and North Park Way (LOS F)
- El Cajon Boulevard between Illinois Street and I-805 Ramps (LOS E)
- Texas Street between Adams Avenue and Mission Avenue (LOS E)
- Texas Street between Mission Avenue and El Cajon Boulevard (LOS F)
- University Avenue between Park Boulevard and Florida Street (LOS F)
- University Avenue between Florida Street and Texas Street (LOS F)

- University Avenue between Texas Street and Oregon Street (LOS F)
- University Avenue between Oregon Street and Utah Street (LOS F)
- University Avenue between Utah Street and 30th Street (LOS F)
- University Avenue between 30th Street and Illinois Street (LOS F)
- University Avenue between Illinois Street and Iowa Street (LOS F)
- University Avenue between Iowa Street and 32nd Street (LOS F)
- University Avenue between 32nd Street and Boundary Street (LOS F)
- Upas Street between Alabama Street and Texas Street (LOS E)
- Upas Street between Texas Street and Pershing Road (LOS E)

## GOLDEN HILL

- 26th Street between Russ Boulevard and B Street (LOS F)
- 28th Street between C Street and Broadway (LOS F)
- 28th Street between Broadway and SR-94 (LOS F)
- 30th Street between A Street and Broadway (LOS F)
- Broadway between 30th Street and SR-94 (LOS F)
- Fern Street between Juniper Street and Grape Street (LOS F)
- Fern Street between Grape Street and A Street (LOS F)

**Table 3-4 Existing Conditions Roadway Segment LOS Summary**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	ADT	V/C RATIO (a)	LOS
<b>UPTOWN</b>					
<b>First Ave</b>					
Arbor Dr to Washington St	2 Lane Collector (one-way)	17,500	5,240	0.299	A
Washington St to University Ave	2 Lane Collector (no center lane)	8,000	7,400	0.925	<b>E</b>
University Ave to Robinson Ave	2 Lane Collector (no center lane)	8,000	10,100	1.263	<b>F</b>
Robinson Ave to Pennsylvania Ave	2 Lane Collector (no center lane)	8,000	7,500	0.938	<b>E</b>
Pennsylvania Ave to Walnut Ave	2 Lane Collector (no center lane)	8,000	7,261	0.908	<b>E</b>
Walnut Ave to Laurel St	2 Lane Collector (no center lane)	8,000	4,695	0.587	C
Laurel St to Hawthorn St	2 Lane Collector (no center lane)	8,000	7,290	0.911	<b>E</b>
Hawthorn St to Grape St	2 Lane Collector (no center lane)	8,000	3,810	0.476	C
Grape St to Elm St	2 Lane Collector (one-way)	17,500	3,285	0.188	A
<b>Fourth Ave</b>					
Arbor Dr to Washington St	2 Lane Collector (no center lane)	8,000	12,390	1.549	<b>F</b>
Washington St to University Ave	2 Lane Collector (one-way)	17,500	10,400	0.594	C
University Ave to Robinson Ave	2 Lane Collector (one-way)	17,500	11,800	0.674	C
Robinson Ave to Walnut Ave	2 Lane Collector (one-way)	17,500	6,946	0.397	A
Walnut Ave to Laurel St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	8,492	0.485	B
Laurel St to Grape St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	7,790	0.445	B
Grape St to Elm St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	7,570	0.433	B
<b>Fifth Ave</b>					
Washington St to University Ave	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	11,700	0.669	C
University Ave to Robinson Ave	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	10,300	0.589	C
Robinson Ave to Walnut Ave	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	12,209	0.698	C
Walnut Ave to Laurel St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	11,400	0.651	C
Laurel St to Hawthorn St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	9,260	0.529	B
Hawthorn St to Grape St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	10,045	0.574	C
Grape St to Elm St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	9,220	0.527	B
<b>Sixth Ave</b>					
Washington St to University Ave	3 Lane Collector (two-way)	15,000	16,877	0.844	D
University Ave to Robinson Ave	4 Lane Collector (no center lane)	15,000	24,900	1.660	<b>F</b>
Robinson Ave to Upas St	4 Lane Collector (no center lane)	15,000	15,000	1.000	<b>F</b>
Upas St to Laurel St	4 Lane Collector (no center lane)	15,000	15,128	1.009	<b>F</b>
Laurel St to Juniper St	4 Lane Collector (no center lane)	15,000	10,140	0.676	D
Juniper St to Grape St	4 Lane Collector (no center lane)	15,000	10,915	0.728	D
Grape St to Elm St	4 Lane Collector (no center lane)	15,000	10,650	0.710	D
<b>Ninth Ave</b>					
Washington St to University Ave	2 Lane Collector (no center lane)	8,000	5,204	0.651	D
<b>Campus Ave/Polk Ave</b>					
Madison Ave to Washington St	2 Lane Collector (no center lane)	8,000	3,175	0.397	B
Washington St to Park Blvd	2 Lane Collector (no center lane)	8,000	5,610	0.701	D
<b>Cleveland Ave</b>					
Tyler St to Lincoln Ave	2 Lane Collector (no center lane)	8,000	4,865	0.608	C
Lincoln Ave to Richmond St	2 Lane Collector (no center lane)	8,000	7,775	0.972	<b>E</b>
<b>Curlew St</b>					
Robinson Ave to Reynard Wy	2 Lane Collector (no center lane)	8,000	1,720	0.215	A
<b>Elm St</b>					
Second Ave to Third Ave	2 Lane Collector (one-way)	17,500	7,889	0.451	B
Third Ave to Fifth Ave	3 Lane Collector (one-way)	26,000	8,179	0.315	A
Fifth Ave to Sixth Ave	3 Lane Collector (one-way)	26,000	6,720	0.258	A
Notes:					
<b>Bold</b> values indicate roadway segments operating at LOS E or F.					
Capacity for non-standard roadway classifications were provided by City of San Diego staff.					
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.					



**Table 3-5 Existing Conditions Roadway Segment LOS Summary (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	ADT	V/C RATIO (a)	LOS
<b>UPTOWN</b>					
<b>Fort Stockton Dr</b>					
Arista St to Sunset Blvd	2 Lane Collector (no center lane)	8,000	3,290	0.411	B
Sunset Blvd to Hawk St	2 Lane Collector (no center lane)	8,000	6,100	0.763	D
Hawk St to Goldfinch St	2 Lane Collector (no center lane)	8,000	8,450	1.056	<b>F</b>
Goldfinch St to Falcon St	2 Lane Collector (no center lane)	8,000	2,910	0.364	B
<b>Front St</b>					
Dickinson St to Arbor Dr	2 Lane Collector (no center lane)	8,000	3,790	0.474	C
Arbor Dr to Washington St	2 Lane Collector (one-way)	17,500	5,510	0.315	A
<b>Grape St</b>					
Albatross St to First Ave	3 Lane Collector (one-way)	26,000	2,082	0.080	A
First Ave to Third Ave	2 Lane Collector (no center lane)	8,000	4,289	0.536	C
Third Ave to Sixth Ave	2 Lane Collector (no center lane)	8,000	2,097	0.262	A
<b>Hawthorn St</b>					
Brant St to First Ave	3 Lane Collector (one-way)	26,000	11,558	0.445	B
First Ave to Third Ave	2 Lane Collector (no center lane)	8,000	3,634	0.454	C
Third Ave to Sixth Ave	2 Lane Collector (no center lane)	8,000	3,577	0.447	C
<b>India St</b>					
Winder St to Glenwood Dr	3 Lane Collector (one-way)	26,000	8,345	0.321	A
Glenwood Dr to Sassafras St	2 Lane Collector (one-way)	17,500	26,178	1.496	<b>F</b>
Sassafras St to Redwood St	3 Lane Collector (two-way)	20,000	18,676	0.934	<b>E</b>
Redwood St to Palm St	3 Lane Collector (one-way)	26,000	16,705	0.643	C
<b>Juan St</b>					
Harney St to Witherby St	2 Lane Collector (no center lane)	8,000	2,345	0.293	A
<b>Laurel St</b>					
Columbia St to Union St	4 Lane Collector (no center lane)	15,000	13,691	0.913	<b>E</b>
Union St to First Ave	2 Lane Collector (continuous left-turn lane)	15,000	11,128	0.742	D
First Ave to Third Ave	2 Lane Collector (continuous left-turn lane)	15,000	11,326	0.755	D
Third Ave to Sixth Ave	2 Lane Collector (continuous left-turn lane)	15,000	11,516	0.768	D
<b>Lewis St</b>					
Fort Stockton Dr to Goldfinch St	2 Lane Collector (no center lane)	8,000	3,720	0.465	C
<b>Lincoln Ave</b>					
Washington St to Park Blvd	2 Lane Collector (no center lane)	8,000	8,155	1.019	<b>F</b>
<b>Madison Ave</b>					
Cleveland Ave to Park Blvd	2 Lane Collector (no center lane)	8,000	3,750	0.469	C
<b>Meade Ave</b>					
Cleveland Ave to Park Blvd	2 Lane Collector (continuous left-turn lane)	15,000	3,290	0.219	A
<b>Normal St</b>					
Park Blvd to Washington St	6 Lane Major Arterial	50,000	22,296	0.446	B
Washington St to University Ave	4 Lane Major Arterial	40,000	4,974	0.124	A
Notes: <b>Bold</b> values indicate roadway segments operating at LOS E or F. Capacity for non-standard roadway classifications were provided by City of San Diego staff. (a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.					

**Table 3-6 Existing Conditions Roadway Segment LOS Summary (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	ADT	V/C RATIO (a)	LOS
<b>UPTOWN</b>					
<b>Park Blvd</b>					
Adams Ave to Mission Ave	2 Lane Collector (continuous left-turn lane)	15,000	14,839	0.989	<b>E</b>
Mission Ave to El Cajon Blvd	3 Lane Collector (no center lane)	11,500	11,806	1.027	<b>F</b>
El Cajon Blvd to Polk Ave	4 Lane Major Arterial	40,000	11,524	0.288	A
Polk Ave to University Ave	4 Lane Major Arterial	40,000	13,936	0.348	A
University Ave to Robinson Ave	4 Lane Major Arterial	40,000	14,400	0.360	A
Robinson Ave to Upas St	2 Lane Collector (continuous left-turn lane)	15,000	12,501	0.833	D
Upas St to Zoo Pl	4 Lane Major Arterial	40,000	13,807	0.345	A
<b>Reynard Wy</b>					
Torrance St to Curlew St	2 Lane Collector (continuous left-turn lane)	15,000	1,955	0.130	A
Curlew St to Laurel St	2 Lane Collector (continuous left-turn lane)	15,000	7,200	0.480	C
<b>Richmond St</b>					
Cleveland Ave to University Ave	2 Lane Collector (no center lane)	8,000	7,085	0.886	<b>E</b>
University Ave to Robinson Ave	2 Lane Collector (no center lane)	8,000	5,345	0.668	D
Robinson Ave to Upas St	2 Lane Collector (no center lane)	8,000	5,015	0.627	D
<b>Robinson Ave</b>					
Brant St to First Ave	2 Lane Collector (no center lane)	8,000	1,995	0.249	A
First Ave to Third Ave	2 Lane Collector (no center lane)	8,000	5,800	0.725	D
Third Ave to Eighth Ave	2 Lane Collector (no center lane)	8,000	11,022	1.378	<b>F</b>
Tenth Ave to Richmond St	2 Lane Collector (continuous left-turn lane)	15,000	10,120	0.675	D
Richmond St to Park Blvd	2 Lane Collector (continuous left-turn lane)	15,000	7,269	0.485	C
<b>San Diego Ave</b>					
Hortensia St to Pringle St	2 Lane Collector (no center lane)	8,000	5,830	0.729	D
McKee St to Washington St	3 Lane Collector (one-way)	26,000	13,920	0.535	B
Washington St to India St	2 Lane Collector (one-way)	17,500	4,920	0.281	A
<b>State St</b>					
Laurel St to Juniper St	2 Lane Collector (no center lane)	8,000	4,140	0.518	C
<b>Sunset Blvd</b>					
Wetherby St to Fort Stockton Dr	2 Lane Collector (no center lane)	8,000	2,595	0.324	B
<b>University Ave</b>					
Ibis St to Albatross St	2 Lane Collector (no center lane)	8,000	10,527	1.316	<b>F</b>
Albatross St to First Ave	2 Lane Collector (no center lane)	8,000	16,851	2.106	<b>F</b>
First Ave to Fourth Ave	2 Lane Collector (no fronting property)	10,000	11,750	1.175	<b>F</b>
Fourth Ave to Fifth Ave	2 Lane Collector (continuous left-turn lane)	15,000	20,250	1.350	<b>F</b>
Fifth Ave to Sixth Ave	4 Lane Collector	30,000	21,184	0.706	D
Sixth Ave to Eighth Ave	4 Lane Collector (no center lane)	15,000	24,400	1.627	<b>F</b>
Vermont St to Normal St	4 Lane Major Arterial	40,000	23,938	0.598	C
Normal St to Park Blvd	4 Lane Collector (no center lane)	15,000	16,275	1.085	<b>F</b>
<b>Upas St</b>					
Third Ave to Sixth Ave	2 Lane Collector (no fronting property)	10,000	4,475	0.448	B
<b>Washington St</b>					
India St to University Ave	4 Lane Major Arterial	40,000	27,929	0.698	C
University Ave to First Ave	4 Lane Major Arterial	40,000	20,477	0.512	B
First Ave to Fourth Ave	4 Lane Major Arterial	40,000	25,745	0.644	C
Fourth Ave to Fifth Ave	4 Lane Major Arterial	40,000	30,900	0.773	D
Fifth Ave to Sixth Ave	4 Lane Major Arterial	40,000	38,428	0.961	<b>E</b>
Sixth Ave to Richmond St	4 Lane Major Arterial	40,000	41,778	1.044	<b>F</b>
Richmond St to Normal St	6 Lane Major Arterial	50,000	38,725	0.775	C
Notes:					
<b>Bold</b> values indicate roadway segments operating at LOS E or F.					
Capacity for non-standard roadway classifications were provided by City of San Diego staff.					
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.					

**Table 3-7 Existing Conditions Roadway Segment LOS Summary (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	ADT	V/C RATIO (a)	LOS
<b>NORTH PARK</b>					
<b>30th St</b>					
Adams Ave to Meade Ave	2 Lane Collector (continuous left-turn lane)	15,000	6,325	0.422	B
Meade Ave to El Cajon Blvd	2 Lane Collector (continuous left-turn lane)	15,000	10,912	0.727	D
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,684	0.846	D
Howard Ave to Lincoln Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,703	0.847	D
Lincoln Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,500	0.833	D
University Ave to North Park Way	2 Lane Collector (continuous left-turn lane)	15,000	12,150	0.810	D
North Park Way Ave to Upas St	2 Lane Collector (continuous left-turn lane)	15,000	12,241	0.816	D
Upas St to Redwood St	2 Lane Collector (no center lane)	8,000	8,824	1.103	<b>F</b>
Redwood St to Juniper St	2 Lane Collector (no center lane)	8,000	10,013	1.252	<b>F</b>
<b>32nd St</b>					
Howard Ave to Lincoln Ave	2 Lane Collector (no center lane)	8,000	1,845	0.231	A
Lincoln Ave to University Ave	2 Lane Collector (no center lane)	8,000	3,300	0.413	B
University Ave to Myrtle Ave	2 Lane Collector (no center lane)	8,000	5,000	0.625	D
Myrtle Ave to Upas St	2 Lane Collector (no center lane)	8,000	6,985	0.873	<b>E</b>
Upas St to Redwood St	2 Lane Collector (no center lane)	8,000	5,200	0.650	D
Redwood St to Juniper St	2 Lane Collector (no center lane)	8,000	2,218	0.277	A
<b>Adams Ave</b>					
Park Blvd to Alabama St	2 Lane Collector (continuous left-turn lane)	15,000	6,758	0.451	B
Alabama St to Texas St	2 Lane Collector (continuous left-turn lane)	15,000	8,966	0.598	C
Texas St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	10,700	0.713	D
30th St to W Mountain View Dr	2 Lane Collector (continuous left-turn lane)	15,000	19,929	1.329	<b>F</b>
<b>Boundary St</b>					
University Ave to North Park Way	2 Lane Collector (no center lane)	8,000	12,620	1.578	<b>F</b>
North Park Way to Myrtle Ave	1 Lane Collector (one-way)	7,500	2,730	0.364	B
Myrtle Ave to Redwood St	2 Lane Collector (no center lane)	8,000	4,670	0.584	C
Redwood St to Commonwealth Ave	2 Lane Collector (no center lane)	8,000	3,550	0.444	C
<b>Commonwealth Ave</b>					
Boundary St to Juniper St	2 Lane Collector (no center lane)	8,000	1,480	0.185	A
<b>El Cajon Blvd</b>					
Park Blvd to Florida St	6 Lane Major Arterial	50,000	19,407	0.388	A
Florida St to Texas St	6 Lane Major Arterial	50,000	23,366	0.467	B
Texas St to Oregon St	6 Lane Major Arterial	50,000	24,479	0.490	B
Oregon St to Utah St	6 Lane Major Arterial	50,000	32,468	0.649	C
Utah St to 30th St	6 Lane Major Arterial	50,000	32,191	0.644	C
30th St to Illinois St	6 Lane Major Arterial	50,000	39,116	0.782	C
Illinois St to I-805 Ramps	6 Lane Major Arterial	50,000	46,062	0.921	<b>E</b>
<b>Florida St</b>					
El Cajon Blvd to University Ave	2 Lane Collector (no center lane)	8,000	3,375	0.422	B
University Ave to Robinson Ave	2 Lane Collector (no center lane)	8,000	5,450	0.681	D
Robinson Ave to Upas St	2 Lane Collector (no center lane)	8,000	5,600	0.700	D
<b>Florida Dr</b>					
Upas St to Morley Field Dr	2 Lane Collector (no fronting property)	10,000	5,498	0.550	B
<b>Howard Ave</b>					
Park Blvd to Florida St	2 Lane Collector (continuous left-turn lane)	15,000	3,000	0.200	A
Florida St to Texas St	2 Lane Collector (continuous left-turn lane)	15,000	3,566	0.238	A
Texas St to Utah St	2 Lane Collector (continuous left-turn lane)	15,000	4,815	0.321	A
Utah St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	6,137	0.409	B
30th St to 32nd St	2 Lane Collector (continuous left-turn lane)	15,000	7,187	0.479	C
Notes:					
<b>Bold</b> values indicate roadway segments operating at LOS E or F.					
Capacity for non-standard roadway classifications were provided by City of San Diego staff.					
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.					

**Table 3-8 Existing Conditions Roadway Segment LOS Summary (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	ADT	V/C RATIO (a)	LOS
<b>NORTH PARK</b>					
<b>Juniper St</b>					
30th St to 32nd St	2 Lane Collector (no center lane)	8,000	3,646	0.456	C
32nd St to Commonwealth Ave	2 Lane Collector (no center lane)	8,000	2,826	0.353	B
<b>Landis St</b>					
Boundary St to Nile St	2 Lane Collector (no center lane)	8,000	3,790	0.474	C
<b>Lincoln Ave</b>					
Florida St to Texas St	2 Lane Collector (no center lane)	8,000	990	0.124	A
Texas St to Utah St	2 Lane Collector (no center lane)	8,000	2,400	0.300	A
Utah St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	4,550	0.303	A
30th St to 32nd St	2 Lane Collector (continuous left-turn lane)	15,000	5,563	0.371	B
32nd St to Boundary St	2 Lane Collector (continuous left-turn lane)	15,000	5,473	0.365	B
<b>Madison Ave</b>					
Park Blvd to Mission Ave	2 Lane Collector (continuous left-turn lane)	15,000	6,110	0.407	B
Mission Ave to Texas St	2 Lane Collector (continuous left-turn lane)	15,000	8,040	0.536	C
Texas St to Ohio St	2 Lane Collector (no center lane)	8,000	5,295	0.662	D
<b>Meade Ave</b>					
Park Blvd to Texas St	2 Lane Collector (continuous left-turn lane)	15,000	4,060	0.271	A
Texas St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	5,280	0.352	B
30th St to Illinois Ave	2 Lane Collector (continuous left-turn lane)	15,000	8,576	0.572	C
Illinois St to Iowa St	2 Lane Collector (continuous left-turn lane)	15,000	8,651	0.577	C
<b>Mission Ave</b>					
Park Blvd to Mississippi St	2 Lane Collector (one-way)	17,500	1,497	0.086	A
<b>Monroe Ave</b>					
Park Blvd to Mission Ave	2 Lane Collector (no center lane)	8,000	1,200	0.150	A
Mission Ave to Texas St	2 Lane Collector (no center lane)	8,000	1,500	0.188	A
Texas St to 30th St	2 Lane Collector (no center lane)	8,000	2,158	0.270	A
<b>Nile St</b>					
Landis St to Thorn St	2 Lane Collector (no center lane)	8,000	4,305	0.538	C
<b>North Park Way</b>					
30th St to 32nd St	2 Lane Collector (no fronting property)	10,000	6,737	0.674	C
<b>Orange Ave/Howard Ave</b>					
Iowa St to I-805	2 Lane Collector (continuous left-turn lane)	15,000	5,938	0.396	B
<b>Pentuckett Ave</b>					
Juniper St to Fir St	2 Lane Collector (no center lane)	8,000	2,225	0.278	A
<b>Pershing Dr</b>					
Upas St to Redwood St	2 Lane Collector (continuous left-turn lane)	15,000	6,439	0.429	B
<b>Redwood St</b>					
28th St to 30th St	2 Lane Collector (no center lane)	8,000	5,988	0.749	D
30th St to 32nd St	2 Lane Collector (no center lane)	8,000	4,912	0.614	C
32nd St to Boundary St	2 Lane Collector (no center lane)	8,000	1,650	0.206	A
<b>Robinson Ave</b>					
Park Blvd to Florida St	2 Lane Collector (no center lane)	8,000	4,160	0.520	C
<b>Texas St</b>					
Adams Ave to Mission Ave	3 Lane Major Arterial	30,000	27,532	0.918	<b>E</b>
Mission Ave to El Cajon Blvd	2 Lane Collector (continuous left-turn lane)	15,000	16,563	1.104	<b>F</b>
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	10,404	0.694	D
Howard Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	9,461	0.631	C
University Ave to Myrtle Ave	2 Lane Collector (no center lane)	8,000	3,821	0.478	C
Myrtle Ave to Upas St	2 Lane Collector (no center lane)	8,000	2,814	0.352	B
Notes:					
<b>Bold</b> values indicate roadway segments operating at LOS E or F.					
Capacity for non-standard roadway classifications were provided by City of San Diego staff.					
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.					

**Table 3-9** Existing Conditions Roadway Segment LOS Summary (cont.)

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	ADT	V/C RATIO (a)	LOS
<b>NORTH PARK</b>					
<b>University Ave</b>					
Park Blvd to Florida St	4 Lane Collector (no center lane)	15,000	19,200	1.280	<b>F</b>
Florida St to Texas St	4 Lane Collector (no center lane)	15,000	21,611	1.441	<b>F</b>
Texas St to Oregon St	4 Lane Collector (no center lane)	15,000	20,058	1.337	<b>F</b>
Oregon St to Utah St	4 Lane Collector (no center lane)	15,000	20,361	1.357	<b>F</b>
Utah St to 30th St	4 Lane Collector (no center lane)	15,000	19,173	1.278	<b>F</b>
30th St to Illinois St	3 Lane Collector (no center lane)	11,500	21,100	1.835	<b>F</b>
Illinois St to 32nd St	3 Lane Collector (no center lane)	11,500	19,644	1.708	<b>F</b>
32nd St to Boundary St	4 Lane Collector (no center lane)	15,000	25,568	1.705	<b>F</b>
<b>Upas St</b>					
Alabama St to Texas St	2 Lane Collector (no center lane)	8,000	7,100	0.888	<b>E</b>
Texas St to Pershing Rd	2 Lane Collector (no center lane)	8,000	7,160	0.895	<b>E</b>
Pershing Rd to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	9,574	0.638	<b>C</b>
30th St to 32nd St	2 Lane Collector (no center lane)	8,000	4,347	0.543	<b>C</b>
32nd St to Boundary St	2 Lane Collector (no center lane)	8,000	2,600	0.325	<b>B</b>
<b>Utah St</b>					
Adams Ave to Monroe Ave	2 Lane Collector (no center lane)	8,000	992	0.124	<b>A</b>
Meade Ave to El Cajon Blvd	2 Lane Collector (no center lane)	8,000	2,841	0.355	<b>B</b>
El Cajon Blvd to Howard Ave	2 Lane Collector (no center lane)	8,000	4,362	0.545	<b>C</b>
Howard Ave to Lincoln Ave	2 Lane Collector (no center lane)	8,000	2,535	0.317	<b>B</b>
Lincoln Ave to University Ave	3 Lane Collector (no center lane)	11,500	2,900	0.252	<b>A</b>
University Ave to North Park Way	2 Lane Collector (no center lane)	8,000	4,740	0.593	<b>C</b>
North Park Way to Upas St	2 Lane Collector (no center lane)	8,000	1,919	0.240	<b>A</b>
Notes: <b>Bold</b> values indicate roadway segments operating at LOS E or F. Capacity for non-standard roadway classifications were provided by City of San Diego staff. (a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.					

**Table 3-10 Existing Conditions Roadway Segment LOS Summary (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	ADT	V/C RATIO (a)	LOS
<b>GOLDEN HILL</b>					
<b>25th St</b>					
Russ Blvd to B St	2 Lane Collector (continuous left-turn lane)	15,000	7,550	0.503	C
B St to Broadway	4 Lane Collector (no center lane)	15,000	9,409	0.627	C
Broadway to F St	4 Lane Collector (no center lane)	15,000	12,105	0.807	D
<b>26th St</b>					
Russ Blvd to B St	2 Lane Collector (no center lane)	8,000	9,152	1.144	<b>F</b>
B St to C St	2 Lane Collector (no center lane)	8,000	2,146	0.268	A
<b>28th St</b>					
Russ Blvd to C St	2 Lane Collector (no center lane)	8,000	4,888	0.611	C
C St to Broadway	2 Lane Collector (no center lane)	8,000	8,150	1.019	<b>F</b>
Broadway to SR-94	2 Lane Collector (no center lane)	8,000	10,697	1.337	<b>F</b>
<b>30th St</b>					
Grape St to Ash St	2 Lane Collector (no center lane)	8,000	3,865	0.483	C
A St to Broadway	2 Lane Collector (no center lane)	8,000	16,610	2.076	<b>F</b>
Broadway to SR-94	2 Lane Collector (no center lane)	8,000	4,210	0.526	C
<b>31st St</b>					
Juniper St to Grape St	2 Lane Collector (no center lane)	8,000	2,299	0.287	A
<b>B St</b>					
19th St to 20th St	4 Lane Collector (no center lane)	15,000	5,372	0.358	B
20th St to 25th St	2 Lane Collector (no center lane)	8,000	3,708	0.464	C
25th St to 26th St	2 Lane Collector (no center lane)	8,000	4,600	0.575	C
26th St to 28th St	2 Lane Collector (no center lane)	8,000	6,200	0.775	D
28th St to 30th St	2 Lane Collector (no center lane)	8,000	2,713	0.339	B
<b>Beech St</b>					
28th St to Fern St	2 Lane Collector (no center lane)	8,000	1,770	0.221	A
<b>Broadway</b>					
19th St to 20th St	2 Lane Collector (continuous left-turn lane)	15,000	5,788	0.386	B
20th St to 25th St	2 Lane Collector (continuous left-turn lane)	15,000	4,867	0.324	A
25th St to 28th St	2 Lane Collector (continuous left-turn lane)	15,000	4,165	0.278	A
28th St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	3,279	0.219	A
30th St to SR-94	2 Lane Collector (no center lane)	8,000	15,881	1.985	<b>F</b>
<b>C St</b>					
19th St to 20th St	1 Lane Collector (one-way)	7,500	3,827	0.510	C
20th St to 25th St	2 Lane Collector (continuous left-turn lane)	15,000	3,923	0.26	A
28th St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	2,658	0.177	A
30th St to 34th St	2 Lane Collector (no center lane)	8,000	4,230	0.53	C
<b>Cedar St</b>					
Fern St to Felton St	2 Lane Collector (no center lane)	8,000	2,815	0.352	B
<b>Fern St</b>					
Juniper St to Grape St	2 Lane Collector (no center lane)	8,000	8,350	1.044	<b>F</b>
Grape St to A St	2 Lane Collector (no center lane)	8,000	8,082	1.010	<b>F</b>
<b>Grape St</b>					
30th St to 31st St	2 Lane Collector (no center lane)	8,000	2,614	0.327	B
Notes:					
<b>Bold</b> values indicate roadway segments operating at LOS E or F.					
Capacity for non-standard roadway classifications were provided by City of San Diego staff.					
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.					



### 3.5 FREEWAY SEGMENT ANALYSIS

Freeway volumes were obtained from Caltrans and reflect the latest volumes that had been collected at the time of this report. **Tables 3-11 through 3-14** display the LOS analysis results for the study freeway segments under Existing Conditions. As shown in the table, the freeway segments surrounding the Uptown, North Park, and Golden Hill communities all have volumes that exceed the capacity during peak hours. In general, the failing segments are those that move traffic away from the cluster communities in the morning and towards the cluster communities in the afternoon.

Interstate 5 shows LOS E or F in the northbound direction at each of the segments except between Washington Street and Pacific Highway during the a.m. peak. In the p.m. peak, LOS E or F occurs from First Avenue to Sixth Avenue and from SR-163 to SR-94, both in the southbound direction.

Interstate 8 shows LOS E or F at each of the study segments in both peak periods. The failing LOS shows up in the westbound direction during the a.m. peak and in the eastbound direction during the p.m. peak.

State Route 15 shows LOS E in the southbound direction during both the a.m. and p.m. peaks between I-805 and SR-94.

Interstate 805 shows LOS E or F in one direction each of the segments in the a.m. peak. From I-8 to Adams Avenue, the deficient direction is northbound, and for segments from El Cajon Boulevard to SR-15, the deficient direction is southbound. During the p.m. peak, the deficient segments are southbound from I-8 to Adams Avenue and northbound from El Cajon Boulevard to University Avenue.

State Route 94 shows LOS E or F in the westbound direction during the a.m. peak and in the eastbound direction in the p.m. peak.

State Route 163 shows LOS E or F in the southbound direction from Washington Street to I-5 during the a.m. peak and in the northbound direction from I-5 to Washington Street during the p.m. peak. In addition, the segment of SR-163 from Quince Drive to I-5 in the southbound direction is LOS F in the p.m. peak.

### 3.6 FREEWAY RAMP METERING ANALYSIS

Ramp volumes were obtained from the intersection turning movements when applicable, or from Caltrans' latest volumes that had been collected at the time of this report. **Table 3-15** displays the queuing analysis results for the ramps in the study area that are currently metered. The table compares the peak hour demand at the on-ramp with the current meter rate. As shown in the table, the meter rate adequately controls the expected demand without excess queuing, except at the following locations:

- Washington Street to I-5 Northbound, a.m. peak (1.4 minute average delay)
- Washington Street to I-5 Northbound, p.m. peak (2.3 minute average delay)
- India Street to I-5 Northbound, p.m. peak (4.2 minute average delay)
- Hancock Street to I-5 Southbound, p.m. peak (7.7 minute average delay)
- Fifth Avenue to I-5 Southbound, p.m. peak (5.5 minute average delay)

**Appendix E** contains the ramp meter information provided by Caltrans.

**Table 3-11 Existing Conditions Freeway Segment Analysis Summary**

FREEWAY SEGMENT	DIRECTION	NUMBER OF LANES	CAPACITY (a)	ADT (b)	PEAK HOUR VOLUME (b)	D (DIRECTIONAL SPLIT)	PEAK-HOUR VOLUME (c)	V/C RATIO	LOS
AM PEAK									
I-5									
Old Town Ave to Washington St	NB	4 M + 1 A	9,200	196,000	15,600	0.560	8,736	0.95	E
	SB	4 M + 1 A	9,200			0.440	6,864	0.75	C
Washington St to Pacific Highway	NB	4 M	8,000	148,000	12,000	0.560	6,720	0.84	D
	SB	4 M	8,000			0.440	5,280	0.66	C
First Ave to Sixth Ave	NB	4 M + 1 A	9,200	201,000	15,500	0.750	11,625	1.26	F1
	SB	5 M + 1 A	11,200			0.250	3,875	0.35	A
SR-163 to SR-94	NB	5 M + 1 A	11,200	210,000	16,200	0.750	12,150	1.08	F0
	SB	5 M + 1 A	11,200			0.250	4,050	0.36	A
SR-94 to Imperial Ave	NB	4 M + 1 A	9,200	164,000	12,700	0.750	9,525	1.04	F0
	SB	4 M + 1 A	9,200			0.250	3,175	0.35	A
I-8									
Hotel Circle (W) to Hotel Circle (E)	WB	4 M + 1 A	9,200	208,000	16,500	0.570	9,405	1.02	F0
	EB	4 M	8,000			0.430	7,095	0.89	D
Mission Center Rd to Qualcomm Wy	WB	4 M + 1 A	9,200	224,000	17,900	0.570	10,203	1.11	F0
	EB	4 M + 1 A	9,200			0.430	7,697	0.84	D
I-805 to SR-15	WB	4 M + 1 A	9,200	242,000	19,100	0.650	12,415	1.35	F1
	EB	4 M + 1 A	9,200			0.350	6,685	0.73	C
SR-15									
I-805 to SR-94	NB	3 M + 1 A	7,200	96,000	8,900	0.430	3,827	0.53	B
	SB	2 M + 1 A	5,200			0.570	5,073	0.98	E
Notes:									
Bold values indicate freeway segments operating at LOS E or F.									
M=Main Lane; A= Auxiliary Lane.									
(a) The capacity is calculated as 2,000 ADT per main lane and 1,200 ADT per auxiliary lane									
(b) Traffic volumes provided by Caltrans (2008)									
(c) Peak-hour volume calculated by: (C x wvp Peak-Hour Volume)%(D)									

Notes:

**Bold** values indicate freeway segments operating at LOS E or F.

M= Main Lane; A= Auxiliary Lane.

(a) The capacity is calculated as 2,000 ADT per main lane and 1,200 ADT per auxiliary lane

(b) Traffic volumes provided by Caltrans (2008)

(c) Peak-hour volume calculated by: (2-way Peak-Hour Volume)\*(D)

**Table 3-12 Existing Conditions Freeway Segment Analysis Summary (Cont.)**

FREEWAY SEGMENT	DIRECTION	NUMBER OF LANES	CAPACITY (a)	ADT (b)	PEAK HOUR VOLUME (b)	D (DIRECTIONAL SPLIT)	PEAK-HOUR VOLUME (c)	V/C RATIO	LOS	
AM PEAK										
I-805										
I-8 to Adams Ave	NB	4 M + 1 A	9,200	192,000	15,900	0.730	11,607	1.26	F1	
	SB	5 M + 1 A	11,200			0.270	4,293	0.38	A	
	El Cajon Blvd to University Ave	NB	4 M	8,000	171,000	14,600	0.330	4,818	0.60	B
		SB	4 M + 1 A	9,200			0.670	9,782	1.06	F0
University Ave to SR-15	NB	4 M + 1 A	9,200	169,000	13,000	0.330	4,290	0.47	B	
	SB	4 M + 1 A	9,200			0.670	8,710	0.95	E	
SR-94										
25th St to 28th St	WB	4 M	8,000	123,000	10,700	0.730	7,811	0.98	E	
	EB	4 M	8,000			0.270	2,889	0.36	A	
28th St to 30th St	WB	4 M	8,000	130,000	12,000	0.730	8,760	1.10	F0	
	EB	4 M	8,000			0.270	3,240	0.41	A	
Broadway to SR-15	WB	4 M	8,000	144,000	13,300	0.730	9,709	1.21	F0	
	EB	4 M + 1 A	9,200			0.270	3,591	0.39	A	
SR-163										
I-8 to Washington St	NB	3 M + 1 A	7,200	126,000	10,100	0.410	4,141	0.58	B	
	SB	3 M + 1 A	7,200			0.590	5,959	0.83	D	
Washington St to Robinson Ave	NB	2 M	4,000	96,000	7,800	0.410	3,198	0.80	C	
	SB	2 M	4,000			0.590	4,602	1.15	F0	
Quince Dr to I-5	NB	2 M	4,000	108,000	10,100	0.350	3,535	0.88	D	
	SB	2 M	4,000			0.650	6,565	1.64	F2	
Notes:										
Bold values indicate freeway segments operating at LOS E or F.										
M=Main Lane; A= Auxiliary Lane.										
(a) The capacity is calculated as 2,000 ADT per main lane and 1,200 ADT per auxiliary lane										
(b) Traffic volumes provided by Caltrans (2008)										
(c) Peak-hour volume calculated by: (2-way Peak-Hour Volume)*(D)										

**Table 3-13 Existing Conditions Freeway Segment Analysis Summary (Cont.)**

FREEWAY SEGMENT	DIRECTION	NUMBER OF LANES	CAPACITY (a)	ADT (b)	PEAK HOUR VOLUME (b)	D (DIRECTIONAL SPLIT)	PEAK-HOUR VOLUME (c)	V/C RATIO	LOS
PM PEAK									
I-5									
Old Town Ave to Washington St	NB	4 M + 1 A	9200	196,000	15,600	0.460	7,176	0.78	C
	SB	4 M + 1 A	9200			0.540	8,424	0.92	D
Washington St to Pacific Highway	NB	4 M	8000	148,000	12,000	0.460	5,520	0.69	C
	SB	4 M	8000			0.540	6,480	0.81	D
First Ave to Sixth Ave	NB	4 M + 1 A	9200	201,000	15,500	0.640	9,920	1.08	F0
	SB	5 M + 1 A	11200			0.360	5,580	0.50	B
SR-163 to SR-94	NB	5 M + 1 A	11200	210,000	16,200	0.640	10,368	0.93	E
	SB	5 M + 1 A	11200			0.360	5,832	0.52	B
SR-94 to Imperial Ave	NB	4 M + 1 A	9200	164,000	12,700	0.640	8,128	0.88	D
	SB	4 M + 1 A	9200			0.360	4,572	0.50	B
I-8									
Hotel Circle (W) to Hotel Circle (E)	WB	4 M + 1 A	9200	208,000	16,500	0.450	7,425	0.81	D
	EB	4 M	8000			0.550	9,075	1.13	F0
Mission Center Rd to Qualcomm Wy	WB	4 M + 1 A	9200	224,000	17,900	0.450	8,055	0.88	D
	EB	4 M + 1 A	9200			0.550	9,845	1.07	F0
I-805 to SR-15	WB	4 M + 1 A	9200	242,000	19,100	0.430	8,213	0.89	D
	EB	4 M + 1 A	9200			0.570	10,887	1.18	F0
SR-15									
I-805 to SR-94	NB	3 M + 1 A	7200	96,000	8,900	0.430	3,827	0.53	B
	SB	2 M + 1 A	5200			0.570	5,073	0.98	E
Notes:									
Bold values indicate freeway segments operating at LOS E or F.									
M=Main Lane; A= Auxiliary Lane.									
(a) The capacity is calculated as 2,000 ADT per main lane and 1,200 ADT per auxiliary lane									
(b) Traffic volumes provided by Caltrans (2008)									
Peak-hour volume calculated by: (C x avg Peak-Hour Volume)%(D)									

Notes:

**Bold** values indicate freeway segments operating at LOS E or F.

M= Main Lane; A= Auxiliary Lane.

(a) The capacity is calculated as 2,000 ADT per main lane and 1,200 ADT per auxiliary lane

(b) Traffic volumes provided by Caltrans (2008)

(c) Peak-hour volume calculated by: (2-way Peak-Hour Volume)\*(D)

**Table 3-14 Existing Conditions Freeway Segment Analysis Summary (Cont.)**

FREEWAY SEGMENT	DIRECTION	NUMBER OF LANES	CAPACITY (a)	ADT (b)	PEAK HOUR VOLUME (b)	D (DIRECTIONAL SPLIT)	PEAK-HOUR VOLUME (c)	V/C RATIO	LOS
PM PEAK									
I-805									
I-8 to Adams Ave	NB	4 M + 1 A	9200	192,000	15,900	0.340	5,406	0.59	B
	SB	5 M + 1 A	11200			0.660	10,494	0.94	E
El Cajon Blvd to University Ave	NB	4 M	8000	171,000	14,600	0.600	8,760	1.10	F0
	SB	4 M + 1 A	9200			0.400	5,840	0.63	C
University Ave to SR-15	NB	4 M + 1 A	9200	169,000	13,000	0.600	7,800	0.85	D
	SB	4 M + 1 A	9200			0.400	5,200	0.57	B
SR-94									
25th St to 28th St	WB	4 M	8000	123,000	10,700	0.300	3,210	0.40	A
	EB	4 M	8000			0.700	7,490	0.94	E
28th St to 30th St	WB	4 M	8000	130,000	12,000	0.300	3,600	0.45	B
	EB	4 M	8000			0.700	8,400	1.05	F0
Broadway to SR-15	WB	4 M	8000	144,000	13,300	0.300	3,990	0.50	B
	EB	4 M + 1 A	9200			0.700	9,310	1.01	F0
SR-163									
I-8 to Washington St	NB	3 M + 1 A	7200	126,000	10,100	0.620	6,262	0.87	D
	SB	3 M + 1 A	7200			0.380	3,838	0.53	B
Washington St to Robinson Ave	NB	2 M	4000	96,000	7,800	0.620	4,836	1.21	F0
	SB	2 M	4000			0.380	2,964	0.74	C
Quince Dr to I-5	NB	2 M	4000	108,000	10,100	0.540	5,454	1.36	F2
	SB	2 M	4000			0.460	4,646	1.16	F0
Notes:									
Bold values indicate freeway segments operating at LOS E or F.									
M=Main Lane; A= Auxiliary Lane.									
(a) The capacity is calculated as 2,000 ADT per main lane and 1,200 ADT per auxiliary lane									
(b) Traffic volumes provided by Caltrans (2008)									
(c) Peak-hour volume calculated by: (2-way Peak-Hour Volume)*(D)									

**Table 3-15** Existing Conditions Summary of Freeway Ramp Metering

ON-RAMP	PEAK PERIOD	METER RATE <sup>1</sup> (veh/hr)	DEMAND <sup>2</sup> (veh/hr)	EXCESS DEMAND (veh/hr)	AVERAGE DELAY (min)
INTERSTATE 5					
Washington St to I-5 NB	AM	996	1020	24	1.4
	PM	996	1034	38	2.3
India St to I-5 NB	AM	996	915	0	0.0
	PM	996	1066	70	4.2
Hawthorn St to I-5 NB	AM	996	454	0	0.0
	PM	996	842	0	0.0
Hancock St to I-5 SB	AM	Ramp not metered in the a.m. peak			
	PM	1140	1287	147	7.7
Kettner Blvd to I-5 SB	AM	Ramp not metered in the a.m. peak			
	PM	498	269	0	0.0
Fifth Ave to I-5 SB	AM	Ramp not metered in the a.m. peak			
	PM	996	1087	91	5.5
INTERSTATE 8					
NB Texas St to I-8 EB	AM	Ramp not metered in the a.m. peak			
	PM	498	465	0	0.0
SB Texas St to I-8 EB	AM	Ramp not metered in the a.m. peak			
	PM	1140	866	0	0.0
INTERSTATE 805					
El Cajon Blvd to I-805 NB	AM	1140	860	0	0.0
	PM	Ramp not metered in the p.m. peak			
University Ave to I-805 NB	AM	1140	998	0	0.0
	PM	Ramp not metered in the p.m. peak			
STATE ROUTE 94					
28th St to SR-94 WB	AM	534	100	0	0.0
	PM	Ramp not metered in the p.m. peak			
32nd St/Broadway to SR-94 WB	AM	570	99	0	0.0
	PM	Ramp not metered in the p.m. peak			
25th St to SR-94 EB	AM	Ramp not metered in the a.m. peak			
	PM	960	785	0	0.0
28th St to SR-94 EB	AM	Ramp not metered in the a.m. peak			
	PM	960	732	0	0.0
32nd St/Broadway to SR-94 EB	AM	Ramp not metered in the a.m. peak			
	PM	570	464	0	0.0
STATE ROUTE 163					
Washington St to SR-163 SB	AM	498	373	0	0.0
	PM	Ramp not metered in the p.m. peak			
Notes:					
1) Meter rate is the assumed peak hour capacity expected to be processed through the ramp meter (using Caltrans fast rate)					
2) Demand is the peak hour demand using the on-ramp					

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## 4 FUTURE COMMUNITY BUILDOUT CONDITIONS

This section provides a description of future community buildout conditions.

### 4.1 ROAD NETWORK

One roadway network change was assumed to take place under the Future Year scenario: 25th Street is changing from a 4-lane collector (no center lane) to a 2-lane collector with a continuous two-way left-turn lane between Broadway and C Street. This change is under construction at the time of this report. No other roadway network changes were assumed.

### 4.2 TRAFFIC VOLUMES

The projections of land use intensities were developed using GIS analysis techniques by the City of San Diego's Planning Department staff. Allowable uses, floor-to-area ratios, residential densities, allowable heights, and space for parking were all considered when determining the reasonably expected land use plan alternatives.

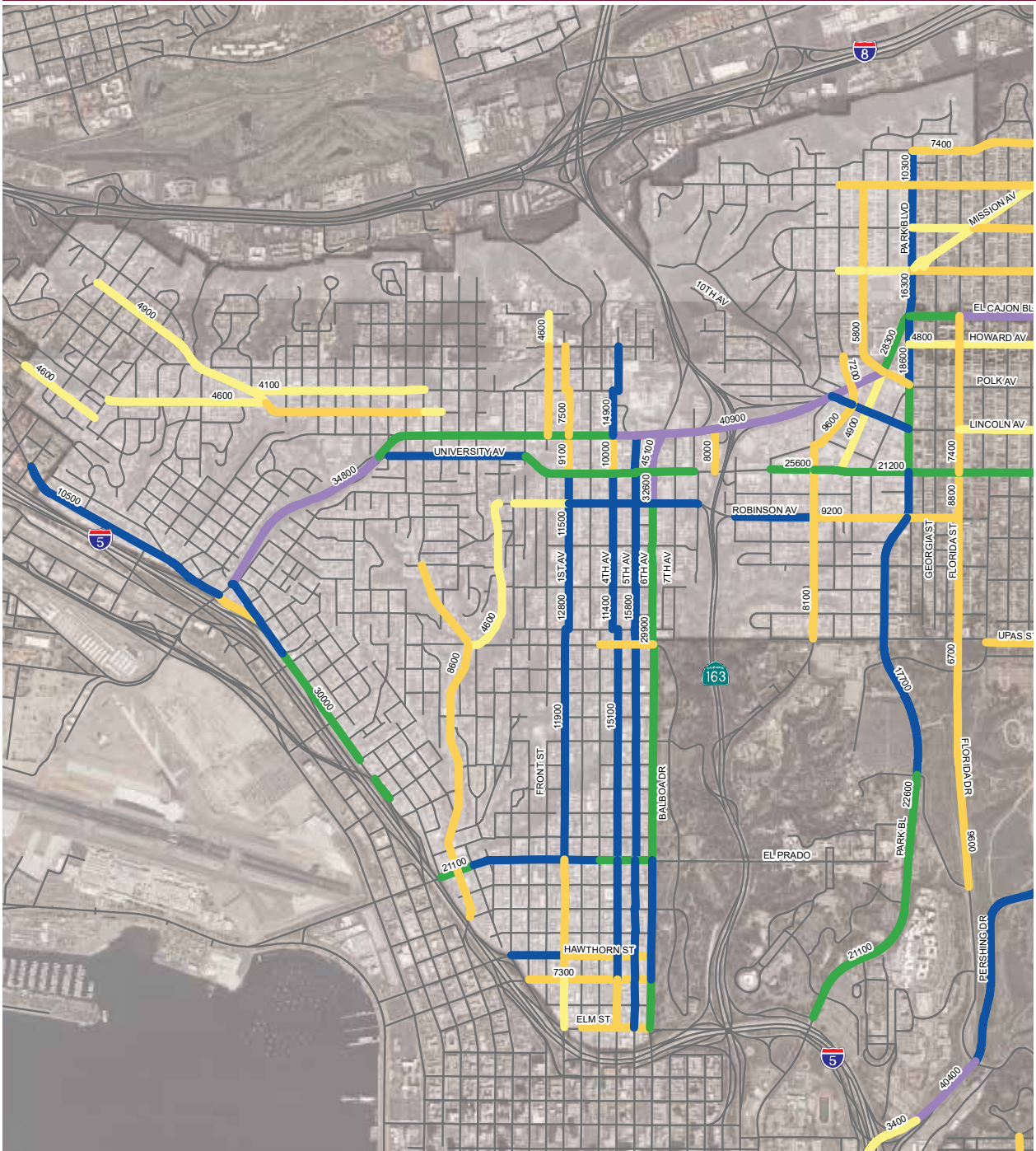
#### *Model Adjustments*

In the process of calibrating the existing model, it was concluded that several post model adjustments were needed for the forecasted Year 2035 traffic model volumes to make them consistent with existing vehicular counts and expected overall traffic patterns within the three communities.

- For roadway segments where the difference between the calibrated existing 2008 model and the actual count exceeded 10% or 2,000 daily vehicles, the difference was subtracted or added to the Year 2035 forecast model to adjust the future volume based on the discrepancy noted between base year model volumes and count data. For roadway segments that have existing daily volumes less than 5,000, no adjustments were applied to the future model volumes.

The post model adjustment details for the Future Year scenario are included in **Appendix F**. The resulting daily traffic volumes for Future Year are presented in **Figures 4-1, 4-2, and 4-3**.

FIGURE 4-1

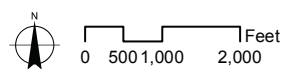
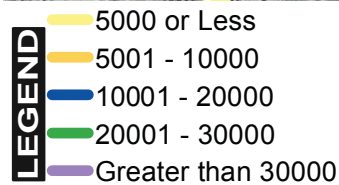
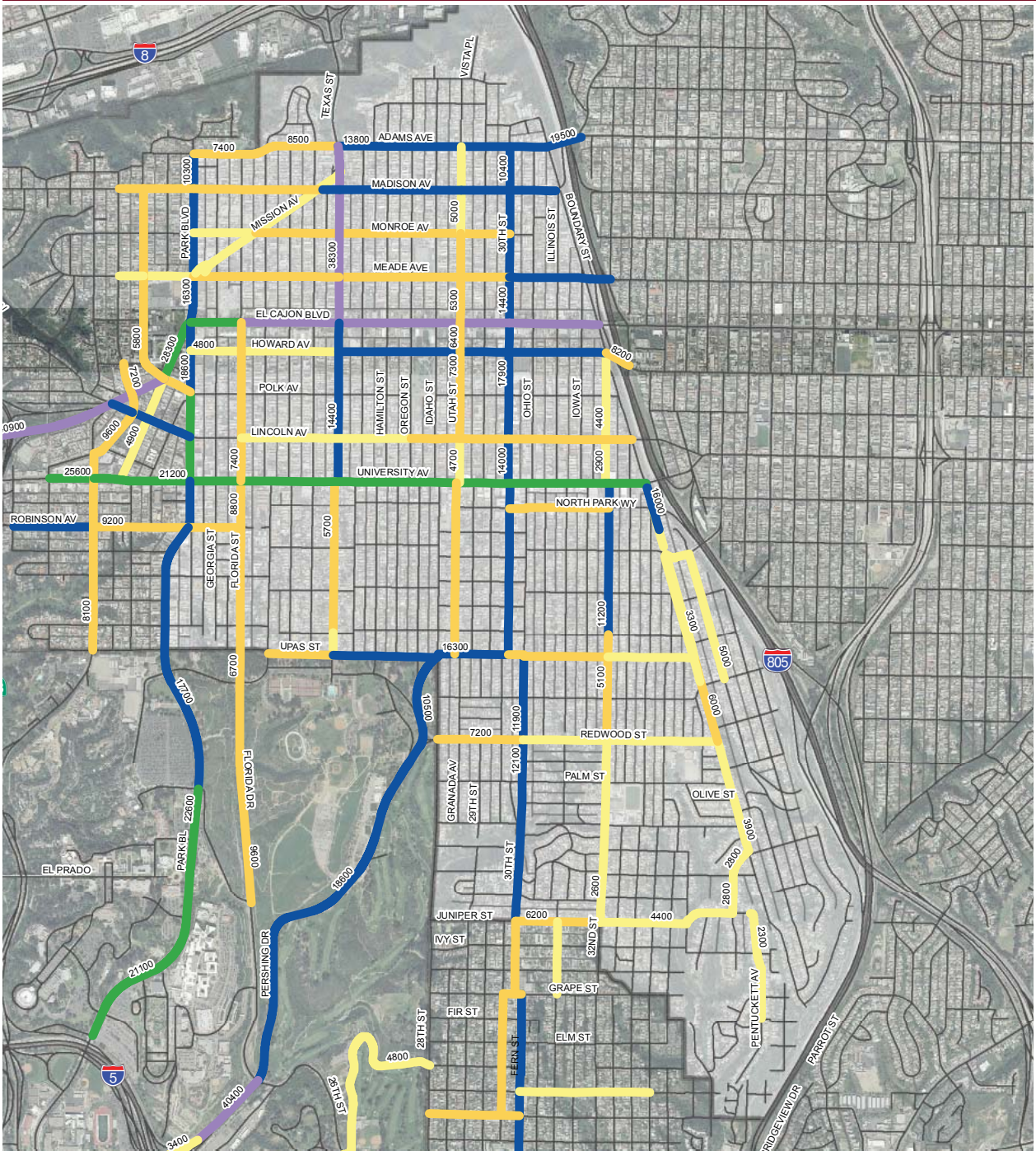


## LEGEND

*Year 2035 Proposed Land Use Roadway Segment ADT Volumes: Uptown*



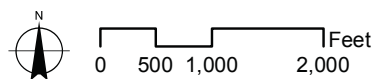
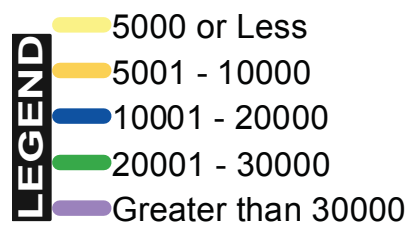
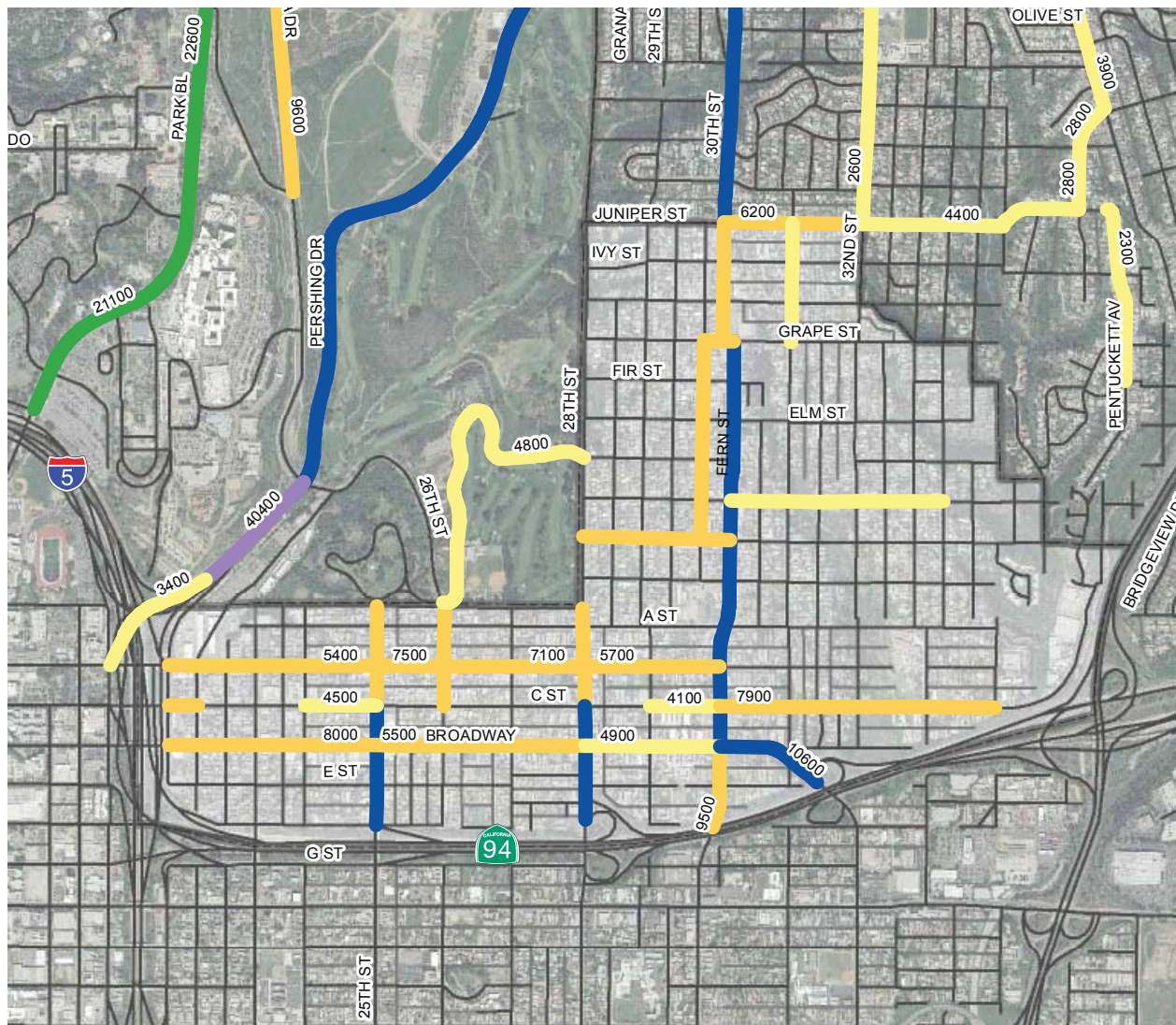
FIGURE 4-2



*Future Year Proposed Land Use Roadway Segment ADT Volumes: North Park*



FIGURE 4-3



*Future Year Proposed Land Use Roadway Segment ADT Volumes: Golden Hill*

### *Turning Movement Volume Forecasts*

Future Year peak hour turning movements at the study area intersections were developed using methodologies from National Cooperative Highway Research Program (NCHRP) 255 – Highway Traffic Data for Urbanized Area Project Planning and Design, Chapter 8. NCHRP Report 255 is a compilation of the best techniques that are currently being used in urban areas to forecast future traffic volumes. These techniques were identified through a survey of state and local agencies with follow-up field visits to obtain detailed information on procedural steps and typical applications. The method used to forecast the future turning movement volumes for the Uptown, North Park, and Golden Hill Community Plans evaluation is the NCHRP's "Directional Volume Forecast". For this method, existing and future daily traffic volumes, existing peak hour turning movements, and projected peak hour "K" and directional "D" factors are used to calculate future year turning movements. Existing daily segment traffic volumes and peak hour intersection turning movements were counted in the field. Future Year daily traffic volumes were obtained from the forecast model forecast. Using the "Directional Volume Forecast" technique, the existing turning movements at each study area intersection were factored based on increases in daily approach traffic and existing K and D factors. Each respective movement was derived using an iterative approach that balances the inflows and outflows for each approach. The supporting worksheets for calculating Future Year volumes are included in **Appendix G**. Resulting peak hour intersection turning movements are presented in **Figures 4-4, 4-5, 4-6 and 4-7**.

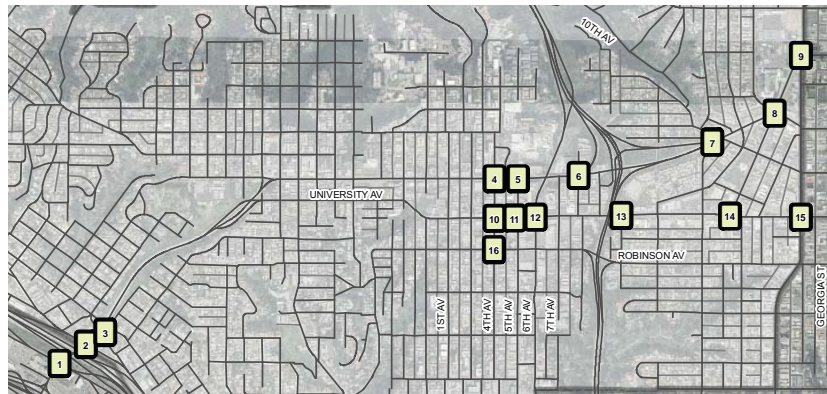
# FIGURE 4-4

<b>1</b> <div> <div> 46 / 49  204 / 221  685 / 1181 </div> <div>Hancock St</div> </div> <div> <div> 257 / 249  689 / 710 </div> <div>Washington St</div> </div> <div> 150 / 361  47 / 68 </div>	<b>2</b> <div> <div> 986 / 792  850 / 735 </div> <div>San Diego Ave</div> </div> <div> <div> 48 / 149  772 / 1559 </div> <div>Washington St</div> </div> <div> 146 / 136  207 / 286  46 / 85 </div>	<b>3</b> <div> <div> 4 / 24  0 / 1  1 / 6 </div> <div>India St</div> </div> <div> <div> 0 / 7  1698 / 1387  16 / 44 </div> <div>Washington St</div> </div> <div> 168 / 251  0 / 13  321 / 379 </div>	<b>4</b> <div> <div> 88 / 107  214 / 244  312 / 813 </div> <div>Fourth Ave</div> </div> <div> <div> 176 / 89  1099 / 908  481 / 525 </div> <div>Washington St</div> </div> <div> 81 / 56  507 / 1103  112 / 113 </div>
<b>5</b> <div> <div> 25 / 98 </div> <div>Fifth Ave</div> </div> <div> <div> 0 / 260  1657 / 1117 </div> <div>Washington St</div> </div> <div> 819 / 1769 </div>	<b>6</b> <div> <div> 13 / 5  17 / 12  23 / 14 </div> <div> 13 / 5  839 / 844  8 / 5  1144 / 657  0 / 13 </div> <div> Eighth Ave  SR-163 Off-Ramp </div> </div> <div> <div> 983 / 2782  96 / 291 </div> <div>Washington St</div> </div> <div> 76 / 76  10 / 14  21 / 53 </div>	<b>7</b> <div> <div> SR-163 On-Ramp </div> <div> 1680 / 874  839 / 551 </div> <div>Washington St</div> </div> <div> <div> 627 / 1006  940 / 2510  180 / 587 </div> <div>Richmond St</div> </div> <div> 17 / 30 </div>	<b>8</b> <div> <div> 20 / 24  1229 / 716  11 / 12  14 / 26 </div> <div> 10 / 22  18 / 27  0 / 4  101 / 154  104 / 102  463 / 1980  82 / 386  27 / 15 </div> <div> Campus Ave  Normal St </div> </div> <div> <div> 22 / 22  77 / 45  309 / 127  1 / 4 </div> <div>Polk Ave</div> </div> <div> 32 / 46  26 / 33 </div>
<b>9</b> <div> <div> 326 / 160  224 / 281  43 / 70 </div> <div>Park Blvd</div> </div> <div> <div> 80 / 59  591 / 439  198 / 221 </div> <div>El Cajon Blvd</div> </div> <div> 163 / 409  223 / 694  63 / 172 </div>	<b>10</b> <div> <div> 23 / 48  533 / 480  20 / 110 </div> <div>Fourth Ave</div> </div> <div> <div> 50 / 508  88 / 250 </div> <div>University Ave</div> </div> <div> 66 / 380  39 / 115 </div>	<b>11</b> <div> <div> 354 / 343  755 / 745 </div> <div>Fifth Ave</div> </div> <div> <div> 16 / 49  472 / 541 </div> <div>University Ave</div> </div> <div> 67 / 108  331 / 551  253 / 474 </div>	<b>12</b> <div> <div> 542 / 515  1006 / 788  175 / 273 </div> <div>Sixth Ave</div> </div> <div> <div> 184 / 171  475 / 535  164 / 165 </div> <div>University Ave</div> </div> <div> 482 / 371  212 / 459  45 / 70 </div>
<b>13</b> <div> <div> 90 / 238  15 / 23  2 / 7 </div> <div>Tenth Ave</div> </div> <div> <div> 4 / 6  958 / 857  37 / 13 </div> <div>University Ave</div> </div> <div> 108 / 311  454 / 1160  229 / 353 </div>	<b>14</b> <div> <div> 106 / 125  93 / 287 </div> <div>Normal St</div> </div> <div> <div> 115 / 96  550 / 607 </div> <div>University Ave</div> </div> <div> 79 / 210  285 / 854 </div>	<b>15</b> <div> <div> 67 / 95  365 / 437  71 / 238 </div> <div>Park Blvd</div> </div> <div> <div> 147 / 129  514 / 448  135 / 100 </div> <div>University Ave</div> </div> <div> 49 / 159  216 / 598  81 / 125 </div>	<b>16</b> <div> <div> 56 / 104  713 / 581  94 / 137 </div> <div>Fourth Ave</div> </div> <div> <div> 195 / 337  87 / 81 </div> <div>Robinson Ave</div> </div> <div> 263 / 282  82 / 97 </div>

## Legend

X / Y = AM / PM PEAK HOUR  
TURNING VOLUMES



 SIGNAL



## Future Year Proposed Land Use Peak-Hour Intersection Volumes: Uptown



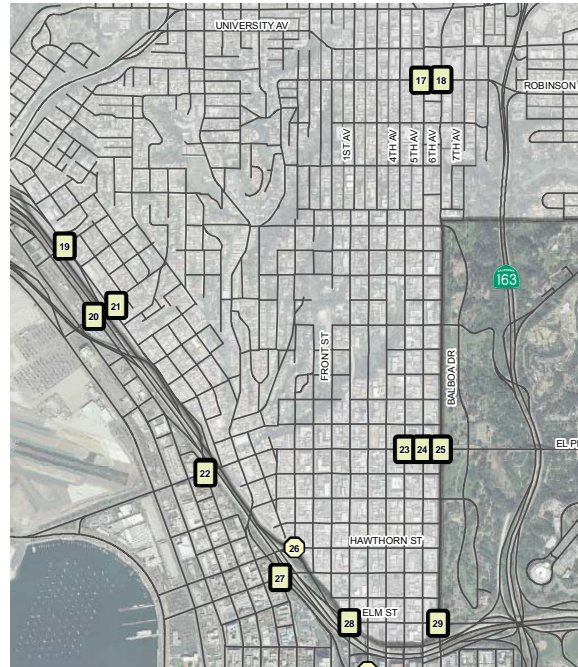
# FIGURE 4-5

17	<div>Fifth Ave</div> <div>↕ ↗ 72 / 113 256 / 260</div> <div>Robinson Ave</div> <div>65 / 65 280 / 340 ↕ ↗</div> <div>95 / 152 ↕ ↗ 546 / 993 115 / 267</div>	18	<div>↕ ↗ 119 / 154 ↕ ↗ 1042 / 991 1 / 6</div> <div>Sixth Ave</div> <div>↕ ↗ 9 / 22 198 / 193 82 / 130</div> <div>Robinson Ave</div> <div>180 / 187 144 / 295 50 / 57 ↕ ↗</div> <div>11 / 10 ↕ ↗ 604 / 890 53 / 110</div>	19	<div>India St</div> <div>↕ ↗ 57 / 35 23 / 19</div> <div>Vine St</div> <div>23 / 31 ↕ ↗ 1572 / 2544 10 / 20</div>	20	<div>↕ ↗ 440 / 358 ↕ ↗ 1273 / 1797 150 / 292</div> <div>Kettner Blvd</div> <div>↕ ↗ 148 / 76 168 / 103</div> <div>Sassafras St</div> <div>78 / 272 79 / 107 ↕ ↗</div>
21	<div>India St</div> <div>↕ ↗ 41 / 26 70 / 48</div> <div>Sassafras St</div> <div>130 / 408 26 / 78 83 / 115 ↕ ↗</div> <div>226 / 111 ↕ ↗ 957 / 1677 14 / 39</div>	22	<div>India St</div> <div>↕ ↗ 180 / 252 70 / 10 216 / 231</div> <div>Laurel St</div> <div>↕ ↗ 580 / 1138 362 / 573</div> <div>I-5 NB On-Ramp</div> <div>↕ ↗ 32 / 37 6 / 1 206 / 470 29 / 60</div>	23	<div>↕ ↗ 131 / 125 ↕ ↗ 594 / 595 42 / 80</div> <div>Fourth Ave</div> <div>↕ ↗ 0 / v 313 / 375 78 / 55</div> <div>Laurel St</div> <div>431 / 751 126 / 74 ↕ ↗</div>	24	<div>Fifth Ave</div> <div>↕ ↗ 72 / 103 258 / 445</div> <div>Laurel St</div> <div>186 / 291 300 / 580 ↕ ↗</div> <div>117 / 96 ↕ ↗ 806 / 1038 79 / 143</div>
25	<div>↕ ↗ 177 / 173 ↕ ↗ 696 / 766 105 / 159</div> <div>Sixth Ave</div> <div>↕ ↗ 29 / 174 53 / 100 21 / 96</div> <div>Laurel St</div> <div>164 / 303 117 / 381 70 / 147 ↕ ↗</div> <div>78 / 100 ↕ ↗ 484 / 588 38 / 93</div>	26	<div>9 / 9 ↕</div> <div>Brant St</div> <div>↕ ↗ 363 / 752 121 / 259</div> <div>Hawthorn St</div> <div>2 / 2 ↕ ↗ 0 / 1 74 / 168</div>	27	<div>State St</div> <div>↕ ↗ 136 / 92 443 / 720 936 / 1967</div> <div>Grape St</div> <div>123 / 210 ↕ ↗ 112 / 119</div>	28	<div>First Ave</div> <div>↕ ↗ 109 / 28 176 / 460</div> <div>Elm St</div> <div>585 / 1375 ↕ ↗ 238 / 364 31 / 43</div>
29	<div>↕ ↗ 91 / 47 ↕ ↗ 1073 / 1053</div> <div>Sixth Ave</div> <div>↕ ↗ 1888 / 646 728 / 242 1216 / 422</div> <div>Elm St</div> <div>739 / 463 267 / 44 ↕ ↗</div> <div>46 / 177 ↕ ↗ 6 / 2</div>	30	<div>↕ ↗ 154 / 345 ↕ ↗ 324 / 255 ↕ ↗ 130 / 122</div> <div>Second St</div> <div>Cedar St</div> <td></td>				

## Legend

X / Y = AM / PM PEAK HOUR  
TURNING VOLUMES

- SIGNAL
- AWSC
- TWSC



## Future Year Proposed Land Use Peak-Hour Intersection Volumes: Uptown (Cont.)

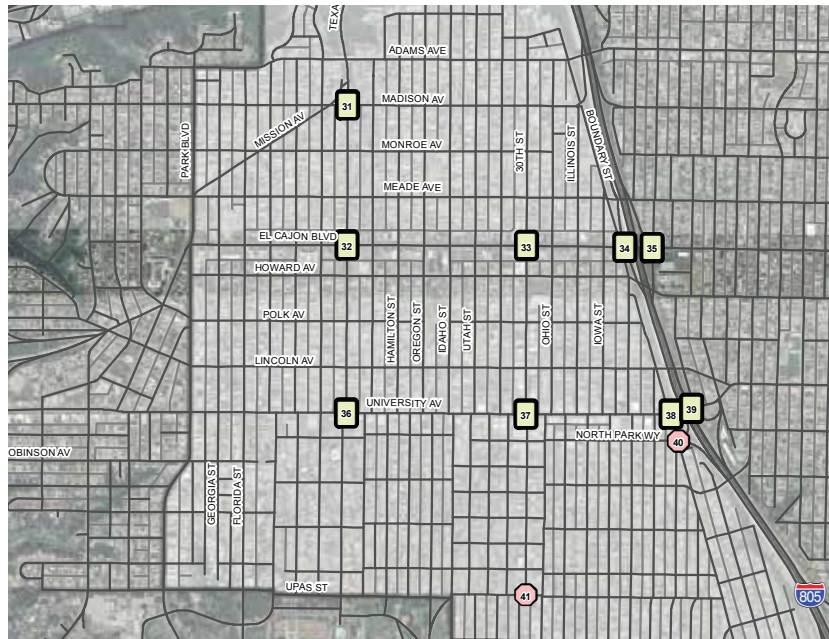
# FIGURE 4-6

<b>31</b> 69 / 192 333 / 1116 88 / 304 Texas St 503 / 272 25 / 32 12 / 12 Madison Ave 419 / 353 20 / 58 10 / 20	<b>32</b> 97 / 199 161 / 631 94 / 372 Texas St 112 / 136 707 / 648 46 / 66 El Cajon Blvd 102 / 256 368 / 907 16 / 34	<b>33</b> 50 / 99 140 / 419 144 / 210 30th St 102 / 110 1020 / 1256 82 / 198 El Cajon Blvd 34 / 105 650 / 1326 40 / 125	<b>34</b> 427 / 1088 2 / 6 149 / 808 I-805 SB Ramps 1182 / 1028 190 / 350 El Cajon Blvd 904 / 1229 568 / 780
<b>35</b> I-805 NB Ramps 453 / 349 702 / 974 El Cajon Blvd 661 / 395 390 / 1692	<b>36</b> 115 / 112 71 / 177 43 / 225 Texas St 30 / 80 386 / 553 9 / 13 University Ave 90 / 139 262 / 720 32 / 48	<b>37</b> 57 / 124 197 / 547 50 / 133 30th St 49 / 84 362 / 453 110 / 151 University Ave 75 / 146 343 / 610 36 / 81	<b>38</b> 1 / 3 86 / 144 29 / 39 Boundary St 0 / 2 466 / 641 220 / 265 University Ave 7 / 8 875 / 926 161 / 253
<b>39</b> 18 / 41 73 / 44 32 / 72 Wabash Ave 16 / 22 349 / 418 340 / 192 University Ave 11 / 15 308 / 585 719 / 644	<b>40</b> 61 / 97 29 / 100 405 / 517 Boundary St 250 / 571 128 / 209 92 / 317 I-805 SB Ramps 128 / 263 8 / 41	<b>41</b> 228 / 236 92 / 406 30th St (W) 194 / 306 385 / 202 Upas St 152 / 268 139 / 312	

## Legend

X / Y = AM / PM PEAK HOUR  
TURNING VOLUMES

 SIGNAL  
 AWSC



## Future Year Proposed Land Use Peak-Hour Intersection Volumes: North Park

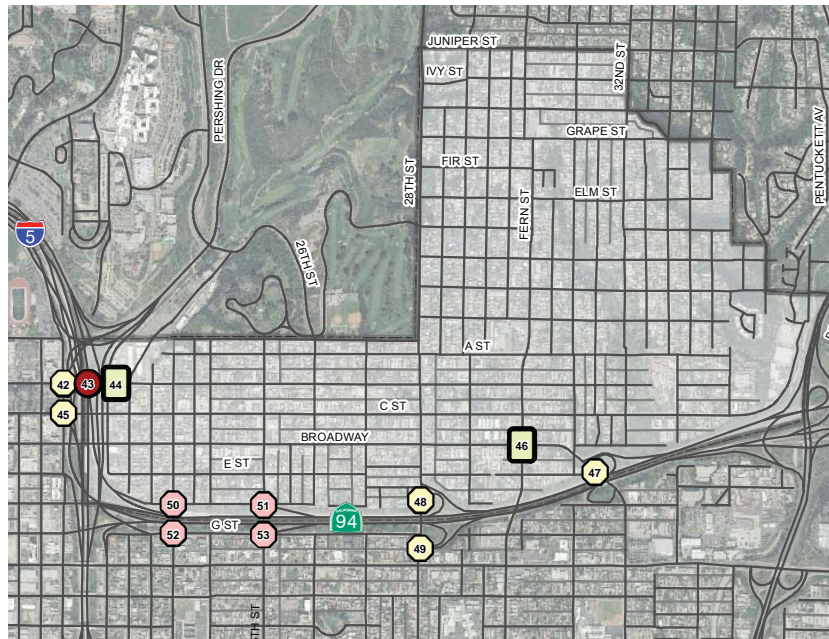
# FIGURE 4-7

<b>42</b> 913 / 399 87 / 72 I-5 SB Ramps 17th St 1317 / 606 158 / 52 B St	<b>43</b> 715 / 163 B St I-5 NB Off-Ramp 1069 / 529 58 / 42	<b>44</b> I-5 NB On-Ramp 19th St B St 21 / 28 422 / 129 369 / 140 2 / 0 17 / 21 81 / 37 286 / 174 136 / 322 19 / 21	<b>45</b> 51 / 37 140 / 98 17th St 315 / 865 229 / 363 C St
<b>46</b> 63 / 68 226 / 250 361 / 477 30th St 374 / 623 109 / 62 9 / 31 Broadway 46 / 84 16 / 42 35 / 36 115 / 33 220 / 169 11 / 21	<b>47</b> 273 / 646 87 / 66 Broadway 518 / 677 568 / 263 SR-94 WB Ramps 21 / 137 86 / 65	<b>48</b> 0 / 9 482 / 620 121 / 89 28th St 535 / 256 32 / 11 292 / 257 SR-94 WB Ramps 4 / 3 5 / 3 46 / 24 11 / 7 311 / 341 79 / 65	<b>49</b> 483 / 498 413 / 564 28th St 100 / 190 41 / 63 SR-94 EB Ramps 346 / 268 223 / 286
<b>50</b> 45 / 31 49 / 110 22nd St 36 / 19 1043 / 111 78 / 69 F St 151 / 87 78 / 104	<b>51</b> 101 / 66 552 / 739 25th St 152 / 281 570 / 85 155 / 201 Robinson Ave F St 336 / 73 343 / 265	<b>52</b> 49 / 114 81 / 75 22nd St G St 46 / 92 201 / 221 30 / 82 163 / 118 161 / 43	<b>53</b> 424 / 526 405 / 489 25th St G St 77 / 90 205 / 145 55 / 114 V / O 517 / 281 268 / 301

## Legend

X / Y = AM / PM PEAK HOUR  
TURNING VOLUMES

- SIGNAL
- AWSC
- TWSC



## Future Year Proposed Land Use Peak-Hour Intersection Volumes: Golden Hill

### 4.3 INTERSECTION ANALYSIS

**Tables 4-1, 4-2, and 4-3** display the LOS analysis results for the study intersections using their existing lane configuration and the future peak-hour traffic volumes. As shown in the table, the Uptown CPU would have a cumulative traffic related impact at 6 of the 30 study intersections, the North Park CPU would have a cumulative traffic related impact at 7 of the 11 study area intersection, and the Golden Hill CPU would have a cumulative traffic related impact at 6 of the 12 study area intersections.

**Appendix D** contains the peak-hour intersections LOS calculation worksheets.

### 4.4 ROADWAY SEGMENT ANALYSIS

**Tables 4-4 through 4-10** display the LOS analysis results for the roadway segments using their existing roadway classification and the future peak-hour traffic volumes. As shown in the tables, the Uptown CPU would have a cumulative traffic related impact on 52 of the 105 roadway segments within the study area, the North Park CPU would have a cumulative traffic related impact on 39 of the 95 study area roadway segments, and the Golden Hill CPU would have a cumulative traffic related impact on 13 of the 32 study area roadway segments.

### 4.5 FREEWAY SEGMENT ANALYSIS

**Tables 4-11 and 4-12** display the LOS analysis results for the freeway segments using their existing freeway configuration and the future peak-hour traffic volumes. As shown in the tables, the traffic generated by the land use changes associated with the Uptown, North Park and Golden Hill would have a cumulative traffic related impact along all 18 freeway segments within the study area.

### 4.6 FREEWAY RAMP METERING ANALYSIS

**Table 4-13** displays the analysis results for the ramp meters using their existing configuration and meter rate and the future peak-hour traffic volumes. As shown in the tables, the traffic generated by the land use changes associated with the Uptown, North Park and Golden Hill would have a cumulative traffic related impact at 3 ramp meters within the study area.

**Table 4-1 Future Year Summary of Intersection Analysis**

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	Existing		Future Year		Δ (c)	SIGNIFICANT?
				DELAY (a)	LOS (b)	DELAY (a)	LOS (b)		
UPTOWN									
1	Washington St & Hancock St	Signal	AM	24.9	C	33.2	C	8.3	NO
			PM	28.2	C	51.6	D	23.4	NO
2	Washington St & San Diego Ave	Signal	AM	19.7	B	15.4	B	-4.3	NO
			PM	17.6	B	21.9	C	4.3	NO
3	Washington St & India St	Signal	AM	11.7	B	15.8	B	4.1	NO
			PM	14.2	B	20.3	C	6.1	NO
4	Washington St & Fourth Ave	Signal	AM	25.2	C	31.8	C	6.6	NO
			PM	37.3	D	59.9	E	22.6	YES
5	Washington St & Fifth Ave	Signal	AM	15.2	B	14.1	B	-1.1	NO
			PM	16.3	B	19.2	B	2.9	NO
6	Washington St & Eighth Ave/SR-163 Off-Ramp	Signal	AM	42.6	D	71.5	E	28.9	YES
			PM	333.0	F	331.7	F	-1.3	NO
7	Washington St & Richmond St/SR-163 On-Ramp	Signal	AM	18.6	B	51.4	D	32.8	NO
			PM	13.2	B	33.9	C	20.7	NO
8	Washington St/Normal St & Campus Ave/Polk Ave	Signal	AM	43.0	D	62.7	E	19.7	YES
			PM	50.0	D	57.3	E	7.3	YES
9	Normal St/El Cajon Blvd & Park Blvd	Signal	AM	25.2	C	26.6	C	1.4	NO
			PM	34.3	C	43.8	D	9.5	NO
10	University Ave & Fourth Ave	Signal	AM	29.1	C	31.8	C	2.7	NO
			PM	28.2	C	30.3	C	2.1	NO
11	University Ave & Fifth Ave	Signal	AM	12.9	B	13.7	B	0.8	NO
			PM	25.3	C	28.0	C	2.7	NO
12	University Ave & Sixth Ave	Signal	AM	32.9	C	38.7	D	5.8	NO
			PM	54.8	D	55.3	E	0.5	YES
13	University Ave & Tenth St	Signal	AM	18.6	B	17.5	B	-1.1	NO
			PM	20.6	C	37.0	D	16.4	NO
14	University Ave & Normal St	Signal	AM	5.6	A	6.3	A	0.7	NO
			PM	10.6	B	13.3	B	2.7	NO
15	University Ave & Park Blvd	Signal	AM	24.5	C	25.2	C	0.7	NO
			PM	39.4	D	42.1	D	2.7	NO
16	Robinson Ave & Fourth Ave	Signal	AM	21.4	C	27.0	C	5.6	NO
			PM	18.4	B	20.8	C	2.4	NO
17	Robinson Ave & Fifth Ave	Signal	AM	10.8	B	12.5	B	1.7	NO
			PM	15.0	B	17.5	B	2.5	NO
18	Robinson Ave & Sixth Ave	Signal	AM	21.6	C	22.7	C	1.1	NO
			PM	27.6	C	30.9	C	3.3	NO
19	Vine St & India St	Signal	AM	5.6	A	5.9	A	0.3	NO
			PM	7.3	A	8.5	A	1.2	NO
20	Sassafras St & Kettner Blvd	Signal	AM	10.4	B	13.2	B	2.8	NO
			PM	12.5	B	43.6	D	31.1	NO
21	Sassafras St & India St	Signal	AM	6.3	A	8.4	A	2.1	NO
			PM	20.9	C	47.4	D	26.5	NO

Notes:

**Bold** values indicate intersections operating at LOS E or F.

ECL = Exceeds Calculable Limit. Reported when delay exceeds 180 seconds.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2000 *Highway Capacity Manual* and performed using Synchro 8

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**Table 4-2 Future Year Summary of Intersection Analysis (Cont.)**

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	Existing		Future Year			
				DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	Δ (c)	SIGNIFICANT?
UPTOWN (cont.)									
22	Laurel St & India St/I-5 NB On-Ramp	Signal	AM	17.0	B	19.7	B	2.7	NO
			PM	21.4	C	29.5	C	8.1	NO
23	Laurel St & Fourth Ave	Signal	AM	12.2	B	13.8	B	1.6	NO
			PM	14.9	B	23.8	C	8.9	NO
24	Laurel St & Fifth Ave	Signal	AM	12.3	B	13.3	B	1.0	NO
			PM	12.7	B	17.8	B	5.1	NO
25	Laurel St & Sixth Ave	Signal	AM	13.7	B	15.8	B	2.1	NO
			PM	20.5	C	27.9	C	7.4	NO
26	Hawthorn St & Brant St	Two-Way Stop	AM	9.9	A (SB R)	10.0	B (SB R)	0.1	NO
			PM	12.9	B (SB R)	12.9	B (SB R)	0.0	NO
27	Grape St & State St	Signal	AM	15.7	B	12.6	B	-3.1	NO
			PM	18.7	B	41.7	D	23.0	NO
28	Elm St & First Ave	Signal	AM	13.3	B	17.8	B	4.5	NO
			PM	21.6	C	21.0	C	-0.6	NO
29	Elm St & Sixth Ave	Signal	AM	54.4	D	153.6	F	99.2	YES
			PM	14.8	B	18.8	B	4.0	NO
30	Cedar St & Second Ave	Two-Way Stop	AM	31.8	D (SB R)	459.3	F (SB L)	427.5	YES
			PM	18.0	C (SB R)	43.0	E (SB L)	25.0	YES
NORTH PARK									
31	Madison Ave & Texas St	Signal	AM	77.4	E	144.4	F	67.0	YES
			PM	34.7	C	63.9	E	29.2	YES
32	El Cajon Blvd & Texas St	Signal	AM	35.9	D	37.6	D	1.7	NO
			PM	106.8	F	85.3	F	-21.5	NO
33	El Cajon Blvd & 30th St	Signal	AM	26.0	C	29.7	C	3.7	NO
			PM	50.2	D	68.1	E	17.9	YES
34	El Cajon Blvd & I-805 SB Ramps	Signal	AM	18.4	B	21.9	C	3.5	NO
			PM	80.9	F	96.8	F	15.9	YES
35	El Cajon Blvd & I-805 NB Ramps	Signal	AM	27.9	C	30.1	C	2.2	NO
			PM	19.2	B	24.7	C	5.5	NO
36	University Ave & Texas St	Signal	AM	19.5	B	25.5	C	6.0	NO
			PM	72.7	E	49.5	D	-23.2	NO
37	University Ave & 30th St	Signal	AM	25.0	C	26.5	C	1.5	NO
			PM	49.2	D	57.8	E	8.6	YES
38	University Ave & Boundary St	Signal	AM	23.0	C	26.0	C	3.0	NO
			PM	42.1	D	50.0	D	7.9	NO
39	University Ave & I-805 NB Ramps	Signal	AM	29.0	C	45.5	D	16.5	NO
			PM	35.6	D	80.9	F	45.3	YES
40	North Park Way/I-805 SB Ramps & Boundary St/33rd St	All-Way Stop	AM	18.1	C	18.1	C	0.0	NO
			PM	10.6	B	134.8	F	124.2	YES
41	Upas St & 30th St (W)	All-Way Stop	AM	24.4	C	40.1	E	15.7	YES
			PM	25.9	D	54.8	F	28.9	YES

**Notes:**

**Bold** values indicate intersections operating at LOS E or F.

ECL = Exceeds Calculable Limit.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8

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**Table 4-3** Future Year Summary of Intersection Analysis (Cont.)

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	Existing		Future Year		Δ (c)	SIGNIFICANT?
				DELAY (a)	LOS (b)	DELAY (a)	LOS (b)		
GOLDEN HILL									
42	B St & 17th St/I-5 SB Off-Ramp	One-Way Stop	AM	130.7	<b>F (SB TR)</b>	ECL	<b>F (SB TR)</b>	-	<b>YES</b>
			PM	29.3	D (SB TR)	20.4	C (SB TR)	-8.9	NO
43	B St & I-5 NB Off-Ramp	No Conflicting Movements	AM	N/A	N/A	N/A	N/A	N/A	N/A
			PM	N/A	N/A	N/A	N/A	N/A	N/A
44	B St & 19th St/I-5 NB On-Ramp	Signal	AM	9.4	A	11.2	B	1.8	NO
			PM	6.8	A	7.1	A	0.3	NO
45	C St & 17 St	One-Way Stop	AM	13.7	B (SB TR)	14.3	B (SB TL)	0.6	NO
			PM	23.3	C (SB TR)	32.6	D (SB TL)	9.3	NO
46	Broadway & 30th St	Signal	AM	14.2	B	14.6	B	0.4	NO
			PM	11.9	B	14.3	B	2.4	NO
47	SR-94 WB Ramps & Broadway	One-Way Stop	AM	63.0	<b>F (WB L)</b>	187.5	<b>F (WB L)</b>	124.5	<b>YES</b>
			PM	55.3	<b>F (WB L)</b>	185.9	<b>F (WB L)</b>	130.6	<b>YES</b>
48	SR-94 WB Ramps & 28th St	Two-Way Stop	AM	46.6	<b>E (WB LT)</b>	ECL	<b>F (WB LT)</b>	-	<b>YES</b>
			PM	370.9	<b>F (WB LT)</b>	883.9	<b>F (WB LT)</b>	513.0	<b>YES</b>
49	SR-94 EB Ramps & 28th St	One-Way Stop	AM	26.7	D (WB L)	245.3	<b>F (WB L)</b>	218.6	<b>YES</b>
			PM	507.0	<b>F (WB L)</b>	ECL	<b>F (WB L)</b>	-	<b>YES</b>
50	F St & 22nd St	All-Way Stop	AM	13.6	B	17.4	C	3.8	NO
			PM	8.6	A	8.7	A	0.1	NO
51	F St & 25th St	All-Way Stop	AM	20.8	C	82.3	<b>F</b>	61.5	<b>YES</b>
			PM	16.2	C	39.4	<b>E</b>	23.2	<b>YES</b>
52	G St & 22nd St	All-Way Stop	AM	9.6	A	10.4	B	0.8	NO
			PM	9.4	A	10.1	B	0.7	NO
53	G St & 25th St	All-Way Stop	AM	12.4	B	55.2	<b>F</b>	42.8	<b>YES</b>
			PM	16.0	C	68.0	<b>F</b>	52.0	<b>YES</b>
Notes: <b>Bold</b> values indicate intersections operating at LOS E or F. ECL = Exceeds Calculable Limit. (a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement. (b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8									
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**Table 4-4 Future Year Summary of Roadway Segment Analysis**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING		FUTURE YEAR		Δ In V/C	SIGNIFICANT?	
			ADT	V/C RATIO (a)	LOS	ADT			V/C RATIO (a)
UPTOWN									
First Ave									
Arbor Dr to Washington St	2 Lane Collector (one-way)	17,500	5,240	0.299	A	7,500	0.429	B	NO
Washington St to University Ave	2 Lane Collector (no center lane)	8,000	7,400	0.925	E	9,100	1.138	F	YES
University Ave to Robinson Ave	2 Lane Collector (no center lane)	8,000	10,100	1.263	F	16,300	2.038	F	YES
Robinson Ave to Pennsylvania Ave	2 Lane Collector (no center lane)	8,000	7,500	0.938	E	11,500	1.438	F	YES
Pennsylvania Ave to Walnut Ave	2 Lane Collector (no center lane)	8,000	7,261	0.908	E	12,800	1.600	F	YES
Walnut Ave to Laurel St	2 Lane Collector (no center lane)	8,000	4,695	0.587	C	11,900	1.488	F	YES
Laurel St to Hawthorn St	2 Lane Collector (no center lane)	8,000	7,290	0.911	E	8,400	1.050	F	YES
Hawthorn St to Grape St	2 Lane Collector (no center lane)	8,000	3,810	0.476	C	6,800	0.850	E	YES
Grape St to Elm St	2 Lane Collector (one-way)	17,500	3,285	0.188	A	4,500	0.257	A	NO
Fourth Ave									
Arbor Dr to Washington St	2 Lane Collector (no center lane)	8,000	12,390	1.549	F	14,900	1.863	F	YES
Washington St to University Ave	2 Lane Collector (one-way)	17,500	10,400	0.594	C	10,400	0.594	C	NO
University Ave to Robinson Ave	2 Lane Collector (one-way)	17,500	11,800	0.674	C	12,900	0.737	D	NO
Robinson Ave to Walnut Ave	2 Lane Collector (one-way)	17,500	6,946	0.397	A	11,400	0.651	C	NO
Walnut Ave to Laurel St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	8,492	0.483	B	15,100	0.863	E	YES
Laurel St to Grape St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	7,790	0.445	B	13,700	0.783	D	NO
Grape St to Elm St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	7,570	0.433	B	9,700	0.554	C	NO
Fifth Ave									
Washington St to University Ave	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	11,700	0.669	C	11,800	0.674	C	NO
University Ave to Robinson Ave	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	10,300	0.589	C	14,000	0.800	D	NO
Robinson Ave to Walnut Ave	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	12,209	0.698	C	15,800	0.903	E	YES
Walnut Ave to Laurel St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	11,400	0.651	C	14,800	0.846	D	NO
Laurel St to Hawthorn St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	9,260	0.529	B	14,400	0.823	D	NO
Hawthorn St to Grape St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	10,045	0.574	C	14,300	0.817	D	NO
Grape St to Elm St	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	9,220	0.527	B	10,100	0.577	C	NO
Sixth Ave									
Washington St to University Ave	4 Lane Collector (no center lane)	15,000	16,877	0.844	D	45,100	3.007	F	YES
University Ave to Robinson Ave	4 Lane Collector (no center lane)	15,000	24,900	1.660	F	32,600	2.173	F	YES
Robinson Ave to Upas St	4 Lane Collector (no center lane)	15,000	15,000	1.000	F	29,900	1.993	F	YES
Upas St to Laurel St	4 Lane Collector (no center lane)	15,000	15,128	1.009	F	25,900	1.727	F	YES
Laurel St to Juniper St	2 Lane Collector (continuous left-turn lane)	15,000	10,140	0.676	D	16,600	1.107	F	YES
Juniper St to Grape St	2 Lane Collector (continuous left-turn lane)	15,000	10,915	0.728	D	18,700	1.247	F	YES
Grape St to Elm St	2 Lane Collector (continuous left-turn lane)	15,000	10,650	0.710	D	20,300	1.353	F	YES
Ninth Ave									
Washington St to University Ave	2 Lane Collector (no center lane)	8,000	5,204	0.651	D	8,000	1.000	F	YES
Campus Ave/Polk Ave									
Madison Ave to Washington St	2 Lane Collector (no center lane)	8,000	3,175	0.397	B	5,800	0.725	D	NO
Washington St to Park Blvd	2 Lane Collector (no center lane)	8,000	5,610	0.701	D	7,400	0.925	E	YES
Cleveland Ave									
Tyler St to Lincoln Ave	2 Lane Collector (no center lane)	8,000	4,865	0.608	C	7,200	0.900	E	YES
Lincoln Ave to Richmond St	2 Lane Collector (no center lane)	8,000	7,775	0.972	E	9,600	1.200	F	YES
Curlew St									
Robinson Ave to Reynard Wy	2 Lane Collector (no center lane)	8,000	1,720	0.215	A	4,600	0.575	C	NO
Elm St									
Second Ave to Third Ave	2 Lane Collector (one-way)	17,500	7,889	0.451	B	8,500	0.486	B	NO
Third Ave to Fifth Ave	3 Lane Collector (one-way)	26,000	8,179	0.315	A	9,100	0.350	A	NO
Fifth Ave to Sixth Ave	3 Lane Collector (one-way)	26,000	6,720	0.258	A	8,100	0.312	A	NO

**Table 4-5 Future Year Summary of Roadway Segment Analysis (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING			FUTURE YEAR			Δ in V/C	SIGNIFICANT?	
			ADT	V/C RATIO (a)	LOS	ADT	V/C RATIO (a)	LOS			
UPTOWN											
Fort Stockton Dr											
Arlisa St to Sunset Blvd	2 Lane Collector (no center lane)	8,000	3,290	0.411	B	4,900	0.613	C	1610	0.202	NO
Sunset Blvd to Hawk St	2 Lane Collector (no center lane)	8,000	6,100	0.763	D	7,900	0.988	F	1800	0.225	YES
Hawk St to Goldfinch St	2 Lane Collector (no center lane)	8,000	8,450	1.056	F	8,900	1.113	F	450	0.057	YES
Goldfinch St to Falcon St	2 Lane Collector (no center lane)	8,000	2,910	0.364	B	3,300	0.413	B	390	0.049	NO
Front St											
Dickinson St to Arbor Dr	2 Lane Collector (no center lane)	8,000	3,790	0.474	C	4,600	0.575	C	810	0.101	NO
Arbor Dr to Washington St	2 Lane Collector (one-way)	17,500	5,510	0.315	A	7,900	0.451	B	2390	0.136	NO
Grape St											
Albador St to First Ave	3 Lane Collector (one-way)	26,000	2,082	0.080	A	7,300	0.281	A	5218	0.201	NO
First Ave to Third Ave	2 Lane Collector (no center lane)	8,000	4,289	0.536	C	7,300	0.913	E	3011	0.377	YES
Third Ave to Sixth Ave	2 Lane Collector (no center lane)	8,000	2,097	0.262	A	9,000	1.125	F	6903	0.863	YES
Hawthorn St											
Bratt St to First Ave	3 Lane Collector (one-way)	26,000	11,558	0.445	B	15,000	0.577	C	3442	0.132	NO
First Ave to Third Ave	2 Lane Collector (no center lane)	8,000	3,634	0.454	C	7,300	0.913	E	3666	0.459	YES
Third Ave to Sixth Ave	2 Lane Collector (no center lane)	8,000	3,577	0.447	C	8,700	1.088	F	5123	0.641	YES
India St											
Washington St to Winder St	2 Lane Collector (no center lane)	8,000				11,000	1.375	F	--	--	-
Winder St to Glenwood Dr	3 Lane Collector (one-way)	26,000	8,345	0.321	A	10,700	0.412	A	2355	0.091	NO
Glenwood Dr to Sassafras St	2 Lane Collector (one-way)	17,500	26,178	1.496	F	30,000	1.714	F	3822	0.218	YES
Sassafras St to Redwood St	3 Lane Collector (two-way)	20,000	18,676	0.924	E	21,300	1.065	F	2624	0.131	YES
Redwood St to Palm St	3 Lane Collector (one-way)	26,000	16,705	0.643	C	20,300	0.781	D	3595	0.138	NO
Juan St											
Harney St to Witherby St	2 Lane Collector (no center lane)	8,000	2,345	0.293	A	4,600	0.575	C	2255	0.282	NO
Laurel St											
Columbia St to Union St	4 Lane Collector (no center lane)	15,000	13,691	0.913	E	21,100	1.407	F	7409	0.494	YES
Union St to First Ave	2 Lane Collector (continuous left-turn lane)	15,000	11,128	0.742	D	17,900	1.193	F	6772	0.451	YES
First Ave to Third Ave	2 Lane Collector (continuous left-turn lane)	15,000	11,326	0.755	D	16,100	1.073	F	4774	0.318	YES
Third Ave to Sixth Ave	2 Lane Collector (continuous left-turn lane)	15,000	11,516	0.768	D	20,200	1.347	F	8684	0.579	YES
Lewis St											
Fort Stockton Dr to Goldfinch St	2 Lane Collector (no center lane)	8,000	3,720	0.465	C	4,100	0.513	C	380	0.048	NO
Lincoln Ave											
Washington St to Park Blvd	2 Lane Collector (no center lane)	8,000	8,155	1.019	F	11,100	1.388	F	2945	0.369	YES
Madison Ave											
Cleveland Ave to Park Blvd	2 Lane Collector (no center lane)	8,000	3,750	0.469	C	6,100	0.763	D	2350	0.294	NO
Mende Ave											
Cleveland Ave to Park Blvd	2 Lane Collector (continuous left-turn lane)	15,000	3,290	0.219	A	3,500	0.233	A	210	0.014	NO
Normal St											
Park Blvd to Washington St	6 Lane Major Arterial	50,000	22,296	0.446	B	28,300	0.566	C	6004	0.120	NO
Washington St to University Ave	4 Lane Major Arterial	40,000	4,974	0.124	A						NO
	2 Lane Collector (no center lane)*	8,000				4,974	0.622	C			

Notes:

**Bold** values indicate roadway segments operating at LOS E or F.

\*Normal Street will be classified as a two lane collector with no continuous center left turn lane to accommodate future bicycle boulevard pending further project level analysis

Capacity for non-standard roadway classifications were provided by City of San Diego staff

(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity

**Table 4-6 Future Year Summary of Roadway Segment Analysis (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING			FUTURE YEAR			Δ in V/C	SIGNIFICANT?
			ADT	V/C RATIO (a)	LOS	ADT	V/C RATIO (a)	LOS		
UPTOWN										
Park Blvd										
Adams Ave to Mission Ave	2 Lane Collector (continuous left-turn lane)	15,000	14,839	0.989	E	14,060	0.937	E	-0.052	NO
Mission Ave to El Cajon Blvd	3 Lane Collector (no center lane)	11,500	11,806	1.027	F	15,467	1.345	F	0.318	YES
El Cajon Blvd to Polk Ave	4 Lane Major Arterial	40,000	11,524	0.288	A	18,600	0.465	B	0.177	NO
Polk Ave to University Ave	4 Lane Major Arterial	40,000	13,936	0.348	A	22,500	0.563	C	0.215	NO
University Ave to Robinson Ave	4 Lane Major Arterial	40,000	14,400	0.360	A	19,800	0.495	B	0.135	NO
Robinson Ave to Upas St	2 Lane Collector (continuous left-turn lane)	15,000	12,501	0.833	D	17,200	1.147	F	0.469	YES
Upas St to Zoo Pl	4 Lane Major Arterial	40,000	13,807	0.345	A	17,700	0.443	B	0.098	NO
Bernard Wy										
Torrance St to Curlew St	2 Lane Collector (continuous left-turn lane)	15,000	1,955	0.130	A	5,300	0.353	B	0.223	NO
Curlew St to Laurel St	2 Lane Collector (continuous left-turn lane)	15,000	7,200	0.480	C	8,600	0.573	C	0.093	NO
Richmond St										
Cleveland Ave to University Ave	2 Lane Collector (no center lane)	8,000	7,085	0.886	E	9,000	1.125	F	0.239	YES
University Ave to Robinson Ave	2 Lane Collector (no center lane)	8,000	5,345	0.668	D	6,700	0.838	E	0.170	YES
Robinson Ave to Upas St	2 Lane Collector (no center lane)	8,000	5,015	0.627	D	8,100	1.013	F	0.386	YES
Robison Ave										
Brant St to First Ave	2 Lane Collector (no center lane)	8,000	1,995	0.249	A	4,600	0.575	C	0.326	NO
First Ave to Third Ave	2 Lane Collector (no center lane)	8,000	5,800	0.725	D	11,500	1.438	F	0.713	YES
Third Ave to Eighth Ave	2 Lane Collector (no center lane)	8,000	11,022	1.378	F	14,400	1.800	F	0.378	YES
Tenth Ave to Richmond St	2 Lane Collector (continuous left-turn lane)	15,000	10,120	0.675	D	12,300	0.820	D	0.145	NO
Richmond St to Park Blvd	2 Lane Collector (continuous left-turn lane)	15,000	7,269	0.485	C	9,200	0.613	C	0.128	NO
San Diego Ave										
Hortensia St to Pringle St	2 Lane Collector (no center lane)	8,000	5,830	0.729	D	10,500	1.313	F	0.584	YES
McKee St to Washington St	3 Lane Collector (one-way)	26,000	13,920	0.535	B	18,200	0.700	C	0.428	NO
Washington St to India St	2 Lane Collector (one-way)	17,500	4,920	0.281	A	7,100	0.406	A	0.125	NO
State St										
Laurel St to Juniper St	2 Lane Collector (no center lane)	8,000	4,140	0.518	C	8,200	1.025	F	0.460	YES
Sunset Blvd										
Witherby St to Fort Stockton Dr	2 Lane Collector (no center lane)	8,000	2,595	0.324	B	4,600	0.575	C	0.251	NO
University Ave										
This St to Albatross St	2 Lane Collector (no center lane)	8,000	10,327	1.316	F	14,700	1.838	F	0.473	YES
Albatross St to First Ave	2 Lane Collector (no center lane)	8,000	16,851	2.106	F	20,800	2.600	F	0.349	YES
First Ave to Fourth Ave	2 Lane Collector (no center lane)	10,000	11,750	1.175	F	14,100	1.410	F	0.235	YES
Fourth Ave to Fifth Ave	2 Lane Collector (continuous left-turn lane)	15,000	20,250	1.350	F	21,600	1.440	F	0.090	YES
Fifth Ave to Sixth Ave	4 Lane Collector	30,000	21,184	0.706	D	24,900	0.830	D	0.124	NO
Sixth Ave to Eighth Ave	4 Lane Collector (no center lane)	15,000	24,400	1.627	F	29,300	1.953	F	0.490	YES
Vermont St to Normal St	4 Lane Major Arterial	40,000	23,938	0.598	C	25,600	0.640	C	0.162	NO
Normal St to Park Blvd	4 Lane Collector (no center lane)	15,000	16,275	1.085	F	21,200	1.413	F	0.425	YES
Upas St										
Third Ave to Sixth Ave	2 Lane Collector (no center lane)	10,000	4,475	0.448	B	8,500	0.850	D	0.402	NO
Washington St										
India St to University Ave	4 Lane Major Arterial	40,000	27,929	0.698	C	34,800	0.870	D	0.681	NO
University Ave to First Ave	4 Lane Major Arterial	40,000	20,477	0.512	B	25,400	0.635	C	0.423	NO
First Ave to Fourth Ave	4 Lane Major Arterial	40,000	25,745	0.644	C	25,745	0.644	C	0	NO
Fourth Ave to Fifth Ave	4 Lane Major Arterial	40,000	30,900	0.773	D	37,300	0.933	E	0.640	YES
Fifth Ave to Sixth Ave	4 Lane Major Arterial	40,000	38,428	0.961	E	41,100	1.028	F	0.267	YES
Sixth Ave to Richmond St	4 Lane Major Arterial	40,000	41,778	1.044	F	41,778	1.044	F	0	NO
Richmond St to Normal St	6 Lane Major Arterial	50,000	38,725	0.775	C	47,100	0.942	E	0.875	YES

Notes:  
**Bold** values indicate roadway segments operating at LOS E or F.  
 Capacity for non-standard roadway classifications were provided by City of San Diego staff.  
 (a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.



**Table 4-7 Future Year Summary of Roadway Segment Analysis (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING		FUTURE YEAR		Δ In V/C	SIGNIFICANT?	
			V/C RATIO (a)	ADT	V/C RATIO (a)	ADT			
									LOS
NORTH PARK									
30th St									
Adams Ave to Meade Ave	2 Lane Collector (continuous left-turn lane)	15,000	0.422	6,325	B	10,400	0.693	D	NO
Meade Ave to El Cajon Blvd	2 Lane Collector (continuous left-turn lane)	15,000	0.727	10,912	D	14,400	0.960	E	YES
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	0.846	12,684	D	12,684	0.846	D	NO
Howard Ave to Lincoln Ave	2 Lane Collector (continuous left-turn lane)	15,000	0.847	12,703	D	17,900	1.193	F	YES
Lincoln Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	0.833	12,500	D	14,000	0.933	E	YES
University Ave to North Park Way	2 Lane Collector (continuous left-turn lane)	15,000	0.810	12,150	D	12,500	0.833	D	NO
North Park Way Ave to Upas St	2 Lane Collector (continuous left-turn lane)	15,000	0.816	12,241	D	16,500	1.100	F	YES
Upas St to Redwood St	2 Lane Collector (no center lane)	8,000	1.103	8,824	F	11,900	1.488	F	YES
Redwood St to Juniper St	2 Lane Collector (no center lane)	8,000	1.232	10,013	F	12,100	1.513	F	YES
32nd St									
Howard Ave to Lincoln Ave	2 Lane Collector (no center lane)	8,000	0.231	1,845	A	4,400	0.550	C	NO
Lincoln Ave to University Ave	2 Lane Collector (no center lane)	8,000	0.413	3,300	B	3,300	0.413	B	NO
University Ave to Myrtle Ave	2 Lane Collector (no center lane)	8,000	0.625	5,000	D	11,200	1.400	F	YES
Myrtle Ave to Upas St	2 Lane Collector (no center lane)	8,000	0.873	6,985	E	7,900	0.988	E	YES
Upas St to Redwood St	2 Lane Collector (no center lane)	8,000	0.650	5,200	D	5,200	0.650	D	NO
Redwood St to Juniper St	2 Lane Collector (no center lane)	8,000	0.277	2,218	A	2,600	0.325	B	NO
Adams Ave									
Park Blvd to Alabama St	2 Lane Collector (continuous left-turn lane)	15,000	0.451	6,758	B	7,400	0.493	C	NO
Alabama St to Texas St	2 Lane Collector (continuous left-turn lane)	15,000	0.598	8,966	C	8,966	0.598	C	NO
Texas St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	0.713	10,700	D	13,800	0.920	E	YES
30th St to W Mountain View Dr	2 Lane Collector (continuous left-turn lane)	15,000	1.329	19,929	F	19,929	1.329	F	NO
Boundary St									
University Ave to North Park Way	2 Lane Collector (no center lane)	8,000	1.578	12,620	F	16,000	2.000	F	YES
North Park Way to Myrtle Ave	1 Lane Collector (one-way)	7,500	0.364	2,730	B	3,300	0.440	B	NO
Myrtle Ave to Redwood St	2 Lane Collector (no center lane)	8,000	0.584	4,670	C	6,000	0.750	D	NO
Redwood St to Commonwealth Ave	2 Lane Collector (no center lane)	8,000	0.444	3,550	C	3,900	0.488	C	NO
Commonwealth Ave									
Boundary St to Juniper St	2 Lane Collector (no center lane)	8,000	0.185	1,480	A	2,800	0.350	B	NO
El Cajon Blvd									
Park Blvd to Florida St	6 Lane Major Arterial	50,000	0.388	19,407	A	27,100	0.542	B	NO
Florida St to Texas St	6 Lane Major Arterial	50,000	0.467	23,366	B	34,600	0.692	C	NO
Texas St to Oregon St	6 Lane Major Arterial	50,000	0.490	24,479	B	34,800	0.696	C	NO
Oregon St to Utah St	6 Lane Major Arterial	50,000	0.649	32,468	C	42,800	0.856	D	NO
Utah St to 30th St	6 Lane Major Arterial	50,000	0.644	32,191	C	39,800	0.796	C	NO
30th St to Illinois St	6 Lane Major Arterial	50,000	0.782	39,116	C	48,800	0.976	E	YES
Illinois St to I-805 Ramps	6 Lane Major Arterial	50,000	0.921	46,062	E	58,900	1.178	F	YES
Florida St									
El Cajon Blvd to University Ave	2 Lane Collector (no center lane)	8,000	0.422	3,375	B	7,400	0.925	E	YES
University Ave to Robinson Ave	2 Lane Collector (no center lane)	8,000	0.681	5,450	D	8,800	1.100	F	YES
Robinson Ave to Upas St	2 Lane Collector (no center lane)	8,000	0.700	5,600	D	6,800	0.850	E	YES
Florida Dr									
Upas St to Montey Field Dr	2 Lane Collector (no fronting property)	10,000	0.550	5,498	B	6,700	0.670	C	NO

Notes:  
**Bold** values indicate roadway segments operating at LOS E or F.  
 Capacity for non-standard roadway classifications were provided by City of San Diego staff.  
 (a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

**Table 4-8 Future Year Summary of Roadway Segment Analysis (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING			FUTURE YEAR			Δ In V/C	SIGNIFICANT?	
			ADT	V/C RATIO (g)	LOS	ADT	V/C RATIO (g)	LOS			
NORTH PARK											
Howard Ave											
Park Blvd to Florida St	2 Lane Collector (continuous left-turn lane)	15,000	3,000	0.200	A				1800	0.400	NO
	2 Lane Collector (no center lane)*	8,000						4,800	0.600	C	
Florida St to Texas St	2 Lane Collector (continuous left-turn lane)	15,000	3,566	0.238	A				334	0.250	NO
	2 Lane Collector (no center lane)*	8,000						3,900	0.488	C	
Texas St to Utah St	2 Lane Collector (continuous left-turn lane)	15,000	4,815	0.321	A				6485	1.092	YES
	2 Lane Collector (no center lane)*	8,000						11,300	1.413	F	
Utah St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	6,137	0.409	B				4063	0.866	YES
	2 Lane Collector (no center lane)*	8,000						10,200	1.275	F	
30th St to 32nd St	2 Lane Collector (continuous left-turn lane)	15,000	7,187	0.479	C				3313	0.834	YES
	2 Lane Collector (no center lane)*	8,000						10,500	1.313	F	
Juniper St											
30th St to 32nd St	2 Lane Collector (no center lane)	8,000	3,646	0.456	C	6,200	0.775	D	2554	0.319	NO
32nd St to Commonwealth Ave	2 Lane Collector (no center lane)	8,000	2,826	0.353	B	4,400	0.550	C	1574	0.197	NO
Landis St											
Boundary St to Nile St	2 Lane Collector (no center lane)	8,000	3,790	0.474	C	4,000	0.500	C	210	0.026	NO
Lincoln Ave											
Florida St to Texas St	2 Lane Collector (no center lane)	8,000	990	0.124	A	4,300	0.538	C	3310	0.414	NO
Texas St to Utah St	2 Lane Collector (no center lane)	8,000	2,400	0.300	A	3,200	0.400	B	800	0.100	NO
Utah St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	4,550	0.303	A	7,500	0.500	C	3637	0.197	NO
30th St to 32nd St	2 Lane Collector (continuous left-turn lane)	15,000	5,563	0.371	B	9,200	0.613	C	3637	0.242	NO
32nd St to Boundary St	2 Lane Collector (continuous left-turn lane)	15,000	5,473	0.365	B	9,800	0.653	C	4327	0.288	NO
Madison Ave											
Park Blvd to Mission Ave	2 Lane Collector (continuous left-turn lane)	15,000	6,110	0.407	B	8,100	0.540	C	1990	0.133	NO
Mission Ave to Texas St	2 Lane Collector (continuous left-turn lane)	15,000	8,040	0.536	C	10,300	0.687	D	2260	0.151	NO
Texas St to Ohio St	2 Lane Collector (no center lane)	8,000	5,295	0.662	D	12,200	1.525	F	6505	0.863	YES
Meade Ave											
Park Blvd to Texas St	2 Lane Collector (continuous left-turn lane)	15,000	4,060	0.271	A				4140	0.754	YES
	2 Lane Collector (no center lane)*	8,000						8,200	1.025	F	
Texas St to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	5,280	0.352	B				4620	0.886	YES
	2 Lane Collector (no center lane)*	8,000						9,900	1.238	F	
30th St to Illinois Ave	2 Lane Collector (continuous left-turn lane)	15,000	8,576	0.572	C				2924	0.866	YES
	2 Lane Collector (no center lane)*	8,000						11,500	1.438	F	
Illinois St to Iowa St	2 Lane Collector (continuous left-turn lane)	15,000	8,651	0.577	C				3249	0.911	YES
	2 Lane Collector (no center lane)*	8,000						11,900	1.488	F	
Mission Ave											
Park Blvd to Mississippi St	2 Lane Collector (one-way)	17,500	1,497	0.086	A	3,700	0.211	A	2203	0.125	NO
Monroe Ave											
Park Blvd to Mission Ave	2 Lane Collector (no center lane)	8,000	1,200	0.150	A	3,200	0.400	B	2000	0.250	NO
Mission Ave to Texas St	2 Lane Collector (no center lane)	8,000	1,500	0.188	A	5,500	0.688	D	5,500	0.500	NO
Texas St to 30th St	2 Lane Collector (no center lane)	8,000	2,158	0.270	A	5,700	0.713	D	3542	0.443	NO
Nile St											
Landis St to Thom St	2 Lane Collector (no center lane)	8,000	4,305	0.538	C	5,000	0.625	D	695	0.027	NO

Notes:  
**Bold** values indicate roadway segments operating at LOS E or F.  
 \*Howard Avenue and Meade Avenue will be classified as a two lane collector with no continuous left turn lane to accommodate future bicycle boulevard pending further project level analysis  
 Capacity for non-standard roadway classifications were provided by City of San Diego staff  
 (a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity



**Table 4-9 Future Year Summary of Roadway Segment Analysis (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING			FUTURE YEAR			Δ In ADT	Δ In V/C	SIGNIFICANT?
			ADT	V/C RATIO (a)	LOS	ADT	V/C RATIO (a)	LOS			
NORTH PARK											
North Park Way											
30th St to 32nd St	2 Lane Collector (no fronting property)	10,000	6,737	0.674	C	8,500	0.850	D	1763	0.176	NO
32nd St to Boundary St	2 Lane Collector (no fronting property)	10,000	-	-	-	10,600	1.060	F	-	-	-
Orange Ave/Howard Ave											
Iowa St to I-805	2 Lane Collector (continuous left-turn lane)	15,000	5,938	0.396	B	-	-	-	-	-	NO
	2 Lane Collector (no center lane)*	8,000	-	-	-	8,200	0.547	C	2262	0.151	NO
Pennuckett Ave											
Juniper St to Fir St	2 Lane Collector (no center lane)	8,000	2,225	0.278	A	2,300	0.288	A	75	0.010	NO
Pershing Dr											
Upas St to Redwood St	2 Lane Collector (continuous left-turn lane)	15,000	6,439	0.429	B	10,500	0.700	D	4061	0.271	NO
Redwood St											
28th St to 30th St	2 Lane Collector (no center lane)	8,000	5,988	0.749	D	7,200	0.900	E	1212	0.151	YES
30th St to 32nd St	2 Lane Collector (no center lane)	8,000	4,912	0.614	C	4,912	0.614	C	0	0.000	NO
32nd St to Boundary St	2 Lane Collector (no center lane)	8,000	1,650	0.206	A	4,400	0.550	C	2750	0.344	NO
Robinson Ave											
Park Blvd to Florida St	2 Lane Collector (no center lane)	8,000	4,160	0.520	C	5,900	0.738	D	1740	0.218	NO
Texas St											
Adams Ave to Mission Ave	3 Lane Major Arterial	30,000	27,532	0.918	E	39,100	1.303	F	11568	0.385	YES
Mission Ave to El Cajon Blvd	2 Lane Collector (continuous left-turn lane)	15,000	16,563	1.104	F	-	-	-	21737	0.173	YES
	4 Lane Collector	30,000	-	-	-	38,300	1.277	F	-	-	-
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	10,404	0.694	D	12,700	0.847	D	2286	0.153	NO
Howard Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	9,461	0.631	C	14,400	0.960	E	4939	0.329	YES
University Ave to Myrtle Ave	2 Lane Collector (no center lane)	8,000	3,821	0.478	C	5,700	0.713	D	1879	0.235	NO
Myrtle Ave to Upas St	2 Lane Collector (no center lane)	8,000	2,814	0.352	B	4,100	0.513	C	1286	0.161	NO
University Ave											
Park Blvd to Florida St	4 Lane Collector (no center lane)	15,000	19,200	1.280	F	23,900	1.593	F	4700	0.313	YES
Florida St to Texas St	4 Lane Collector (no center lane)	15,000	21,611	1.441	F	21,611	1.441	F	0	0.000	NO
Texas St to Oregon St	4 Lane Collector (no center lane)	15,000	20,058	1.337	F	23,700	1.580	F	3642	0.243	YES
Oregon St to Utah St	4 Lane Collector (no center lane)	15,000	19,161	1.257	F	22,900	1.527	F	2539	0.170	YES
Utah St to 30th St	4 Lane Collector (no center lane)	15,000	19,173	1.278	F	20,800	1.387	F	1627	0.109	YES
30th St to Illinois St	3 Lane Collector (no center lane)	11,500	21,100	1.835	F	22,800	1.983	F	1700	0.148	YES
Illinois St to 32nd St	3 Lane Collector (no center lane)	11,500	19,644	1.708	F	22,600	1.965	F	2956	0.257	YES
32nd St to Boundary St	4 Lane Collector (no center lane)	15,000	25,568	1.705	F	29,600	1.973	F	4032	0.268	YES
Upas St											
Alabama St to Texas St	2 Lane Collector (no center lane)	8,000	7,100	0.888	E	8,600	1.075	F	1500	0.187	YES
Texas St to Pershing Rd	2 Lane Collector (no center lane)	8,000	7,160	0.895	E	11,500	1.438	F	4340	0.543	YES
Pershing Rd to 30th St	2 Lane Collector (continuous left-turn lane)	15,000	9,574	0.638	C	16,300	1.087	F	6726	0.449	YES
30th St to 32nd St	2 Lane Collector (no center lane)	8,000	4,347	0.543	C	6,100	0.763	D	1753	0.220	NO
32nd St to Boundary St	2 Lane Collector (no center lane)	8,000	2,600	0.325	B	2,700	0.338	B	100	0.013	NO
Utah St											
Adams Ave to Monroe Ave	2 Lane Collector (no center lane)	8,000	992	0.124	A	5,000	0.625	D	4008	0.501	NO
Monroe Ave to El Cajon Blvd	2 Lane Collector (no center lane)	8,000	2,841	0.355	B	5,300	0.663	D	2459	0.308	NO
El Cajon Blvd to Howard Ave	2 Lane Collector (no center lane)	8,000	4,362	0.545	C	6,400	0.800	D	2038	0.255	NO
Howard Ave to Lincoln Ave	2 Lane Collector (no center lane)	8,000	2,535	0.317	B	7,300	0.913	E	4765	0.596	YES
Lincoln Ave to University Ave	3 Lane Collector (no center lane)	11,500	2,900	0.252	A	4,700	0.409	B	1800	0.157	NO
University Ave to North Park Way	2 Lane Collector (no center lane)	8,000	4,740	0.593	C	5,100	0.638	D	360	0.045	NO
North Park Way to Upas St	2 Lane Collector (no center lane)	8,000	1,919	0.240	A	7,500	0.938	F	5581	0.698	YES

Notes:

**Bold** values indicate roadway segments operating at LOS E or F.

\*Orange/Howard Avenue will be classified as a two lane collector with no continuous left turn lane to accommodate future bicycle boulevard pending further project level analysis

Capacity for non-standard roadway classifications were provided by City of San Diego staff

(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity

**Table 4-10 Future Year Summary of Roadway Segment Analysis (cont.)**

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING			FUTURE YEAR			Δ In V/C	SIGNIFICANT?	
			ADT	V/C RATIO (a)	LOS	ADT	V/C RATIO (a)	LOS			
GOLDEN HILL											
25th St											
Russ Blvd to B St  B St to Broadway  Broadway to F St	2 Lane Collector (continuous left-turn lane)	15,000	7,550	0.503	C	7,800	0.520	C	250	0.017	NO
	4 Lane Collector (no center lane)	15,000	9,409	0.627	C				1491	0.100	NO
	2 Lane Collector (continuous left-turn lane)	15,000				10,900	0.727	D			
	4 Lane Collector (no center lane)	15,000	12,105	0.807	D				5295	0.353	YES
26th St											
Russ Blvd to B St B St to C St	2 Lane Collector (no center lane)	8,000	9,152	1.144	F	9,152	1.144	F	0	0.000	NO
	2 Lane Collector (no center lane)	8,000	2,146	0.268	A	5,100	0.638	D	2954	0.370	NO
28th St											
Russ Blvd to C St C St to Broadway Broadway to SR-94	2 Lane Collector (no center lane)	8,000	4,888	0.611	C	8,800	1.100	F	3912	0.489	YES
	2 Lane Collector (no center lane)	8,000	8,150	1.019	F	10,500	1.313	F	2350	0.294	YES
	2 Lane Collector (no center lane)	8,000	10,697	1.337	F	19,100	2.388	F	8403	1.051	YES
30th St											
Grape St to Ash St A St to Broadway Broadway to SR-94	2 Lane Collector (no center lane)	8,000	3,865	0.483	C	6,900	0.863	E	3035	0.380	YES
	2 Lane Collector (no center lane)	8,000	16,610	2.076	F	19,800	2.475	F	3190	0.399	YES
	2 Lane Collector (no center lane)	8,000	4,210	0.526	C	9,500	1.188	F	5290	0.662	YES
31st St											
Juniper St to Grape St	2 Lane Collector (no center lane)	8,000	2,299	0.287	A	4,700	0.588	C	2401	0.301	NO
B St											
19th St to 20th St 20th St to 25th St 25th St to 26th St 26th St to 28th St 28th St to 30th St	4 Lane Collector (no center lane)	15,000	5,372	0.358	B	6,500	0.433	B	1128	0.075	NO
	2 Lane Collector (no center lane)	8,000	3,708	0.464	C	5,400	0.675	D	1692	0.211	NO
	2 Lane Collector (no center lane)	8,000	4,600	0.575	C	7,500	0.938	E	2900	0.363	YES
	2 Lane Collector (no center lane)	8,000	6,200	0.775	D	7,100	0.888	E	900	0.113	YES
	2 Lane Collector (no center lane)	8,000	2,713	0.339	B	5,700	0.713	D	2987	0.374	NO
Beech St											
28th St to Fern St	2 Lane Collector (no center lane)	8,000	1,770	0.221	A	6,200	0.775	D	4430	0.554	NO
Broadway											
19th St to 20th St 20th St to 25th St 25th St to 26th St 26th St to 30th St 28th St to SR-94	2 Lane Collector (continuous left-turn lane)	15,000	5,788	0.386	B	6,000	0.400	B	212	0.014	NO
	2 Lane Collector (continuous left-turn lane)	15,000	4,867	0.324	A	8,000	0.533	C	3133	0.209	NO
	2 Lane Collector (continuous left-turn lane)	15,000	4,165	0.278	A	5,500	0.367	B	1335	0.089	NO
	2 Lane Collector (continuous left-turn lane)	15,000	3,279	0.219	A	4,900	0.327	A	1621	0.108	NO
	2 Lane Collector (no center lane)	8,000	15,881	1.985	F	15,811	1.976	F	-70	-0.009	NO
C St											
19th St to 20th St 20th St to 25th St 25th St to 28th St 28th St to 30th St 30th St to 34th St	1 Lane Collector (one-way)	7,500	3,827	0.510	C	6,100	0.813	D	2273	0.303	NO
	2 Lane Collector (continuous left-turn lane)	15,000	3,923	0.26	A	4,500	0.300	A	577	0.038	NO
	2 Lane Collector (continuous left-turn lane)	15,000				5,500	0.367	B	-	-	-
	2 Lane Collector (continuous left-turn lane)	15,000	2,658	0.177	A	4,100	0.273	A	1442	0.096	NO
30th St to 34th St	2 Lane Collector (no center lane)	8,000	4,230	0.53	C	7,900	0.988	E	3670	0.459	YES
Cedar St											
Fern St to Felton St	2 Lane Collector (no center lane)	8,000	2,815	0.352	B	3,400	0.425	B	585	0.073	NO
Fern St											
Juniper St to Grape St Grape St to A St	2 Lane Collector (no center lane)	8,000	8,350	1.044	F	8,900	1.113	F	550	0.069	YES
	2 Lane Collector (no center lane)	8,000	8,082	1.010	F	15,000	1.875	F	6918	0.865	YES
Grape St											
30th St to 31st St	2 Lane Collector (no center lane)	8,000	2,614	0.327	B	9,000	1.125	F	6386	0.709	YES

Notes:  
**Bold** values indicate roadway segments operating at LOS E or F.  
 \*Orange/Howard Avenue will be classified as a two lane collector with no continuous left turn lane to accommodate future bicycle boulevard pending further project level analysis  
 Capacity for non-standard roadway classifications were provided by City of San Diego staff  
 (a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity

**Table 4-11 Future Year Freeway Segment Analysis Summary**

FREEWAY SEGMENT	DIRECTION	NUMBER OF LANES	CAPACITY (a)	EXISTING		FUTURE YEAR		SIGNIFICANT?	
				V/C RATIO	LOS	V/C RATIO	LOS		
									AM PEAK
<b>I-5</b>									
Old Town Ave to Washington St	NB	4 M + 1 A	9,200	0.950	E	1.183	F0	0.234	YES
	SB	4 M + 1 A	9,200	0.746	C	0.798	C	0.052	NO
	NB	4 M	8,000	0.840	D	1.096	F0	0.256	YES
	SB	4 M	8,000	0.660	C	0.739	C	0.079	NO
Washington St to Pacific Highway	NB	4 M + 1 A	9,200	1.264	F1	1.341	F1	0.078	YES
	SB	5 M + 1 A	11,200	0.346	A	0.743	C	0.397	NO
First Ave to Sixth Ave	NB	5 M + 1 A	11,200	1.085	F0	1.149	F0	0.064	YES
	SB	5 M + 1 A	11,200	0.362	A	0.901	D	0.540	NO
SR-163 to SR-94	NB	4 M + 1 A	9,200	1.035	F0	1.064	F0	0.029	YES
	SB	4 M + 1 A	9,200	0.345	A	0.835	D	0.490	NO
<b>I-8</b>									
Hotel Circle (W) to Hotel Circle (E)	WB	4 M + 1 A	9,200	1.022	F0	1.333	F1	0.311	YES
	EB	4 M	8,000	0.887	D	0.763	C	-0.124	NO
	WB	4 M + 1 A	9,200	1.109	F0	1.366	F2	0.257	YES
	EB	4 M + 1 A	9,200	0.837	D	0.680	C	-0.157	NO
Mission Center Rd to Qualcomm Wy	WB	4 M + 1 A	9,200	1.349	F1	1.545	F2	0.196	YES
	EB	4 M + 1 A	9,200	0.727	C	0.766	C	0.040	NO
<b>I-805 to SR-15</b>									
<b>SR-15</b>	NB	3 M + 1 A	7,200	0.532	B	0.772	C	0.241	NO
	SB	2 M + 1 A	5,200	0.976	E	1.283	F1	0.307	YES
<b>I-805</b>									
I-8 to Adams Ave	NB	4 M + 1 A	9,200	1.262	F1	1.515	F2	0.253	YES
	SB	5 M + 1 A	11,200	0.383	A	0.458	B	0.074	NO
	NB	4 M	8,000	0.602	B	1.427	F2	0.825	YES
	SB	4 M + 1 A	9,200	1.063	F0	0.457	B	-0.607	NO
El Cajon Blvd to University Ave	NB	4 M + 1 A	9,200	0.466	B	1.207	F0	0.740	YES
	SB	4 M + 1 A	9,200	0.947	E	0.421	B	-0.526	NO
<b>SR-94</b>									
University Ave to SR-15	WB	4 M	8,000	0.976	E	1.241	F0	0.264	YES
	EB	4 M	8,000	0.361	A	0.470	B	0.109	NO
	WB	4 M	8,000	1.095	F0	1.303	F1	0.208	YES
	EB	4 M	8,000	0.405	A	0.494	B	0.089	NO
Broadway to SR-15	WB	4 M	8,000	1.214	F0	1.414	F2	0.200	YES
	EB	4 M + 1 A	9,200	0.390	A	0.466	B	0.075	NO
<b>SR-163</b>									
I-8 to Washington St	NB	3 M + 1 A	7,200	0.575	B	1.121	F0	0.546	YES
	SB	3 M + 1 A	7,200	0.828	D	0.950	E	0.122	YES
	NB	2 M	4,000	0.800	C	0.830	D	0.031	NO
	SB	2 M	4,000	1.151	F0	1.846	F2	0.696	YES
Washington St to Robinson Ave	NB	2 M	4,000	0.884	D	0.914	D	0.030	NO
	SB	2 M	4,000	1.641	F2	2.032	F3	0.391	YES
<b>Quince Dr to I-5</b>									
<b>Notes:</b>									
<b>Bold</b> values indicate freeway segments operating at LOS E or F.									
(a) The capacity is calculated as 2,000 ADT per lane and 1,200 ADT per auxiliary lane									
(b) Traffic volumes provided by City of San Diego model									
(c) Peak-hour volume calculated by: (ADT*K*D)/Truck Factor									

Notes:

**Bold** values indicate freeway segments operating at LOS E or F.

(a) The capacity is calculated as 2,000 ADT per lane and 1,200 ADT per auxiliary lane

(b) Traffic volumes provided by City of San Diego model

(c) Peak-hour volume calculated by: (ADT \* K \* D) / Truck Factor

**Table 4-12 Future Year Freeway Segment Analysis Summary (Cont.)**

FREEWAY SEGMENT	DIRECTION	NUMBER OF LANES	CAPACITY (a)	EXISTING		FUTURE YEAR		A (c)	SIGNIFICANT?
				V/C RATIO	LOS	V/C RATIO	LOS		
PM PEAK									
I-5									
Old Town Ave to Washington St	NB	4 M + 1 A	9,200	0.780	C	1.000	E	0.220	YES
	SB	4 M + 1 A	9,200	0.916	D	1.187	F0	0.271	YES
Washington St to Pacific Highway	NB	4 M	8,000	0.690	C	0.926	E	0.236	YES
	SB	4 M	8,000	0.810	D	1.100	F0	0.290	YES
First Ave to Sixth Ave	NB	4 M + 1 A	9,200	1.078	F0	1.133	F0	0.055	YES
	SB	5 M + 1 A	11,200	0.498	B	1.105	F0	0.607	YES
SR-163 to SR-94	NB	5 M + 1 A	11,200	0.926	E	1.091	F0	0.166	YES
	SB	5 M + 1 A	11,200	0.521	B	1.213	F0	0.693	YES
SR-94 to Imperial Ave	NB	4 M + 1 A	9,200	0.883	D	1.011	F0	0.127	YES
	SB	4 M + 1 A	9,200	0.497	B	1.124	F0	0.627	YES
I-8									
Hotel Circle (W) to Hotel Circle (E)	WB	4 M + 1 A	9,200	0.807	D	0.889	D	0.082	NO
	EB	4 M	8,000	1.134	F0	1.449	F2	0.315	YES
Mission Center Rd to Qualcomm Wy	WB	4 M + 1 A	9,200	0.876	D	0.910	D	0.035	NO
	EB	4 M + 1 A	9,200	1.070	F0	1.291	F1	0.221	YES
I-805 to SR-15	WB	4 M + 1 A	9,200	0.893	D	0.920	E	0.027	YES
	EB	4 M + 1 A	9,200	1.183	F0	1.511	F2	0.327	YES
SR-15									
I-805 to SR-94	NB	3 M + 1 A	7,200	0.532	B	1.120	F0	0.589	YES
	SB	2 M + 1 A	5,200	0.976	E	1.367	F2	0.391	YES
I-805									
I-8 to Adams Ave	NB	4 M + 1 A	9,200	0.588	B	1.063	F0	0.475	YES
	SB	5 M + 1 A	11,200	0.937	E	1.297	F1	0.360	YES
El Cajon Blvd to University Ave	NB	4 M	8,000	1.095	F0	1.001	F0	-0.094	NO
	SB	4 M + 1 A	9,200	0.635	C	1.293	F1	0.659	YES
University Ave to SR-15	NB	4 M + 1 A	9,200	0.848	D	0.867	D	0.019	NO
	SB	4 M + 1 A	9,200	0.565	B	1.203	F0	0.637	YES
SR-94									
25th St to 28th St	WB	4 M	8,000	0.401	A	0.612	B	0.210	NO
	EB	4 M	8,000	0.936	E	1.482	F2	0.545	YES
28th St to 30th St	WB	4 M	8,000	0.450	B	0.642	C	0.192	NO
	EB	4 M	8,000	1.050	F0	1.556	F2	0.506	YES
Broadway to SR-15	WB	4 M	8,000	0.499	B	0.697	C	0.198	NO
	EB	4 M + 1 A	9,200	1.012	F0	1.468	F2	0.456	YES
SR-163									
I-8 to Washington St	NB	3 M + 1 A	7,200	0.870	D	1.301	F1	0.431	YES
	SB	3 M + 1 A	7,200	0.533	B	0.797	C	0.264	NO
Washington St to Robinson Ave	NB	2 M	4,000	1.209	F0	1.658	F2	0.449	YES
	SB	2 M	4,000	0.741	C	1.016	F0	0.275	YES
Quince Dr to I-5	NB	2 M	4,000	1.364	F2	1.362	F2	-0.001	NO
	SB	2 M	4,000	1.162	F0	1.160	F0	-0.001	NO
Notes:									
Bold values indicate freeway segments operating at LOS E or F.									
(a) The capacity is calculated as 2,000 ADT per lane and 1,200 ADT per auxiliary lane									
(b) Traffic volumes provided by City of San Diego model									
(c) Peak-hour volume calculated by: (ADT*K*D)/Truck Factor									

Notes:

**Bold** values indicate freeway segments operating at LOS E or F.

(a) The capacity is calculated as 2,000 ADT per lane and 1,200 ADT per auxiliary lane

(b) Traffic volumes provided by City of San Diego model

(c) Peak-hour volume calculated by: (ADT \* K \* D) / Truck Factor

**Table 4-13** Future Year Summary of Ramp Metering Analysis

ON-RAMP	PEAK PERIOD	METER RATE <sup>1</sup> (veh/hr)	EXISTING DEMAND <sup>2</sup> (veh/hr)	EXCESS EXISTING DEMAND (veh/hr)	AVERAGE EXISTING DELAY (min)	FUTURE DEMAND <sup>2</sup> (veh/hr)	EXCESS FUTURE DEMAND (veh/hr)	AVERAGE FUTURE DELAY (min)	Δ IN DELAY WITH PROJECT (min)	SIGNIFICANT ?	AVERAGE WITH PROJECT QUEUE
INTERSTATE 5											
Washington St to I-5 NB	AM	996	1020	24	1.4	1241	245	14.8	13.3	NO	6,125 ft
	PM	996	1034	38	2.3	1227	231	13.9	11.6	NO	5,775 ft
India St to I-5 NB	AM	996	915	0	0.0	1007	11	0.6	0.6	NO	263 ft
	PM	996	1066	70	4.2	1173	177	10.6	6.4	NO	4,415 ft
Hawthorn St to I-5 NB	AM	996	454	0	0.0	460	0	0.0	0.0	NO	0 ft
	PM	996	842	0	0.0	825	0	0.0	0.0	NO	0 ft
Hancock St to I-5 SB	AM			Ramp not metered in the a.m. peak					0.0	NO	0 ft
	PM	1140	1287	147	7.7	1542	402	21.2	13.4	YES	10,050 ft
Kettner Blvd to I-5 SB	AM			Ramp not metered in the a.m. peak					0.0	NO	0 ft
	PM	498	269	0	0.0	861	363	43.7	43.7	YES	9,070 ft
Fifth Ave to I-5 SB	AM			Ramp not metered in the a.m. peak					0.0	NO	0 ft
	PM	996	1087	91	5.5	1894	898	54.1	48.6	YES	22,462 ft
INTERSTATE 8											
NB Texas St to I-8 EB	AM			Ramp not metered in the a.m. peak					0.0	NO	0 ft
	PM	498	465	0	0.0	579	81	9.8	9.8	NO	2,026 ft
SB Texas St to I-8 EB	AM			Ramp not metered in the a.m. peak					0.0	NO	0 ft
	PM	1140	866	0	0.0	888	0	0.0	0.0	NO	0 ft
INTERSTATE 8											
El Cajon Blvd to I-805 NB	AM	1140	860	0	0.0	1118	0	0.0	0.0	NO	0 ft
	PM			Ramp not metered in the p.m. peak					0.0	NO	0 ft
University Ave to I-805 NB	AM	1140	998	0	0.0	1132	0	0.0	0.0	NO	0 ft
	PM			Ramp not metered in the p.m. peak					0.0	NO	0 ft
INTERSTATE 94											
28th St to SR-94 WB	AM	534	100	0	0.0	205	0	0.0	0.0	NO	0 ft
	PM			Ramp not metered in the p.m. peak					0.0	NO	0 ft
32nd St/Broadway to SR-94 WB	AM	570	99	0	0.0	173	0	0.0	0.0	NO	0 ft
	PM			Ramp not metered in the p.m. peak					0.0	NO	0 ft
25th St to SR-94 EB	AM			Ramp not metered in the a.m. peak					0.0	NO	0 ft
	PM	960	785	0	0.0	935	0	0.0	0.0	NO	0 ft
28th St to SR-94 EB	AM			Ramp not metered in the a.m. peak					0.0	NO	0 ft
	PM	960	732	0	0.0	870	0	0.0	0.0	NO	0 ft
32nd St/Broadway to SR-94 EB	AM			Ramp not metered in the a.m. peak					0.0	NO	0 ft
	PM	570	464	0	0.0	558	0	0.0	0.0	NO	0 ft
INTERSTATE 163											
Washington St to SR-163 SB	AM	498	373	0	0.0	615	117	14.2	14.2	NO	2,936 ft
	PM			Ramp not metered in the p.m. peak					0.0	NO	0 ft

Notes:

1) Meter rate is the assumed peak hour capacity expected to be processed through the ramp meter (using Caltrans fast rate)

2) Demand is the peak hour demand using the on-ramp

## 5 SIGNIFICANCE OF IMPACTS AND MITIGATION MEASURES

This chapter addresses the project impacts for each of the three communities based on a comparison between the Future Year conditions and the Existing conditions. Per the City's significance thresholds and the analysis methodology presented in this report, the following cumulative impacts to intersections and roadway segments were determined:

### 5.1 UPTOWN

#### 5.1.1 SIGNIFICANCE OF IMPACTS

##### INTERSECTIONS

- Washington Street & Fourth Avenue
- Washington Street & Eighth Avenue/ SR-163 Off-Ramp
- Washington Street/ Normal Street & Campus Avenue/ Polk Avenue
- University Avenue & Sixth Avenue
- Elm Street & Sixth Avenue
- Cedar Street & Second Avenue

##### SEGMENTS

- First Avenue: Washington Street to University Avenue
- First Avenue: University Avenue to Robinson Avenue
- First Avenue: Robinson Avenue to Grape Street
- Fourth Avenue: Arbor Drive to Washington Street
- Fourth Avenue: Walnut Avenue to Laurel Street
- Fifth Avenue: Robinson Avenue to Walnut Avenue
- Sixth Avenue: Washington Street to University Avenue
- Sixth Avenue: University Avenue to Laurel Street
- Sixth Avenue: Laurel Street to Elm Street
- Ninth Avenue: Washington Street to University Avenue
- Campus Avenue/ Polk Avenue: Washington Street to Park Boulevard
- Cleveland Avenue: Tyler Street to Richmond Street
- Fort Stockton Drive: Sunset Boulevard to Goldfinch Street
- Grape Street: First Avenue to Third Avenue
- Grape Street: Third Avenue to Sixth Avenue
- Hawthorn Street: First Avenue to Third Avenue
- Hawthorn Street: Third Avenue to Sixth Avenue
- India Street: Washington Street to Winder Street
- India Street: Glenwood Drive to Sassafrass Street
- India Street: Sassafrass Street to Redwood Street
- Laurel Street: Columbia Street to Sixth Avenue
- Lincoln Avenue: Washington Street to Park Boulevard
- Park Boulevard: Mission Avenue to El Cajon Boulevard
- Park Boulevard: Robinson Avenue to Upas Street
- Richmond Street: Cleveland Avenue to Upas Street
- Robinson Avenue: First Avenue to Third Avenue



- Robinson Avenue: Third Avenue to Eighth Avenue
- San Diego Avenue: Hortensia Street to Pringle Street
- State Street: Laurel Street to Juniper Street
- University Avenue: Ibis Street to Fifth Avenue
- University Avenue: Sixth Avenue to Eighth Avenue
- University Avenue: Normal Street to Park Boulevard
- Washington Street: Fourth Avenue to Sixth Avenue
- Washington Street: Richmond Street to Normal Street

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## 5.1.2 MITIGATION MEASURES

### INTERSECTIONS

- **Washington Street & Fourth Avenue:** Widen Fourth Avenue in the southbound direction to add a second left-turn lane. Restripe the southbound approach to be two left-turn lanes, one through lane, and one right-turn lane. Uptown CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **Washington Street & Eighth Avenue/ SR-163 Off-Ramp:** Widen Washington Street in the eastbound direction to four lanes and the eastbound direction to three lanes. Widen the SR-163 Off-ramp to two lanes. Uptown CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **Washington Street/ Normal Street & Campus Avenue/ Polk Avenue:** Widen Washington Street in the northeast direction to add an exclusive right-turn lane. Uptown CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **University Avenue & Sixth Avenue:** Widen 6th Avenue in the southbound to add a second left-turn lane. Uptown CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **Elm Street & Sixth Avenue:** Widen Elm Street in the westbound direction to add second right-turn lane. Uptown CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **Cedar Street & Second Avenue:** Install a traffic signal at this intersection. Uptown CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.

### SEGMENTS

- **First Avenue from Washington Street to University Avenue:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **First Avenue from University Avenue to Robinson Avenue:** Widen the roadway to a 4 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.

- **First Avenue from Robinson Avenue to Laurel Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **First Avenue from Laurel Street to Hawthorn Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified in the Uptown IFS.
- **First Avenue from Hawthorn Street to Grape Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Fourth Avenue from Arbor Drive to Washington Street:** Widen the roadway to a 4 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Fourth Avenue from Walnut Avenue to Laurel Street:** Restore the roadway to a 3 lane one-way collector for vehicles and remove the dedicated multi-modal lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Fifth Avenue from Robinson Avenue to Walnut Avenue:** Restore the roadway to a 3 lane one-way collector for vehicles and remove the dedicated multi-modal lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Sixth Avenue from Washington Street to University Avenue:** Widen the roadway to a 6 lane prime arterial. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Sixth Avenue from University Avenue to Laurel Street:** Widen the roadway to a 4 lane major arterial. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Sixth Avenue from Laurel Street to Elm Street:** Widen the roadway to a 4 lane collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Ninth Avenue from Washington Street to University Avenue:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Campus Avenue/ Polk Avenue from Washington Street to Park Boulevard:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Cleveland Avenue from Tyler Street to Richmond Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Fort Stockton Drive from Sunset Boulevard to Goldfinch Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.

- **Grape Street from First Avenue to Sixth Avenue:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Hawthorn Street from First Avenue to Sixth Avenue:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **India Street from Washington Street to Winder Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **India Street from Glenwood Drive to Sassafrass Street:** Widen the roadway to a 4 lane one-way collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **India Street from Sassafrass Street to Redwood Street:** Widen the roadway to a 3 lane one-way collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Laurel Street from Columbia Street to Sixth Avenue:** Widen the roadway to a 4 lane collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Lincoln Avenue from Washington Street to Park Boulevard:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Park Boulevard from Mission Avenue to El Cajon Boulevard:** Widen the roadway to a 4 lane one-way collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Park Boulevard from Robinson Avenue to Upas Street:** Widen the roadway to a 4 lane one-way collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Richmond Street from Cleveland Avenue to Robinson Avenue:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified in the Uptown IFS.
- **Richmond Street from Robinson Avenue to Upas Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Robinson Avenue from First Avenue to Third Ave:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Robinson Avenue from Third to Eighth Avenue:** Widen the roadway to a 4 lane collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.

- **San Diego Avenue from Hortensia Street to Pringle Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **State Street from Laurel Street to Juniper Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified in the Uptown IFS.
- **University Avenue from Ibis Street to Fifth Avenue:** Widen the roadway to a 4 lane collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **University Avenue from Sixth Avenue to Eighth Avenue:** Widen the roadway to a 4 lane major arterial and install a raised median. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **University Avenue from Normal Street to Park Boulevard:** Widen the roadway to a 4 lane collector. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Washington Street from Fourth Avenue to Sixth Avenue:** Widen the roadway to a 6 lane major arterial. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Washington Street from Richmond Street to Normal Street:** Restripe the roadway to a 6 lane prime arterial and remove on-street parking. Uptown CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.

## CORRIDORS

Intelligent Transportation Systems (ITS) is the application of technology to transportation systems to maximize efficiency of services. Applying ITS technology to a corridor can improve capacity and operations along the individual segments within the corridor. In the Uptown community, the following corridors would benefit from ITS technology integration:

- Sixth Avenue
- University Avenue
- Washington Avenue

## TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) combines marketing and incentive programs to reduce dependence on automobiles. TDM measures within the Uptown community should be encouraged and supported to help prevent or minimize congestion and parking issues.

## 5.2 NORTH PARK

### 5.2.1 SIGNIFICANCE OF IMPACTS

#### INTERSECTIONS

- Madison Avenue & Texas Street
- El Cajon Boulevard & 30<sup>th</sup> Street
- El Cajon Boulevard & I-805 SB Ramps
- University Avenue & 30<sup>th</sup> Street
- University Avenue, Wabash Avenue & I-805 NB Ramps
- North Park Way/ I-805 SB Ramps & Boundary Street/33<sup>rd</sup> Street
- Upas Street & 30<sup>th</sup> Street (W)

#### SEGMENTS

- 30<sup>th</sup> Street: Meade Avenue to El Cajon Boulevard
- 30<sup>th</sup> Street: Howard Avenue to University Avenue
- 30<sup>th</sup> Street: North Park Way to Upas Street
- 30<sup>th</sup> Street: Upas Street to Juniper Street
- 32<sup>nd</sup> Street: University Avenue to Upas Street
- Adams Avenue: Texas Street to 30<sup>th</sup> Street
- Boundary Street: University Avenue to North Park Way
- El Cajon Boulevard: 30<sup>th</sup> Street to I-805 Ramps
- Florida Street: El Cajon Boulevard to Upas Street
- Howard Avenue: Texas Street to 32<sup>nd</sup> Street
- Madison Avenue: Texas Street to Ohio Street
- Meade Avenue: Park Boulevard to Iowa Street
- Redwood Street: 28<sup>th</sup> Street to 30<sup>th</sup> Street
- Texas Street: Adams Avenue to El Cajon Boulevard
- Texas Street: Howard Avenue to University Avenue
- University Avenue: Park Boulevard to Florida Street
- University Avenue: Texas Street to 32<sup>nd</sup> Street
- University Avenue: 32<sup>nd</sup> Street to Boundary Street
- Upas Street: Alabama Street to Pershing Road
- Upas Street: Pershing Road to 30<sup>th</sup> Street
- Utah Street: Howard Avenue to Lincoln Avenue
- Utah Street: North Park Way to Upas Street

### 5.2.2 MITIGATION MEASURES

#### INTERSECTIONS

- **Madison Avenue & Texas Street:** Widen Texas Street in the northbound direction to add a second through lane. Widen Madison Avenue in the westbound direction to add a second right-turn lane. North Park CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **El Cajon Boulevard & 30<sup>th</sup> Street:** Restripe 30<sup>th</sup> Street in the southbound direction to add a second left-turn lane and remove parking. Restripe El Cajon Boulevard in the westbound direction

to add a second WB left-turn lane and remove parking. North Park CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.

- **El Cajon Boulevard & I-805 SB Ramps:** Widen the I-805 SB off-ramp to add a second right-turn lane. North Park CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **University Avenue & 30<sup>th</sup> Street:** Restripe 30<sup>th</sup> street in the southbound direction to add a second through lane and remove parking. North Park CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **University Avenue, Wabash Avenue & I-805 NB Ramps:** Widen University Avenue in the eastbound direction to add an exclusive right-turn lane. Widen University Avenue in the westbound direction to add a shared through right-turn lane. Restripe and reconstruct medians on the I-805 northbound ramps to have dual left-turn lanes and an exclusive through lane and right-turn lane. North Park CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.
- **North Park Way/ I-805 SB Ramps & Boundary Street/33<sup>rd</sup> Street:** Signalize intersection and add a second left-turn lane in the southbound direction on Boundary Street. Widen the I-805 southbound on-ramp to add an additional receiving lane. North Park CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure. [Perform Intersection Control Evaluation \(ICE\) per Caltrans Traffic Operations Policy Directive #13-02 to verify mitigation.](#)
- **Upas Street & 30<sup>th</sup> Street (W):** Restripe Upas Street in the westbound direction to add an exclusive right-turn lane. North Park CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure.

## SEGMENTS

- **30<sup>th</sup> Street from Meade Avenue to El Cajon Boulevard:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **30<sup>th</sup> Street from Howard Avenue to University Avenue:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **30<sup>th</sup> Street from North Park Way to Upas Street:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **30<sup>th</sup> Street from Upas Street to Juniper Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **32<sup>nd</sup> Street from University Avenue to Upas Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Adams Avenue from Texas Street to 30<sup>th</sup> Street:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.



- **Boundary Street from University Avenue to North Park Way:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified in the North Park Impact Fee Study (IFS).
- **El Cajon Boulevard from 30<sup>th</sup> Street to I-805 Ramps:** Widen the roadway to an 8 lane major arterial. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Florida Street from El Cajon Boulevard to Upas Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Howard Avenue from Texas Street to 32<sup>nd</sup> Street:** Remove proposed bicycle boulevard and provide a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Madison Avenue from Texas Street to Ohio Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified in the North Park Impact Fee Study (IFS).
- **Meade Avenue from Park Boulevard to Iowa Street:** Remove proposed bicycle boulevard and provide a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Redwood Street from 28<sup>th</sup> Street to 30<sup>th</sup> Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Texas Street from Adams Avenue to El Cajon Boulevard:** Widen the roadway to a 6 lane major arterial. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure. However, partial mitigation has been proposed with the construction of a 4 lane collector with continuous center left-turn lane between Madison Avenue and El Cajon Boulevard.
- **Texas Street from Howard Avenue to University Avenue:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **University Avenue from Park Boulevard to Florida Street:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **University Avenue from Texas Street to 32<sup>nd</sup> Street:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **University Avenue from 32<sup>nd</sup> Street to Boundary Street:** Widen the roadway to a 4 lane major arterial and add a raised median. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.

- **Upas Street from Alabama Street to Pershing Road:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Upas Street: Pershing Road to 30<sup>th</sup> Street:** Widen the roadway to a 4 lane collector. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Utah Street from Howard Avenue to Lincoln Avenue:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Utah Street from North Park Way to Upas Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. North Park CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.

## CORRIDORS

Intelligent Transportation Systems (ITS) is the application of technology to transportation systems to maximize efficiency of services. Applying ITS technology to a corridor can improve capacity and operations along the individual segments within the corridor. In the North Park community, the following corridors would benefit from ITS technology integration:

- University Avenue
- El Cajon Boulevard

## TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) combines marketing and incentive programs to reduce dependence on automobiles. TDM measures within the North Park community should be encouraged and supported to help prevent or minimize congestion and parking issues.

### 5.3 GOLDEN HILL

#### 5.3.1 SIGNIFICANCE OF IMPACTS

## INTERSECTIONS

- B Street & 17<sup>th</sup> Street/ I-5 SB Off-Ramp
- SR-94 WB Ramps & Broadway
- SR-94 WB Ramp & 28<sup>th</sup> Street
- SR-94 EB Ramp & 28<sup>th</sup> Street
- F Street & 25<sup>th</sup> Street
- G Street & 25<sup>th</sup> Street

## SEGMENTS

- 25<sup>th</sup> Street: Broadway to F Street
- 28<sup>th</sup> Street: Russ Boulevard to SR-94
- 30<sup>th</sup> Street: Grape Street to SR-94

- B Street: 25<sup>th</sup> Street to 28<sup>th</sup> Street
- C Street: 30<sup>th</sup> Street to 34<sup>th</sup> Street
- Fern Street: Juniper Street to A Street
- Grape Street: 30<sup>th</sup> Street to 31<sup>st</sup> Street

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### 5.3.2 MITIGATION MEASURES

#### INTERSECTIONS

- **B Street & 17<sup>th</sup> Street/ I-5 SB Off-Ramp:** Install traffic signal control at the intersection. Golden Hill CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified in the Golden Hill Impact Fee Study (IFS).
- **SR-94 WB Ramps & Broadway:** Install traffic signal control at the intersection. Golden Hill CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure. However, signal warrants are not met for the signalization of this location. This improvement will be placed on the watch list for future signalization in the Golden Hill IFS.
- **SR-94 WB Ramps & 28<sup>th</sup> Street:** Install traffic signal control at the intersection. Golden Hill CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified in the Golden Hill IFS.
- **SR-94 EB Ramps & 28<sup>th</sup> Street:** Install traffic signal control at the intersection. Restripe the southbound approach to have an exclusive left-turn lane and a through lane. Golden Hill CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified in the Golden Hill IFS.
- **F Street & 25<sup>th</sup> Street:** Install traffic signal control at the intersection. Golden Hill CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure. However, signal warrants are not met for the signalization of this location. This improvement will be placed on the watch list for future signalization in the Golden Hill IFS.
- **G Street & 25<sup>th</sup> Street:** Install traffic signal control at the intersection. Golden Hill CPU significant traffic impact to this intersection would be fully mitigated with the implementation of this mitigation measure. However, signal warrants are not met for the signalization of this location. This improvement will be placed on the watch list for future signalization in the Golden Hill IFS.

#### SEGMENTS

- **25<sup>th</sup> Street from Broadway to F Street:** Widen the roadway to a 4 lane collector. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **28<sup>th</sup> Street from Russ Boulevard to Broadway:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **28<sup>th</sup> Street from Broadway to SR-94:** Widen the roadway to a 4 lane collector. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation

of this mitigation measure. However, partial mitigation is proposed at this location with the widening of the roadway to a two lane collector with continuous left-turn lane. This improvement project is identified on the Golden Hill IFS.

- **30<sup>th</sup> Street from Grape Street to Ash Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **30<sup>th</sup> Street from A Street to Broadway:** Widen the roadway to a 4 lane collector. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure. However, partial mitigation is proposed at this location with the widening of the roadway to a two lane collector with continuous left-turn lane. This improvement project is identified on the Golden Hill IFS.
- **30<sup>th</sup> Street from Broadway to SR-94:** Widen roadway to a 2 lane collector with continuous left-turn lane. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure. This improvement project is identified on the Golden Hill IFS.
- **B Street from 25<sup>th</sup> Street to 28<sup>th</sup> Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **C Street from 30<sup>th</sup> Street to 34<sup>th</sup> Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Fern Street from Juniper Street to Grape Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Fern Street from Grape Street to A Street:** Widen the roadway to a 4 lane collector. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.
- **Grape Street from 30<sup>th</sup> Street to 31<sup>st</sup> Street:** Restripe the roadway to a 2 lane collector with continuous left-turn lane. Golden Hill CPU significant traffic impact to this roadway segment would be fully mitigated with the implementation of this mitigation measure.

## TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) combines marketing and incentive programs to reduce dependence on automobiles. TDM measures within the Golden Hill community should be encouraged and supported to help prevent or minimize congestion and parking issues.

### 5.4 FREEWAYS

As shown in Chapter 4, the evaluated CPU land uses would have a cumulative traffic related impact at the following mainline freeway segments:

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## 5.4.1 SIGNIFICANCE OF IMPACTS

### MAINLINE SEGMENTS

- I-5 NB: Old Town Avenue to Imperial Avenue
- I-5 SB: Old Town Avenue to Imperial Avenue
- I-8 WB: Hotel Circle (W) to SR-15
- I-8 EB: Hotel Circle (W) to SR-15
- SR-15 NB: I-805 to SR-94
- SR-15 SB: I-805 to SR-94
- I-805 NB: I-8 to SR-15
- I-805 SB: I-8 to SR-15
- SR-94 WB: 25th Street to SR-15
- SR-94 EB: 25th Street to SR-15
- SR-163 NB: I-8 to Robinson Avenue
- SR-163: SB: I-8 to I-5

### INTERCHANGE RAMPS

- Hancock St to I-5 SB
- Kettner Boulevard to I-5 SB
- Fifth Avenue to I-5 SB

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## 5.4.2 MITIGATION MEASURES

### MAINLINE SEGMENTS

- **I-5 NB from Old Town Avenue to Imperial Avenue:** ~~No improvements are identified for this freeway segment in SANDAG's RP. SANDAG's 2050 Revenue Constrained RTP includes operational improvements along I-5 between Old Town Avenue and Imperial Avenue. This project is expected to be constructed by year 2050. This measure provides partial mitigation since it improves freeway operation in the vicinity of the project.~~
- **I-5 SB from Old Town Avenue to Imperial Avenue:** ~~No improvements are identified for this freeway segment in SANDAG's RP. SANDAG's 2050 Revenue Constrained RTP includes operational improvements along I-5 between Old Town Avenue and Imperial Avenue. This project is expected to be constructed by year 2050. This measure provides partial mitigation since it improves freeway operation in the vicinity of the project.~~
- **I-8 WB from Hotel Circle (W) to SR-15:** SANDAG's ~~2050 Revenue Constrained RTP~~ includes operational improvements along I-8 between ~~Hotel Circle (W) I-5~~ and SR-15. This project is expected to be constructed by year 2050. This measure provides partial mitigation since it improves freeway operation in the vicinity of the project.
- **I-8 EB from Hotel Circle (W) to SR-15:** SANDAG's ~~2050 Revenue Constrained RTP~~ includes operational improvements along I-8 between ~~Hotel Circle (W) I-5~~ and SR-15. This project is expected to be constructed by year 2050. This measure provides partial mitigation since it improves freeway operation in the vicinity of the project.
- **SR-15 NB from I-805 to SR-94:** SANDAG's ~~2050 Revenue Constrained RTP~~ proposes the construction of managed lanes along SR-15 ~~from I-5 to between~~ I-805 and ~~from I-8 to SR-163~~ SR-

94. Between I-8 and SR-163, the project is expected to be constructed by 2035; between SR-94 and I-805, the project is expected to be constructed by 2035; and between I-5 and SR-94, the project is expected to be constructed by 2050. This project is expected to be constructed by year 2035. This measure provides partial mitigation since it reduces the traffic demand on the freeway general purpose lane.

- **SR-15 SB from I-805 to SR-94:** SANDAG's ~~2050 Revenue Constrained~~ RTP proposes the construction of managed lanes along SR-15 ~~from I-5 to between I-805 and from I-8 to SR-94~~ 163. Between I-8 and SR-163, the project is expected to be constructed by 2035; between SR-94 and I-805, the project is expected to be constructed by 2035; and between I-5 and SR-94, the project is expected to be constructed by 2050. This project is expected to be constructed by year 2035. This measure provides partial mitigation since it reduces the traffic demand on the freeway general purpose lane.
- **I-805 NB from I-8 to SR-15:** SANDAG's ~~2050 Revenue Constrained~~ RTP proposes the construction of managed lanes along I-805 between ~~I-8 SR-15~~ and SR-~~15~~ 163. This project is expected to be constructed by year 20350. This measure provides partial mitigation since it reduces the traffic demand on the freeway general purpose lane. Additionally, Caltrans is studying buses on shoulder options along the I-805 corridor on an interim basis.
- **I-805 SB from I-8 to SR-15:** SANDAG's ~~2050 Revenue Constrained~~ RTP proposes the construction of managed lanes along I-805 between ~~I-8 SR-15~~ and SR-~~15~~ 163. This project is expected to be constructed by year 20350. This measure provides partial mitigation since it reduces the traffic demand on the freeway general purpose lane. Additionally, Caltrans is studying buses on shoulder options along the I-805 corridor on an interim basis.
- **SR-94 WB from 25th Street to SR-15:** SANDAG's ~~2050 Revenue Constrained~~ RTP proposes the construction of managed lanes along SR-94 between ~~25th Street I-5~~ and SR-~~125~~. Between I-5 and I-805, this project is expected to be constructed by year 2035. In 2050 the project is expected to be constructed between I-805 and SR-125. This project is expected to be constructed by year 2020. Caltrans is evaluating alternatives to this measure as part of the environmental analysis for the SR 94 Express Lanes Project. This measure (or an alternative measure) would This measure provides partial mitigation since it reduces the traffic demand on the freeway general purpose lanes. Additionally, Caltrans is studying buses on shoulder options, general purpose lane conversions and access to transit from local communities along SR-94.
- **SR-94 EB from 25th Street to SR-15:** SANDAG's ~~2050 Revenue Constrained~~ RTP proposes the construction of managed lanes along SR-94 between ~~25th Street I-5~~ and SR-~~125~~. Between I-5 and I-805, this project is expected to be constructed by year 2035. In 2050 the project is expected to be constructed between I-805 and SR-125. This project is expected to be constructed by year 2020. Caltrans is evaluating alternatives to this measure as part of the environmental analysis for the SR 94 Express Lanes Project. This measure (or an alternative measure) would This measure provides partial mitigation since it reduces the traffic demand on the freeway general purpose lane. Additionally, Caltrans is also studying buses on shoulder options, general purpose lane conversions and access to transit from local communities along SR-94.
- **SR-163 NB from I-8 to Robinson Avenue:** No improvements are identified for this state route segment in SANDAG's ~~2050~~ RTP.
- **SR-163: SB from I-8 to I-5:** No improvements are identified for this state route segment in SANDAG's ~~2050~~ RTP.



## INTERCHANGE RAMPS

- **Hancock St On-Ramp to I-5 SB:** SANDAG's ~~2050 Revenue Constrained~~ RTP includes operational improvements along I-5 between SR-15 and I-8. This project is expected to be constructed by year 2050. This measure provides partial mitigation since it improves freeway operation in the vicinity of the project.
- **Kettner Boulevard On-Ramp to I-5 SB:** SANDAG's ~~2050 Revenue Constrained~~ RTP includes operational improvements along I-5 between SR-15 and I-8. This project is expected to be constructed by year 2050. This measure provides partial mitigation since it improves freeway operation in the vicinity of the project.
- **Fifth Avenue to On-Ramp I-5 SB:** SANDAG's ~~2050 Revenue Constrained~~ RTP includes operational improvements along I-5 between SR-15 and I-8. This project is expected to be constructed by year 2050. This measure provides partial mitigation since it improves freeway operation in the vicinity of the project.

## 6 POST-MITIGATION ANALYSIS

This section provides a description of the future community buildout conditions with the implementation of the traffic mitigation measures described in Chapter 5.

### 6.1 INTERSECTION ANALYSIS

**Table 6-1** displays the LOS analysis results for the study intersections within the study area after the implementation of the mitigation measures described in Chapter 5. As shown in the table, the mitigation measures described in Chapter 5 would restore operations to LOS D or better during both peak hours at all locations. As discussed in Chapter 5, mitigations are recommended by the CPU at one location within Uptown and all six locations within Golden Hill.

**Appendix D** contains the peak-hour intersections LOS calculation worksheets.

### 6.2 ROADWAY SEGMENT ANALYSIS

**Tables 6-2 through 6-7** displays the LOS analysis results for the study roadway segments within the study area after the implementation of the mitigation measures described in Chapter 5. As shown in the table, the mitigation measures described in Chapter 5 would restore operations to LOS D or better at all locations. As discussed in Chapter 5, mitigations are recommended by the CPU along three roadways within Uptown, one roadway within North Park and two roadways within Golden Hill.

### 6.3 FREEWAY SEGMENT AND RAMP METER ANALYSIS

The improvements identified in SANDAG's Regional ~~Transportation~~ Plan would improve operations along the freeway segments and ramps; however, to what extent is still undetermined. As these are future improvements that will be defined more over time, no post mitigation analysis was performed as part of these planning efforts. Using the ~~RTP~~ as the instrument to implement freeway improvements, it can be determined that none of the freeway impacts would be fully mitigated by the CPU.

**Table 6-1** Post Mitigation Summary of Intersection Analysis

INTERSECTIONS	PEAK HOUR	FUTURE YEAR		POST-MITIGATION	
		DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
UPTOWN					
Washington St & Fourth Ave	AM	31.8	C	27.3	C
	PM	59.9	E	42.7	D
Washington St & Eighth Ave/SR-163 Off Ramp	AM	71.5	E	22.3	C
	PM	331.7	F	49.5	D
Washington St/Normal St & Campus Ave/Polk Ave	AM	62.7	E	49.9	D
	PM	57.3	E	39.5	D
University Ave & Sixth Ave	AM	38.7	D	40	D
	PM	55.3	E	50.8	D
Elm St & Sixth Ave	AM	153.6	F	20.6	C
	PM	18.8	B	12.5	B
Cedar St & Second Ave	AM	ECL	F	25.9	C
	PM	43	E	10.1	B
NORTH PARK					
Madison Ave & Texas St	AM	144.4	F	36.2	D
	PM	63.9	E	35	D
El Cajon Blvd & 30th St	AM	29.7	C	26.1	C
	PM	68.1	E	52	D
El Cajon Blvd & I-805 SB Ramps	AM	21.9	C	15.5	B
	PM	96.8	F	37.7	D
University Ave & 30th St	AM	26.5	C	25.9	C
	PM	57.8	E	44.3	D
University Ave & I-805 NB Ramps	AM	45.5	D	52.6	D
	PM	80.9	F	54.9	D
North Park Way, I-805 SB Ramps, & Boundary St	AM	18.1	C	15.6	B
	PM	134.8	F	47.2	D
Upas St & 30th St	AM	40.1	E	14.5	B
	PM	54.8	F	34.1	D
GOLDEN HILL					
B St & 17th St/ I-5 SB Off-Ramp	AM	ECL	F	25.1	C
	PM	20.4	C	7.2	A
SR-94 WB Ramps & Broadway	AM	ECL	F	11.1	B
	PM	ECL	F	13.2	B
SR-94 WB Ramps & 28th St	AM	ECL	F	15.4	B
	PM	ECL	F	14.6	B
SR-94 EB Ramps & 28th St	AM	ECL	F	13.8	A
	PM	ECL	F	18.4	B
F St & 25th St	AM	82.3	F	12.5	B
	PM	39.4	E	7.5	A
G St & 25th St	AM	55.2	F	19.8	B
	PM	68	F	16.5	B

Notes:

ECL = Exceeds Calculable Limit. Reported when delay exceeds 180 seconds.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.

(b)LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8

**Table 6-2 Post Mitigation Summary of Roadway Segment Analysis**

ROADWAY SEGMENT	FUTURE YEAR ADT	ROADWAY FUNCTIONAL CLASSIFICATION		LOS E CAPACITY	V/C RATIO (a)	LOS
First Ave						
Washington St to University Ave	9,100	Future Year	2 Lane Collector (No center lane)	8,000	1.138	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.607	C
University Ave to Robinson Ave	16,300	Future Year	2 Lane Collector (No center lane)	8,000	2.038	F
		Post Mitigation	4 Lane Collector	30,000	0.543	C
Robinson Ave to Pennsylvania Ave	11,500	Future Year	2 Lane Collector (No center lane)	8,000	1.438	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.767	D
Pennsylvania Ave to Walnut Ave	12,800	Future Year	2 Lane Collector (No center lane)	8,000	1.600	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.853	D
Walnut Ave to Laurel St	11,900	Future Year	2 Lane Collector (No center lane)	8,000	1.488	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.793	D
Laurel St to Hawthorn St	8,400	Future Year	2 Lane Collector (No center lane)	8,000	1.050	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.560	C
Hawthorn St to Grape St	6,800	Future Year	2 Lane Collector (No center lane)	8,000	0.850	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.453	B
Fourth Ave						
Arbor Dr to Washington St	14,900	Future Year	2 Lane Collector (No center lane)	8,000	1.863	F
		Post Mitigation	4 Lane Collector	30,000	0.497	C
Walnut Ave to Laurel St	15,100	Future Year	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	0.863	E
		Post Mitigation	3 Lane Collector (one-way)	26,000	0.581	C
Fifth Ave						
Robinson Ave to Walnut Ave	15,800	Future Year	3 Lane Collector (one-way w/ one lane dedicated for multi-modal)	17,500	0.903	E
		Post Mitigation	3 Lane Collector (one-way)	26,000	0.608	C
Sixth Ave						
Washington St to University Ave	45,100	Future Year	3 Lane Collector (two-way)	20,000	2.255	F
		Post Mitigation	6 Lane Prime Arterial	60,000	0.752	C
University Ave to Robinson Ave	32,600	Future Year	4 Lane Collector (no center lane)	15,000	2.173	F
		Post Mitigation	4 Lane Major Arterial	40,000	0.815	D
Robinson Ave to Upas St	29,900	Future Year	4 Lane Collector (no center lane)	15,000	1.993	F
		Post Mitigation	4 Lane Major Arterial	40,000	0.748	C
Upas St to Laurel St	25,900	Future Year	4 Lane Collector (no center lane)	15,000	1.727	F
		Post Mitigation	4 Lane Major Arterial	40,000	0.648	C
Laurel St to Juniper St	16,600	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.107	F
		Post Mitigation	4 Lane Collector	30,000	0.553	C
Juniper St to Grape St	18,700	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.247	F
		Post Mitigation	4 Lane Collector	30,000	0.623	C
Grape St to Elm St	20,300	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.353	F
		Post Mitigation	4 Lane Collector	30,000	0.677	D

Notes:

Capacity for non-standard roadway classifications were provided by City of San Diego staff.

(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

**Table 6-3** Post Mitigation Summary of Roadway Segment Analysis

ROADWAY SEGMENT	FUTURE YEAR ADT	ROADWAY FUNCTIONAL CLASSIFICATION		LOS E CAPACITY	V/C RATIO (a)	LOS
Ninth Ave						
Washington St to University Ave	8,000	Future Year	2 Lane Collector (No center lane)	8,000	1.000	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.533	C
Campus Ave/Polk Ave						
Washington St to Park Blvd	7,400	Future Year	2 Lane Collector (No center lane)	8,000	0.925	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.493	C
Cleveland Ave						
Tyler St to Lincoln Ave	7,200	Future Year	2 Lane Collector (No center lane)	8,000	0.900	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.480	C
Lincoln Ave to Richmond St	9,600	Future Year	2 Lane Collector (No center lane)	8,000	1.200	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.640	C
Fort Stockton Dr						
Sunset Blvd to Hawk St	7,900	Future Year	2 Lane Collector (No center lane)	8,000	0.988	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.527	C
Hawk St to Goldfinch St	8,900	Future Year	2 Lane Collector (No center lane)	8,000	1.113	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.593	C
Grape St						
First Ave to Third Ave	7,300	Future Year	2 Lane Collector (No center lane)	8,000	0.913	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.487	C
Third Ave to Sixth Ave	9,000	Future Year	2 Lane Collector (No center lane)	8,000	1.125	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.600	C
Hawthorn St						
First Ave to Third Ave	7,300	Future Year	2 Lane Collector (No center lane)	8,000	0.913	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.487	C
Third Ave to Sixth Ave	8,700	Future Year	2 Lane Collector (No center lane)	8,000	1.088	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.580	C
India St						
Washington St to Winder St	11,000	Future Year	2 Lane Collector (No center lane)	8,000	1.375	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.733	D
Glenwood Dr to Sassafras St	30,000	Future Year	2 Lane Collector (one-way)	17,500	1.714	F
		Post Mitigation	4 Lane Collector (one-way)	35,000	0.857	D
Sassafras St to Redwood St	21,300	Future Year	3 Lane Collector (two-way)	20,000	1.065	F
		Post Mitigation	3 Lane Collector (one-way)	26,000	0.819	D
Laurel St						
Columbia St to Union St	21,100	Future Year	4 Lane Collector (no center lane)	15,000	1.407	F
		Post Mitigation	4 Lane Collector	30,000	0.703	D
Union St to First Ave	17,900	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.193	F
		Post Mitigation	4 Lane Collector	30,000	0.597	C
First Ave to Third Ave	16,100	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.073	F
		Post Mitigation	4 Lane Collector	30,000	0.537	C
Third Ave to Sixth Ave	20,200	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.347	F
		Post Mitigation	4 Lane Collector	30,000	0.673	D
Lincoln Ave						
Washington St to Park Blvd	11,100	Future Year	2 Lane Collector (No center lane)	8,000	1.388	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.740	D

Notes:  
Capacity for non-standard roadway classifications were provided by City of San Diego staff.  
(a) The v/c ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

**Table 6-4 Post Mitigation Summary of Roadway Segment Analysis**

ROADWAY SEGMENT	FUTURE YEAR ADT	ROADWAY FUNCTIONAL CLASSIFICATION			LOS E CAPACITY	V/C RATIO (a)	LOS
Park Blvd							
Mission Ave to El Cajon Blvd	16,300	Future Year	3 Lane Collector (no center lane)	11,500	1.417	F	
		Post Mitigation	4 Lane Collector (one-way)	30,000	0.543	C	
Robinson Ave to Upas St	17,200	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.147	F	
		Post Mitigation	4 Lane Collector (one-way)	30,000	0.573	C	
Richmond St							
Cleveland Ave to University Ave	9,000	Future Year	2 Lane Collector (No center lane)	8,000	1.125	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.600	C	
University Ave to Robinson Ave	6,700	Future Year	2 Lane Collector (No center lane)	8,000	0.838	E	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.447	B	
Robinson Ave to Upas St	8,100	Future Year	2 Lane Collector (No center lane)	8,000	1.013	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.540	C	
Robinson Ave							
First Ave to Third Ave	11,500	Future Year	2 Lane Collector (No center lane)	8,000	1.438	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.767	D	
Third Ave to Eighth Ave	14,400	Future Year	2 Lane Collector (No center lane)	8,000	1.800	F	
		Post Mitigation	4 Lane Collector	30,000	0.480	C	
San Diego Ave							
Hortensia St to Pringle St	10,500	Future Year	2 Lane Collector (No center lane)	8,000	1.313	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.700	D	
State St							
Laurel St to Juniper St	8,200	Future Year	2 Lane Collector (No center lane)	8,000	1.025	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.547	C	
University Ave							
Ibis St to Albatross St	14,700	Future Year	2 Lane Collector (No center lane)	8,000	1.838	F	
		Post Mitigation	4 Lane Collector	30,000	0.490	C	
Albatross St to First Ave	20,800	Future Year	2 Lane Collector (No center lane)	8,000	2.600	F	
		Post Mitigation	4 Lane Collector	30,000	0.693	D	
First Ave to Fourth Ave	14,100	Future Year	2 Lane Collector (no fronting property)	10,000	1.410	F	
		Post Mitigation	4 Lane Collector	30,000	0.470	C	
Fourth Ave to Fifth Ave	21,600	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.440	F	
		Post Mitigation	4 Lane Collector	30,000	0.720	D	
Sixth Ave to Eighth Ave	29,300	Future Year	4 Lane Collector (no center lane)	15,000	1.953	F	
		Post Mitigation	4 Lane Major Arterial	40,000	0.733	C	
Normal St to Park Blvd	21,200	Future Year	4 Lane Collector (no center lane)	15,000	1.413	F	
		Post Mitigation	4 Lane Collector	30,000	0.707	D	
Washington St							
Fourth Ave to Fifth Ave	37,300	Future Year	4 Lane Major Arterial	40,000	0.933	E	
		Post Mitigation	6 Lane Major Arterial	50,000	0.746	C	
Fifth Ave to Sixth Ave	41,100	Future Year	4 Lane Major Arterial	40,000	1.028	F	
		Post Mitigation	6 Lane Major Arterial	50,000	0.822	D	
Richmond St to Normal St	47,100	Future Year	6 Lane Major Arterial	50,000	0.942	E	
		Post Mitigation	6 Lane Prime Arterial	60,000	0.785	C	

Notes:

Capacity for non-standard roadway classifications were provided by City of San Diego staff.

(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.



**Table 6-5** Post Mitigation Summary of Roadway Segment Analysis

ROADWAY SEGMENT	FUTURE YEAR ADT	ROADWAY FUNCTIONAL CLASSIFICATION			LOS E CAPACITY	V/C RATIO (a)	LOS
30th St							
Meade Ave to El Cajon Blvd	14,400	Future Year	2 Lane Collector (continuous left-turn lane)	15,000		0.960	E
		Post Mitigation	4 Lane Collector	30,000		0.480	C
Howard Ave to Lincoln Ave	17,900	Future Year	2 Lane Collector (continuous left-turn lane)	15,000		1.193	F
		Post Mitigation	4 Lane Collector	30,000		0.597	C
Lincoln Ave to University Ave	14,000	Future Year	2 Lane Collector (continuous left-turn lane)	15,000		0.933	E
		Post Mitigation	4 Lane Collector	30,000		0.467	C
North Park Way Ave to Upas St	16,500	Future Year	2 Lane Collector (continuous left-turn lane)	15,000		1.100	F
		Post Mitigation	4 Lane Collector	30,000		0.550	C
Upas St to Redwood St	11,900	Future Year	2 Lane Collector (No center lane)	8,000		1.488	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.793	D
Redwood St to Juniper St	12,100	Future Year	2 Lane Collector (No center lane)	8,000		1.513	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.807	D
32nd St							
University Ave to Myrtle Ave	11,200	Future Year	2 Lane Collector (No center lane)	8,000		1.400	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.747	D
Myrtle Ave to Upas St	7,900	Future Year	2 Lane Collector (No center lane)	8,000		0.988	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.527	C
Adams Ave							
Texas St to 30th St	13,800	Future Year	2 Lane Collector (continuous left-turn lane)	15,000		0.920	E
		Post Mitigation	4 Lane Collector	30,000		0.460	B
Boundary St							
University Ave to North Park Way	16,000	Future Year	2 Lane Collector (No center lane)	8,000		2.000	F
		Post Mitigation	4 Lane Collector	30,000		0.533	C
El Cajon Blvd							
30th St to Illinois St	48,800	Future Year	6 Lane Major Arterial	50,000		0.976	E
		Post Mitigation	8 Lane Major Arterial	60,000		0.813	C
Illinois St to I-805 Ramps	58,900	Future Year	6 Lane Major Arterial	50,000		1.178	F
		Post Mitigation	8 Lane Major Arterial	60,000		0.982	E
Florida St							
El Cajon Blvd to University Ave	7,400	Future Year	2 Lane Collector (No center lane)	8,000		0.925	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.493	C
University Ave to Robinson Ave	8,800	Future Year	2 Lane Collector (No center lane)	8,000		1.100	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.587	C
Robinson Ave to Upas St	6,800	Future Year	2 Lane Collector (No center lane)	8,000		0.850	E
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.453	B
Howard Ave							
Texas St to Utah St	11,300	Future Year	2 Lane Collector (No center lane)**	8,000		1.413	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.753	D
Utah St to 30th St	10,200	Future Year	2 Lane Collector (No center lane)**	8,000		1.275	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.680	D
30th St to 32nd St	10,500	Future Year	2 Lane Collector (No center lane)**	8,000		1.313	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.700	D
Madison Ave							
Texas St to Ohio St	12,200	Future Year	2 Lane Collector (No center lane)	8,000		1.525	F
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000		0.813	D

Notes:

Capacity for non-standard roadway classifications were provided by City of San Diego staff.

(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

**Table 6-6** Post Mitigation Summary of Roadway Segment Analysis

ROADWAY SEGMENT	FUTURE YEAR ADT	ROADWAY FUNCTIONAL CLASSIFICATION			LOSE CAPACITY	V/C RATIO (a)	LOS
<b>Meade Ave</b>							
Park Blvd to Texas St	8,200	Future Year	2 Lane Collector (No center lane)	8,000	1.025	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.547	C	
Texas St to 30th St	9,900	Future Year	2 Lane Collector (No center lane)	8,000	1.238	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.660	C	
30th St to Illinois St	11,500	Future Year	2 Lane Collector (No center lane)	8,000	1.438	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.767	D	
Illinois St to Iowa St	11,900	Future Year	2 Lane Collector (No center lane)	8,000	1.488	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.793	D	
<b>North Park Way</b>							
32nd St to Boundary St	10,600	Future Year	2 Lane Collector (no fronting property)	10,000	1.060	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.707	D	
<b>Redwood St</b>							
28th St to 30th St	7,200	Future Year	2 Lane Collector (No center lane)	8,000	0.900	E	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.480	C	
<b>Texas St</b>							
Adams Ave to Mission Ave	39,100	Future Year	3 Lane Major Arterial	30,000	1.303	F	
		Post Mitigation	6 Lane Major Arterial	50,000	0.782	C	
Mission Ave to El Cajon Blvd	38,300	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	2.553	F	
		Partial Mitigation	4 Lane Collector	30,000	1.277	F	
		Post Mitigation	6 Lane Major Arterial	50,000	0.766	C	
		Future Year	2 Lane Collector (continuous left-turn lane)	15,000	0.960	E	
Howard Ave to University Ave	14,400	Post Mitigation	4 Lane Collector	30,000	0.480	C	
<b>University Ave</b>							
Park Blvd to Florida St	23,900	Future Year	4 Lane Collector (no center lane)	15,000	1.593	F	
		Post Mitigation	4 Lane Collector	30,000	0.797	D	
Texas St to Oregon St	23,700	Future Year	4 Lane Collector (no center lane)	15,000	1.580	F	
		Post Mitigation	4 Lane Collector	30,000	0.790	D	
Oregon St to Utah St	22,900	Future Year	4 Lane Collector (no center lane)	15,000	1.527	F	
		Post Mitigation	4 Lane Collector	30,000	0.763	D	
Utah St to 30th St	20,800	Future Year	4 Lane Collector (no center lane)	15,000	1.387	F	
		Post Mitigation	4 Lane Collector	30,000	0.693	D	
30th St to Illinois St	22,800	Future Year	3 Lane Collector (no center lane)	11,500	1.983	F	
		Post Mitigation	4 Lane Collector	30,000	0.760	D	
Illinois St to 32nd St	22,600	Future Year	3 Lane Collector (no center lane)	11,500	1.965	F	
		Post Mitigation	4 Lane Collector	30,000	0.753	D	
32nd St to Boundary St	29,600	Future Year	4 Lane Collector (no center lane)	15,000	1.973	F	
		Post Mitigation	4 Lane Major Arterial	40,000	0.740	C	
<b>Upas St</b>							
Alabama St to Texas St	8,600	Future Year	2 Lane Collector (No center lane)	8,000	1.075	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.573	C	
Texas St to Pershing Rd	11,500	Future Year	2 Lane Collector (No center lane)	8,000	1.438	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.767	D	
Pershing Rd to 30th St	16,300	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.087	F	
		Post Mitigation	4 Lane Collector	30,000	0.543	C	
<b>Utah St</b>							
Howard Ave to Lincoln Ave	7,300	Future Year	2 Lane Collector (No center lane)	8,000	0.913	E	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.487	C	
North Park Way to Upas St	7,500	Future Year	2 Lane Collector (No center lane)	8,000	0.938	E	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.500	C	

Notes:  
Capacity for non-standard roadway classifications were provided by City of San Diego staff.  
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

**Table 6-7 Post Mitigation Summary of Roadway Segment Analysis**

ROADWAY SEGMENT	FUTURE YEAR ADT	ROADWAY FUNCTIONAL CLASSIFICATION			LOS E CAPACITY	V/C RATIO (a)	LOS
25th St  Broadway to F St	17,400	Future Year	2 Lane Collector (continuous left-turn lane)	15,000	1.160	F	
		Post Mitigation	4 Lane Collector	30,000	0.580	C	
28th St  Russ Blvd to C St	8,800	Future Year	2 Lane Collector (No center lane)	8,000	1.100	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.587	C	
C St to Broadway	10,500	Future Year	2 Lane Collector (No center lane)	8,000	1.313	F	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.700	D	
Broadway to SR-94	19,100	Future Year	2 Lane Collector (No center lane)	8,000	2.388	F	
		Partial Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	1.273	F	
		Post Mitigation	4 Lane Collector	30,000	0.637	C	
30th St  Grape St to Ash St	6,900	Future Year	2 Lane Collector (No center lane)	8,000	0.863	E	
		Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.460	B	
A St to Broadway	19,800	Future Year	2 Lane Collector (No center lane)	8,000	2.475	F	
		Partial Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	1.320	F	
Broadway to SR-94	9,500	Post Mitigation	4 Lane Collector	30,000	0.660	C	
		Future Year	2 Lane Collector (no fronting property)	10,000	0.950	E	
B St  25th St to 26th St	7,500	Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.633	C	
		Future Year	2 Lane Collector (No center lane)	8,000	0.938	E	
26th St to 28th St	7,100	Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.500	C	
		Future Year	2 Lane Collector (No center lane)	8,000	0.888	E	
C St  30th St to 34th St	7,900	Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.473	C	
		Future Year	2 Lane Collector (No center lane)	8,000	0.988	E	
Fern St  Juniper St to Grape St	8,900	Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.527	C	
		Future Year	2 Lane Collector (No center lane)	8,000	1.113	F	
Grape St to A St	15,000	Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.593	C	
		Future Year	2 Lane Collector (No center lane)	8,000	1.875	F	
Grape St	9,000	Post Mitigation	4 Lane Collector	30,000	0.500	C	
		Future Year	2 Lane Collector (No center lane)	8,000	1.125	F	
30th St to 31st St	9,000	Post Mitigation	2 Lane Collector (continuous left-turn lane)	15,000	0.600	C	
		Future Year	2 Lane Collector (No center lane)	8,000	1.125	F	

Notes:  
Capacity for non-standard roadway classifications were provided by City of San Diego staff.  
(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

## APPENDIX A

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### EXISTING TRAFFIC SIGNAL TIMING SHEETS

## APPENDIX B

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### EXISTING INTERSECTION GEOMETRICS

## APPENDIX C

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### TRAFFIC COUNT SHEETS



## APPENDIX D

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### SYNCHRO PEAK-HOUR INTERSECTION ANALYSIS SHEETS

## APPENDIX E

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### RAMP METER RATES

## APPENDIX F

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### POST-MODEL VOLUME ADJUSTMENTS

## APPENDIX G

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### PEAK-HOUR VOLUMES FORECAST WORKSHEETS

From: Mychal Loomis, Kimley-Horn and Associates

To: Marlon Pangilinan and George Ghossain, City of San Diego

Date: March 15, 2016

Re: North Park & Uptown Updated Residential Densities Traffic Evaluation Summary of Findings  
for the Cluster Community Plan Update

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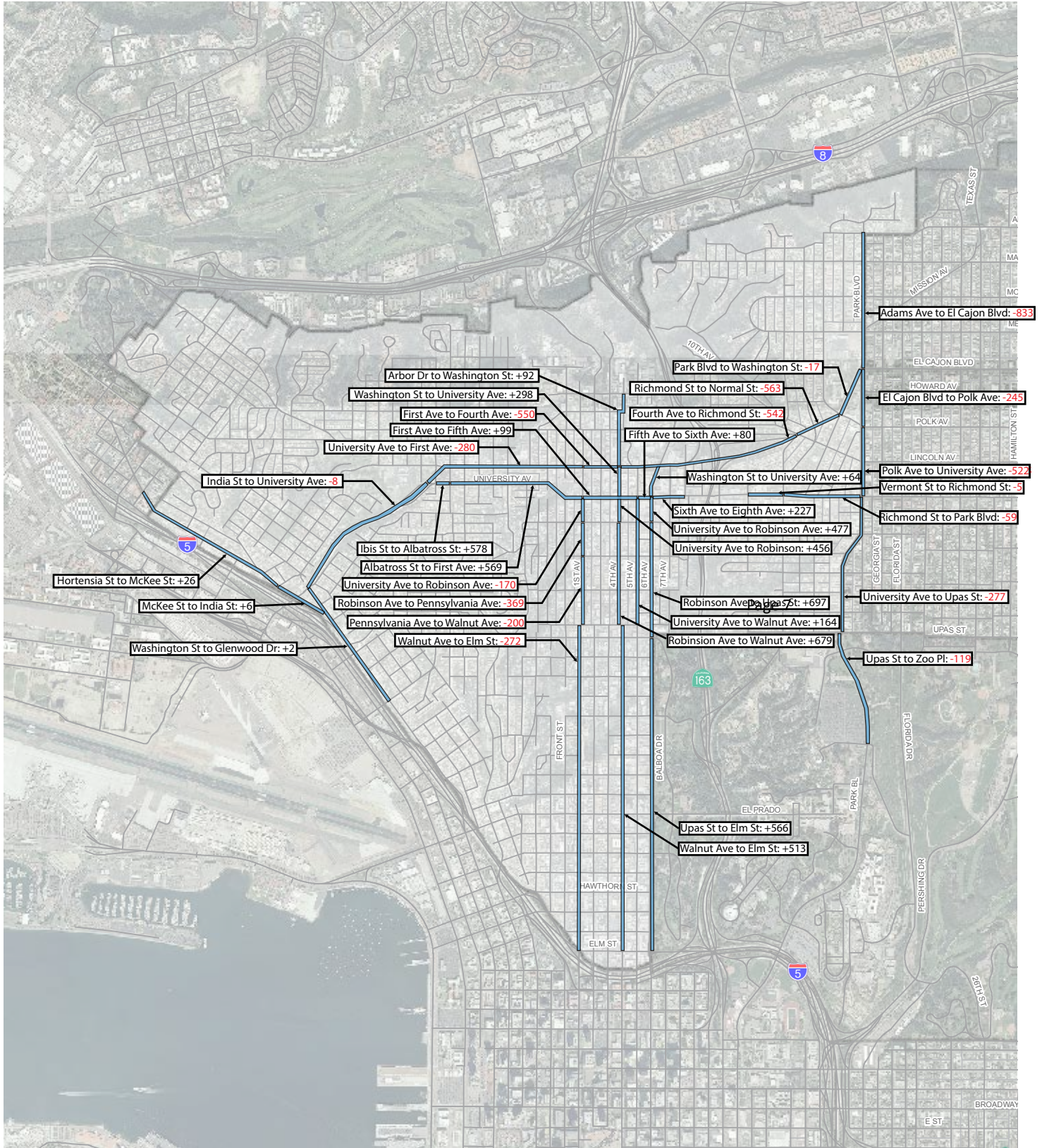
This memorandum summarizes the results of the traffic evaluation to reflect updated residential densities within the study area of the Cluster Community Plan Update (CPU). City staff provided the specific changes by traffic analysis zones (TAZs) including new trip generation volumes and high-level assumptions of traffic distribution patterns.

### Approach Methodology

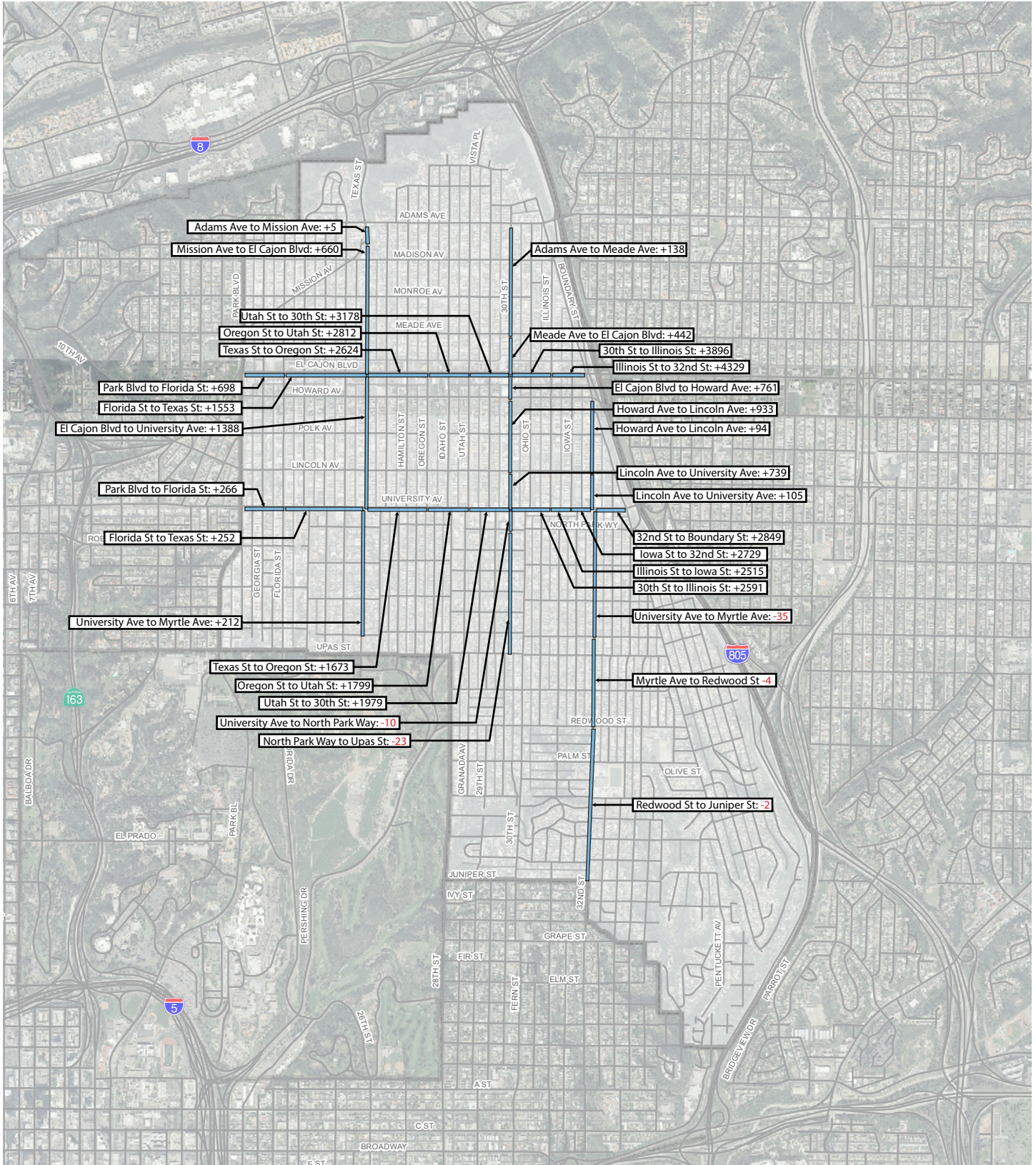
The City-provided TAZ changes were incorporated into the analysis completed for future year by adjusting roadway segment volumes where applicable given the location of the TAZ. Adjusted TAZs were residential and mixed land uses. Given the TAZs proximity to local freeways it was assumed that the trip distribution of these uses were similar and primarily distribute to and from the freeways via major local arterials. The collector roads feeding the local arterials were taken into account where applicable.

After daily trip volumes were adjusted and assigned to the roadway network, a comparative assessment was conducted between the previous roadway segment volumes and the adjusted roadway segment volumes. Typically, daily volumes fluctuate no more than 10% throughout a typical week (i.e., Tuesday, Wednesday, and Thursday typical weekdays). To ensure changes in ADT weren't attributed to this daily volume fluctuation, segments were identified for further consideration if the volumes when compared to the original analysis were greater than a 5% difference for at least two consecutive segments, or greater than 10% for any single segment. Locations where changes resulted in less than this criteria was considered a marginal change whose impacts to the traffic analysis would likely be negligible or de minimis.

A full list of all TAZ assumptions and the corresponding change in volume along each roadway segment can be seen in the Attachments.









## Locations Requiring Additional Assessment

The locations described below and outlined in Exhibit 3 and 4 were selected for additional assessment using the criteria given the percent difference in volume subsequent to the updated residential densities. The updated results for these locations are provided in this evaluation. Significant impacts are not expected at the remaining CPU study intersection.

### *Roadway Segments*

Park Boulevard between Adams Avenue and El Cajon Boulevard: 5-6% decrease

30th Street between El Cajon Boulevard and University Avenue: 5-6% increase

El Cajon Boulevard between Texas Street and 32<sup>nd</sup> Street: 7-8% increase

Texas Street between El Cajon Boulevard and University Avenue: 9-11% increase

University Avenue between Texas Street and Boundary Street: 7-12% increase

### *Intersections*

#### 32. El Cajon Boulevard and Texas Street

- a. Increase movements to and from the east leg of intersection by 8%
- b. Increase movements to and from the south leg of intersection by 11%
- c. Increase movements that include the east and south leg by the higher value, 11%

#### 33. El Cajon Boulevard and 30th Street

- a. Increase movements to and from the east and west legs of intersection by 8%
- b. Increase movements to and from the south leg of intersection by 6%
- c. Increase movements that include the east or west leg and south leg by the higher value, 8%

#### 34. El Cajon Boulevard and I-805 SB Ramps

- a. Increase movements to and from the east and west leg of intersection by 7%

#### 35. El Cajon Boulevard and I-805 NB Ramps

- a. Increase movements to and from the west leg of intersection by 7%

#### 36. University Avenue and Texas Street

- a. Increase movements to and from the east leg of intersection by 7%
- b. Increase movements to and from the north leg of intersection by 9%
- c. Increase movements that include the east and north leg by the higher value, 9%

#### 37. University Avenue and 30th Street

- a. Increase movements to and from the east and west legs of intersection by 11%
- b. Increase movements to and from the north leg of intersection by 5%
- c. Increase movements that include the east or west leg and north leg by the higher value, 11%

#### 38. University Avenue and Boundary Street

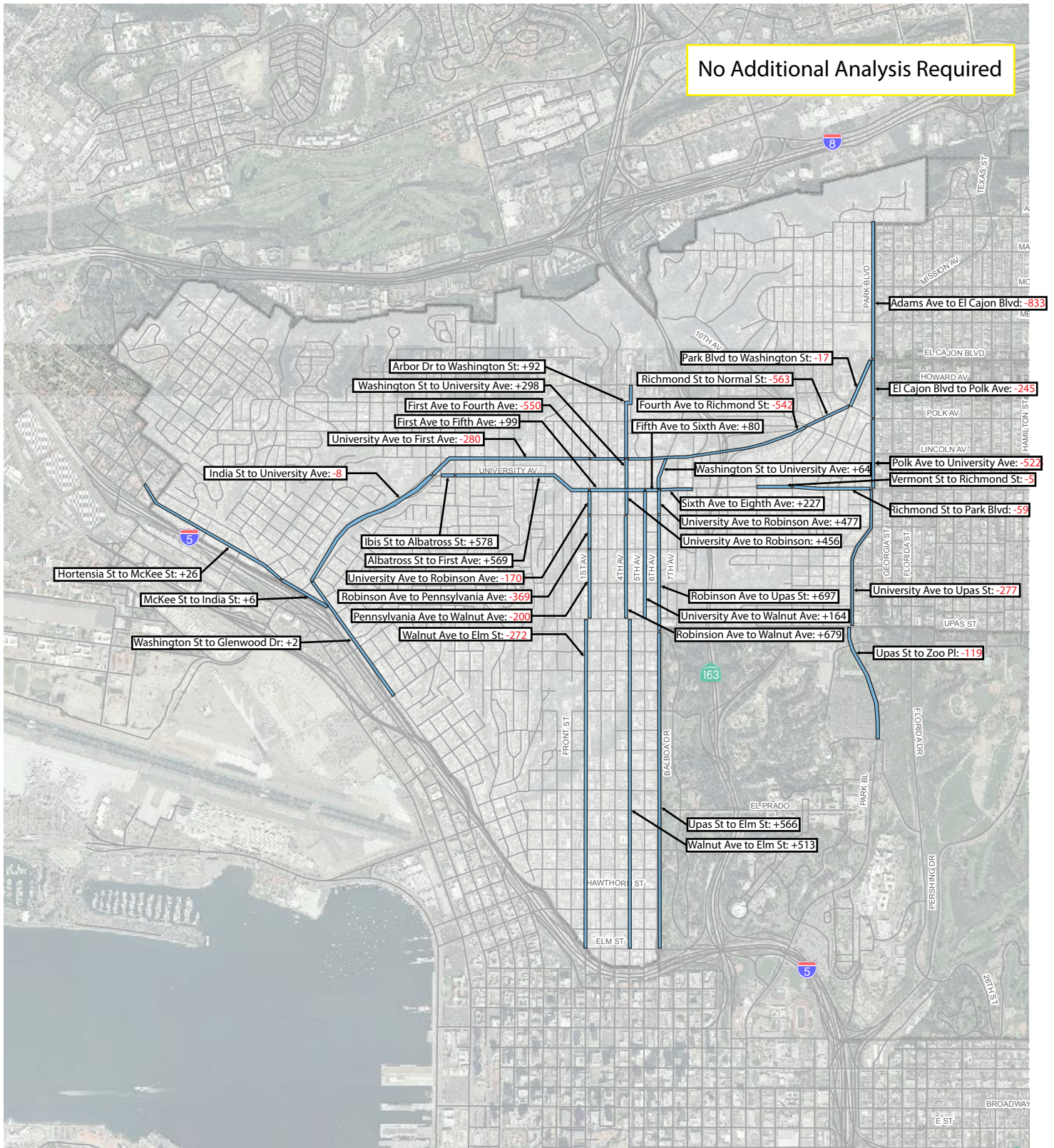
- a. Increase movements to and from the west leg of intersection by 10%

#### 39. University Avenue and I-805 NB Ramps

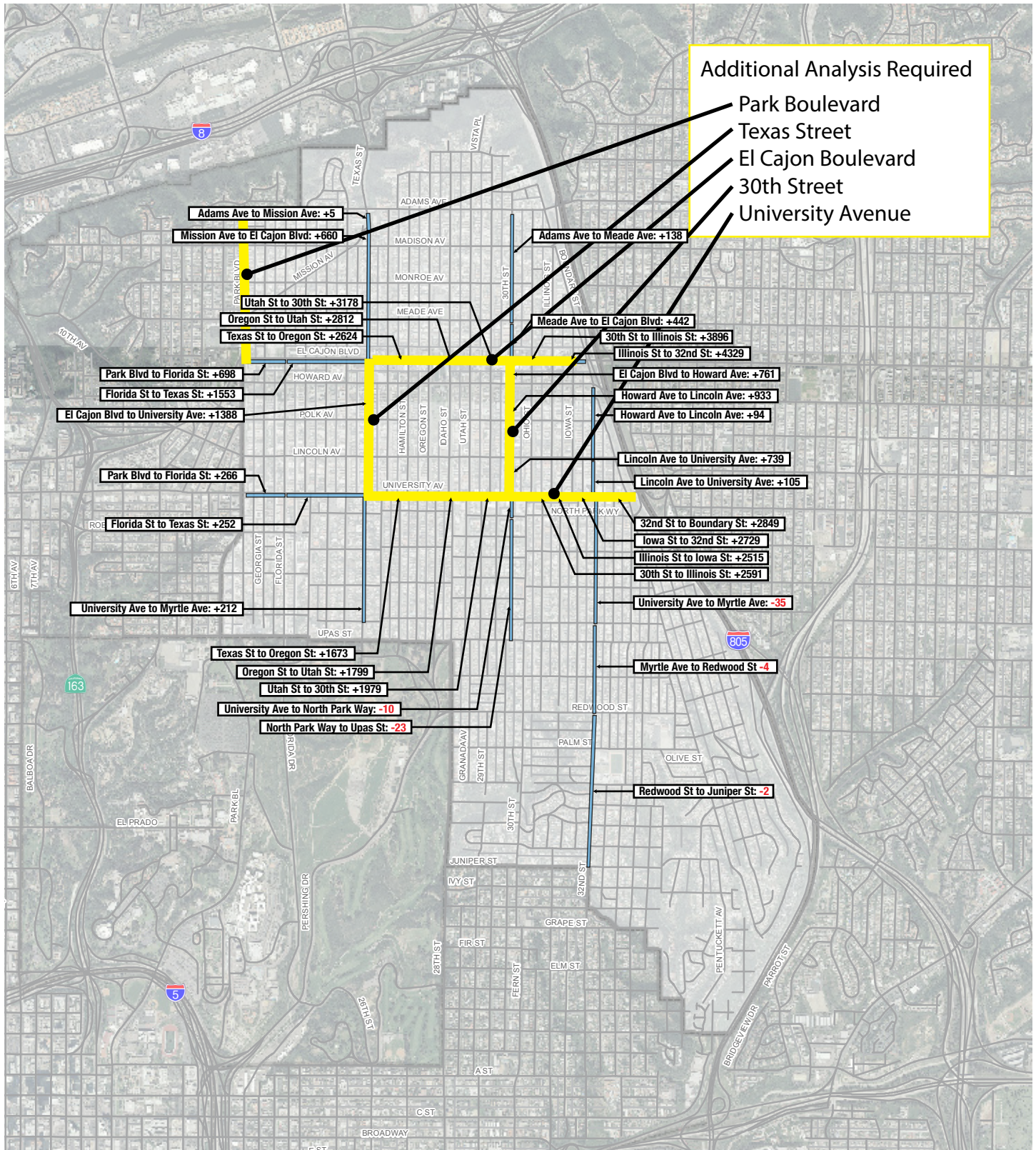
- a. Increase movements to and from the west leg of intersection by 5%

#### 40. North Park Way/I-805 SB Ramps and Boundary Street/33rd Street

- a. Increase movements to and from the north leg of intersection by 5%







No locations within the Uptown community would experience increase in volumes as a result of the residential density updates. All locations that may have potential impacts from the updated residential densities are within the North Park community. Park Boulevard would have a decrease in volumes.

## Potential Impacts to Roadway Segments

Table 1 provides a comparison of roadway segment analysis between the residential density assumptions originally studied in the CPU and the updated residential densities. Table 2 provides an updated roadway segment impact analysis when compared to existing conditions. The previous impact analysis tables are provided as an Attachment for reference, and would be updated with tables in this document.

The decrease in volumes on Park Boulevard would result in similar roadway operations. The volume reductions would not remove any potential impacts.

The increase in volumes on 30th Street would result in the segment between El Cajon Boulevard and Howard Avenue changing from a LOS D to a LOS E. This would be a new significant impact. To mitigate this impact, the segment would need to be widening to a 4-lane collector.

The increase in volumes on El Cajon Boulevard would result in the segment between Oregon Street and Utah Street changing from a LOS D to a LOS E. This would be a new significant impact. To mitigate this impact, the segment would need to be widened to an 8-lane major arterial or reclassified as a six-lane prime arterial (which would also require widening).

The increase in volumes on Texas Street would result in the segment between El Cajon Boulevard and Howard Avenue changing from a LOS D to a LOS E. This would be a new significant impact. To mitigate this impact, the segment would need to be widening to a 4-lane collector.

The increase in volumes on University Avenue would result in the same number and locations of significant impacts.

As discussed in the CPU study, recommended mitigations should be limited to modifications within the current public right of way. Mitigating the new impacts above would require widening of roadways and impacts to adjacent properties. The above mitigations are, therefore, not recommended.

## Potential Impacts to Intersections

Table 3 provides a comparison of intersection analysis between the residential density assumptions originally studied in the CPU and the updated residential densities. Table 4 provides an updated intersection impact analysis when compared to existing conditions. The previous impact analysis tables are provided as an Attachment for reference, and would be updated with tables in this document.

The increase in volumes would create a new significant impact at the intersection of University Avenue and Boundary Street during the PM peak. To mitigate this impact, the southbound approach would need to be restriped to have exclusive right-turn, through, and left-turn lanes. This would require repurposing of the right-of-way and a signal modification to adjust pole locations. The resulting post-mitigation results are provided in Table 5.

The increase in volumes would create a new significant impact at the intersection of University Avenue and I-805 Northbound Ramps during the AM peak. There was already an impact at this location during the PM peak. The previous mitigation identified at this location still applies and was not recommended.



The impacts at the intersections of El Cajon Boulevard and 30th Street, El Cajon Boulevard and I-805 Southbound Ramps, University Avenue and 30th Street, and North Park Way and I-805 SB Ramps are consistent with the previous impact evaluation. Mitigations identified in the original CPU analysis were not recommended at these locations and would continue to not be recommended for the same reasons.



ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOSE CAPACITY	CPU STUDY EVALUATION				UPDATED RESIDENTIAL DENSITIES			
			FUTURE ADT	V/C RATIO (a)	LOS	CHANGE IN ADT	FUTURE ADT	V/C RATIO (a)	LOS	
Park Blvd										
Adams Ave to Mission Ave	2 Lane Collector (continuous left-turn lane)	15,000	14,893	0.993	E	-832.8	14,060	0.937	E	
Mission Ave to El Cajon Blvd	3 Lane Collector (no center lane)	11,500	16,300	1.417	F	-832.8	15,467	1.345	F	
30th St										
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,684	0.846	D	760.5	13,445	0.896	E	
Howard Ave to Lincoln Ave	2 Lane Collector (continuous left-turn lane)	15,000	17,900	1.193	F	933.3	18,833	1.256	F	
Lincoln Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	14,000	0.933	E	738.9	14,739	0.983	E	
El Cajon Blvd										
Texas St to Oregon St	6 Lane Major Arterial	50,000	34,800	0.696	C	2623.95	37,424	0.748	C	
Oregon St to Utah St	6 Lane Major Arterial	50,000	42,800	0.856	D	2811.6	45,612	0.912	E	
Utah St to 30th St	6 Lane Major Arterial	50,000	39,800	0.796	C	3177.9	42,978	0.860	D	
30th St to Illinois St	6 Lane Major Arterial	50,000	48,800	0.976	E	3896.4	52,696	1.054	F	
Illinois St to I-805 Ramps	6 Lane Major Arterial	50,000	58,900	1.178	F	4329	63,229	1.265	F	
Texas St										
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,700	0.847	D	1338	14,038	0.936	E	
Howard Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	14,400	0.960	E	1338	15,738	1.049	F	
University Ave										
Texas St to Oregon St	4 Lane Collector (no center lane)	15,000	23,700	1.580	F	1672.95	25,373	1.692	F	
Oregon St to Utah St	4 Lane Collector (no center lane)	15,000	22,900	1.527	F	1798.8	24,699	1.647	F	
Utah St to 30th St	4 Lane Collector (no center lane)	15,000	20,800	1.387	F	1978.5	22,779	1.519	F	
30th St to Illinois St	3 Lane Collector (no center lane)	11,500	22,800	1.983	F	2591.4	25,391	2.208	F	
Illinois St to 32nd St	3 Lane Collector (no center lane)	11,500	22,600	1.965	F	2728.5	25,329	2.203	F	
32nd St to Boundary St	4 Lane Collector (no center lane)	15,000	29,600	1.973	F	2848.8	32,449	2.163	F	

Notes:

**Bold** values indicate roadway segments operating at LOS E or F.

Capacity for non-standard roadway classifications were provided by City of San Diego staff.

(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

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ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING		FUTURE		Δ in ADT	Δ in V/C	SIGNIFI CANT?		
			ADT	V/C RATIO (a)	LOS	ADT				V/C RATIO (a)	LOS
Park Blvd											
Adams Ave to Mission Ave	2 Lane Collector (continuous left-turn lane)	15,000	14,839	0.989	E	14,060	0.937	E	-779	-0.052	NO
Mission Ave to El Cajon Blvd	3 Lane Collector (no center lane)	11,500	11,806	1.027	F	15,467	1.345	F	3661	0.318	YES
30th St											
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,684	0.846	D	13,445	0.896	E	761	0.050	YES
Howard Ave to Lincoln Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,703	0.847	D	18,833	1.256	F	6130	0.409	YES
Lincoln Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,500	0.833	D	14,739	0.983	E	2239	0.150	YES
El Cajon Blvd											
Texas St to Oregon St	6 Lane Major Arterial	50,000	24,479	0.490	B	37,424	0.748	C	12945	0.258	NO
Oregon St to Utah St	6 Lane Major Arterial	50,000	32,468	0.649	C	45,612	0.912	E	13144	0.263	YES
Utah St to 30th St	6 Lane Major Arterial	50,000	32,191	0.644	C	42,978	0.860	D	10787	0.216	NO
30th St to Illinois St	6 Lane Major Arterial	50,000	39,116	0.782	C	52,696	1.054	F	13580	0.272	YES
Illinois St to I-805 Ramps	6 Lane Major Arterial	50,000	46,062	0.921	E	63,229	1.265	F	17167	0.344	YES
Texas St											
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	10,404	0.694	D	14,038	0.936	E	3634	0.242	YES
Howard Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	9,461	0.631	C	15,738	1.049	F	6277	0.418	YES
University Ave											
Texas St to Oregon St	4 Lane Collector (no center lane)	15,000	20,058	1.337	F	25,373	1.692	F	5315	0.355	YES
Oregon St to Utah St	4 Lane Collector (no center lane)	15,000	20,361	1.357	F	24,699	1.647	F	4338	0.290	YES
Utah St to 30th St	4 Lane Collector (no center lane)	15,000	19,173	1.278	F	22,779	1.519	F	3606	0.241	YES
30th St to Illinois St	3 Lane Collector (no center lane)	11,500	21,100	1.835	F	25,391	2.208	F	4291	0.373	YES
Illinois St to 32nd St	3 Lane Collector (no center lane)	11,500	19,644	1.708	F	25,329	2.203	F	5685	0.495	YES
32nd St to Boundary St	4 Lane Collector (no center lane)	15,000	25,568	1.705	F	32,449	2.163	F	6881	0.458	YES

Notes:  
**Bold** values indicate roadway segments operating at LOS E or F.  
 Capacity for non-standard roadway classifications were provided by City of San Diego staff.  
 (a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

		INTERSECTION	PEAK HOUR	CPU STUDY EVALUATION		UPDATED RESIDENTIAL DENSITIES	
				DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
32	El Cajon Blvd & Texas St		AM	37.6	D	38.9	D
			PM	85.3	F	100.3	F
33	El Cajon Blvd & 30th St		AM	29.7	C	31.4	C
			PM	68.1	E	84.4	F
34	El Cajon Blvd & I-805 SB Ramps		AM	21.9	C	24.3	C
			PM	96.8	F	119.9	F
35	El Cajon Blvd & I-805 NB Ramps		AM	30.1	C	32.3	C
			PM	24.7	C	25.3	C
36	University Ave & Texas St		AM	25.5	C	35.2	D
			PM	49.5	D	48.1	D
37	University Ave & 30th St		AM	26.5	C	26.9	C
			PM	57.8	E	73.7	E
38	University Ave & Boundary St		AM	26.0	C	30.2	C
			PM	50.0	D	60.4	E
39	University Ave & I-805 NB Ramps		AM	45.5	D	58.8	E
			PM	80.9	F	93.9	F
40	North Park Way/I-805 SB Ramps & Boundary St		AM	18.1	C	20.7	C
			PM	134.8	F	45.2	E

Notes:

**Bold** values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8

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	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	Existing		Future		SIGNIFICANT?
				DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	Δ (c)
32	El Cajon Blvd & Texas St	Signal	AM	35.9	D	38.9	D	3.0
			PM	106.8	F	100.3	F	-6.5
33	El Cajon Blvd & 30th St	Signal	AM	26.0	C	31.4	C	5.4
			PM	50.2	D	84.4	F	34.2
34	El Cajon Blvd & I-805 SB Ramps	Signal	AM	18.4	B	24.3	C	5.9
			PM	80.9	F	119.9	F	39.0
35	El Cajon Blvd & I-805 NB Ramps	Signal	AM	27.9	C	32.3	C	4.4
			PM	19.2	B	25.3	C	6.1
36	University Ave & Texas St	Signal	AM	19.5	B	35.2	D	15.7
			PM	72.7	E	48.1	D	-24.6
37	University Ave & 30th St	Signal	AM	25.0	C	26.9	C	1.9
			PM	49.2	D	73.7	E	24.5
38	University Ave & Boundary St	Signal	AM	23.0	C	30.2	C	7.2
			PM	42.1	D	60.4	E	18.3
39	University Ave & I-805 NB Ramps	Signal	AM	29.0	C	58.8	E	29.8
			PM	35.6	D	93.9	F	58.3
40	North Park Way/I-805 SB Ramps & Boundary St/33rd St	All-Way Stop	AM	18.1	C	20.7	C	2.6
			PM	10.6	B	45.2	E	34.6

Notes:

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(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8

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INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	Future Before Mitigation		Future After Mitigation	
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
38 University Ave & Boundary St	Signal	AM	30.2	C	29.8	C
		PM	60.4	E	53.9	D

Notes:

**Bold** values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 8

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## *Attachments*

- *TAZ Distribution Assumptions*
- *Original Roadway Segment Impact Analysis Summary*
- *Original Intersection Impact Analysis Summary*
- *Synchro Worksheets*

ATTACHMENT  
FUTURE Without Lane Reductions – Original Evaluation  
Roadway Segment Impact Analysis Summary

ROADWAY SEGMENT	ROADWAY FUNCTIONAL CLASSIFICATION	LOS E CAPACITY	EXISTING			FUTURE			Δ in ADT	Δ in V/C	SIGNIFICANT?
			ADT	V/C RATIO (a)	LOS	ADT	V/C RATIO (a)	LOS			
<b>Park Blvd</b>											
Adams Ave to Mission Ave	2 Lane Collector (continuous left-turn lane)	15,000	14,839	0.989	E	14,893	0.993	E	54	0.004	NO
Mission Ave to El Cajon Blvd	3 Lane Collector (no center lane)	11,500	11,806	1.027	F	16,300	1.417	F	4,494	0.390	YES
<b>30th St</b>											
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,684	0.846	D	12,684	0.846	E	0	0.000	NO
Howard Ave to Lincoln Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,703	0.847	D	17,900	1.193	F	5,197	0.346	YES
Lincoln Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	12,500	0.833	D	14,000	0.933	E	1,500	0.100	YES
<b>El Cajon Blvd</b>											
Texas St to Oregon St	6 Lane Major Arterial	50,000	24,479	0.490	B	34,800	0.696	C	10,321	0.206	NO
Oregon St to Utah St	6 Lane Major Arterial	50,000	32,468	0.649	C	42,800	0.856	E	10,332	0.207	NO
Utah St to 30th St	6 Lane Major Arterial	50,000	32,191	0.644	C	39,800	0.796	D	7,609	0.152	NO
30th St to Illinois St	6 Lane Major Arterial	50,000	39,116	0.782	C	48,800	0.976	F	9,684	0.194	YES
Illinois St to I-805 Ramps	6 Lane Major Arterial	50,000	46,062	0.921	E	58,900	1.178	F	12,838	0.257	YES
<b>Texas St</b>											
El Cajon Blvd to Howard Ave	2 Lane Collector (continuous left-turn lane)	15,000	10,404	0.694	D	12,700	0.847	E	2,296	0.153	NO
Howard Ave to University Ave	2 Lane Collector (continuous left-turn lane)	15,000	9,461	0.631	C	14,400	0.960	F	4,939	0.329	YES
<b>University Ave</b>											
Texas St to Oregon St	4 Lane Collector (no center lane)	15,000	20,058	1.337	F	23,700	1.580	F	3,642	0.243	YES
Oregon St to Utah St	4 Lane Collector (no center lane)	15,000	20,361	1.357	F	22,900	1.527	F	2,539	0.170	YES
Utah St to 30th St	4 Lane Collector (no center lane)	15,000	19,173	1.278	F	20,800	1.387	F	1,627	0.109	YES
30th St to Illinois St	3 Lane Collector (no center lane)	11,500	21,100	1.835	F	22,800	1.983	F	1,700	0.148	YES
Illinois St to 32nd St	3 Lane Collector (no center lane)	11,500	19,644	1.708	F	22,600	1.965	F	2,956	0.257	YES
32nd St to Boundary St	4 Lane Collector (no center lane)	15,000	25,568	1.705	F	29,600	1.973	F	4,032	0.268	YES

Notes:

**Bold** values indicate roadway segments operating at LOS E or F.

Capacity for non-standard roadway classifications were provided by City of San Diego staff.

(a) The v/c Ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.

ATTACHMENT  
FUTURE Without Lane Reductions - Original Evaluation  
Intersection Impact Analysis Summary

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	Existing		Future			
				DELAY (a)	LOS (b)	DELAY (a)	LOS (b)	$\Delta$ (c)	SIGNIFICANT?
32	El Cajon Blvd & Texas St	Signal	AM	35.9	D	37.6	D	1.7	NO
			PM	106.8	F	85.3	<b>F</b>	-21.5	NO
33	El Cajon Blvd & 30th St	Signal	AM	26.0	C	29.7	C	3.7	NO
			PM	50.2	D	68.1	<b>E</b>	17.9	<b>YES</b>
34	El Cajon Blvd & I-805 SB Ramps	Signal	AM	18.4	B	21.9	C	3.5	NO
			PM	80.9	<b>F</b>	96.8	<b>F</b>	15.9	<b>YES</b>
35	El Cajon Blvd & I-805 NB Ramps	Signal	AM	27.9	C	30.1	C	2.2	NO
			PM	19.2	B	24.7	C	5.5	NO
36	University Ave & Texas St	Signal	AM	19.5	B	25.5	C	6.0	NO
			PM	72.7	<b>E</b>	49.5	D	-23.2	NO
37	University Ave & 30th St	Signal	AM	25.0	C	26.5	C	1.5	NO
			PM	49.2	D	57.8	<b>E</b>	8.6	<b>YES</b>
38	University Ave & Boundary St	Signal	AM	23.0	C	26.0	C	3.0	NO
			PM	42.1	D	50.0	D	7.9	NO
39	University Ave & I-805 NB Ramps	Signal	AM	29.0	C	45.5	D	16.5	NO
			PM	35.6	D	80.9	<b>F</b>	45.3	<b>YES</b>
40	North Park Way/I-805 SB Ramps & Boundary St/33rd St	All-Way Stop	AM	18.1	C	18.1	C	0.0	NO
			PM	10.6	B	134.8	<b>F</b>	124.2	<b>YES</b>

Notes:

**Bold** values indicate intersections operating at LOS E or F.

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement.

(b) LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8

ROADWAY SEGMENT	TAZ 3109		TAZ 3143		TAZ 3145		TAZ 3180		TAZ 3182		TAZ 3225		TAZ 3227		TAZ 3277		TAZ 3280		TAZ 3281		TAZ 3385	
	Change in ADT = 6		Change in ADT = -24		Change in ADT = 72		Change in ADT = -24		Change in ADT = 6		Change in ADT = -6		Change in ADT = -138		Change in ADT = 234		Change in ADT = 450		Change in ADT = 24		Change in ADT = -84	
	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign
Archer Dr to Washington Ave				0		0		0		0		0		0		0		0		0		0
Washington Ave to University Ave				0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave				0		0		0		0		0		0		0		0		0		0
Robinson Ave to Pennsylvania Ave				0		0		0		0		0		0		0		0		0		0
Pennsylvania Ave to Walnut Ave				0		0		0		0		0		0		0		0		0		0
Walnut Ave to Laurel St				0		0		0		0		0		0		0		0		0		0
Laurel St to Juniper St				0		0		0		0		0		0		0		0		0		0
Juniper St to Grape St				0		0		0		0		0		0		0		0		0		0
Grape St to Elm St				0		0		0		0		0		0		0		0		0		0
Elm St																						
Archer Dr to Washington Ave				0		0		0		0		0		0		0		0		0		0
Washington Ave to University Ave				0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave				0		0		0		0		0		0		0		0		0		0
Robinson Ave to Walnut Ave				0		0		0		0		0		0		0		0		0		0
Walnut Ave to Laurel St				0		0		0		0		0		0		0		0		0		0
Laurel St to Grape St				0		0		0		0		0		0		0		0		0		0
Grape St to Elm St				0		0		0		0		0		0		0		0		0		0
Elm St																						
Washington Ave to University Ave				0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave				0		0		0		0		0		0		0		0		0		0
Robinson Ave to Walnut Ave				0		0		0		0		0		0		0		0		0		0
Walnut St to Laurel St				0		0		0		0		0		0		0		0		0		0
Laurel St to Hawthorn St				0		0		0		0		0		0		0		0		0		0
Hawthorn St to Grape St				0		0		0		0		0		0		0		0		0		0
Grape St to Elm St				0		0		0		0		0		0		0		0		0		0
Elm St																						
Washington St to University Ave				0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave				0		0		0		0		0		0		0		0		0		0
Robinson Ave to Upas St				0		0		0		0		0		0		0		0		0		0
Upas St to Laurel St				0		0		0		0		0		0		0		0		0		0
Laurel St to Juniper St				0		0		0		0		0		0		0		0		0		0
Juniper St to Grape St				0		0		0		0		0		0		0		0		0		0
Grape St to Elm St				0		0		0		0		0		0		0		0		0		0
Elm St																						
Washington St to Greenwood Dr				0		0		0		0		0		0		0		0		0		0
Greenwood Dr to Sanderson St				0		0		0		0		0		0		0		0		0		0
Sanderson St to Redwood St				0		0		0		0		0		0		0		0		0		0
Redwood St to Palm St				0		0		0		0		0		0		0		0		0		0
Palm St																						
Park Blvd to Washington St				0		0		0		0		0		0		0		0		0		0
Washington St to University Ave				0		0		0		0		0		0		0		0		0		0
Park Blvd																						
Adams Ave to Mission Ave				0		0		0		0		0		0		0		0		0		0
Mission Ave to El Capin Blvd				0		0		0		0		0		0		0		0		0		0
El Capin Blvd to Polk Ave				0		0		0		0		0		0		0		0		0		0
Polk Ave to University Ave				0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave				0		0		0		0		0		0		0		0		0		0
Robinson Ave to Upas St				0		0		0		0		0		0		0		0		0		0
Upas St to Zoo Pl				0		0		0		0		0		0		0		0		0		0
Zoo Pl																						
San Diego Ave																						
Hortensia St to McKee St				0		0		0		0		0		0		0		0		0		0
McKee St to Washington St				0		0		0		0		0		0		0		0		0		0
Washington St to India St				0		0		0		0		0		0		0		0		0		0
University Ave																						
Ind St to Albarron St				0		0		0		0		0		0		0		0		0		0
Albarron St to First Ave				0		0		0		0		0		0		0		0		0		0
First Ave to Fifth Ave				0		0		0		0		0		0		0		0		0		0
Fifth Ave to Sixth Ave				0		0		0		0		0		0		0		0		0		0
Sixth Ave to Eighth Ave				0		0		0		0		0		0		0		0		0		0
Vermont St to Richmond St				0		0		0		0		0		0		0		0		0		0
Richmond St to Park Blvd				0		0		0		0		0		0		0		0		0		0
Park Blvd																						
Third Ave to South Ave				0		0		0		0		0		0		0		0		0		0
South Ave																						
Indiana St																						
India St to University Ave				0		0		0		0		0		0		0		0		0		0
University Ave to First Ave				0		0		0		0		0		0		0		0		0		0
First Ave to Fourth Ave				0		0		0		0		0		0		0		0		0		0
Fourth Ave to Fifth																						





ROADWAY SEGMENT	TAZ 4689		TAZ 4691		TAZ 4692		TAZ 4693		TAZ 4694		TAZ 4695		TAZ 4696		TAZ 4697		TAZ 4698		TAZ 4699		TAZ 4700			
	Change in ADT = 270		Change in ADT = 994		Change in ADT = -24		Change in ADT = 406		Change in ADT = -24		Change in ADT = 30		Change in ADT = 480		Change in ADT = 846		Change in ADT = 66		Change in ADT = 72		Change in ADT = 12			
	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign		
Park St																								
Acher Dr to Washington Ave		0		0		0		0		0		0		0		0		0		0		0		
Washington Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		
University Ave to Robinson Ave		0		0		0		0		0		0		0		0		0		0		0		
Robinson Ave to Pennsylvania Ave		0		0		0		0		0		0		0		0		0		0		0		
Pennsylvania Ave to Walnut Ave		0		0		0		0		0		0		0		0		0		0		0		
Walnut Ave to Laurel St		0		0		0		0		0		0		0		0		0		0		0		
Laurel St to Juniper St		0		0		0		0		0		0		0		0		0		0		0		
Juniper St to Grape St		0		0		0		0		0		0		0		0		0		0		0		
Grape St to Elm St		0		0		0		0		0		0		0		0		0		0		0		
Park St																								
Acher Dr to Washington Ave		0		0		0		0		0		0		0		0		0		0		0		
Washington Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		
University Ave to Robinson Ave		0		0		0		0		0		0		0		0		0		0		0		
Robinson Ave to Walnut Ave		0		0		0		0		0		0		0		0		0		0		0		
Walnut Ave to Laurel St		0		0		0		0		0		0		0		0		0		0		0		
Laurel St to Hawthorn St		0		0		0		0		0		0		0		0		0		0		0		
Hawthorn St to Grape St		0		0		0		0		0		0		0		0		0		0		0		
Grape St to Elm St		0		0		0		0		0		0		0		0		0		0		0		
Park St																								
Washington Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		
University Ave to Robinson Ave		0		0		0		0		0		0		0		0		0		0		0		
Robinson Ave to Walnut Ave		0		0		0		0		0		0		0		0		0		0		0		
Walnut St to Laurel St		0		0		0		0		0		0		0		0		0		0		0		
Laurel St to Hawthorn St		0		0		0		0		0		0		0		0		0		0		0		
Hawthorn St to Grape St		0		0		0		0		0		0		0		0		0		0		0		
Grape St to Elm St		0		0		0		0		0		0		0		0		0		0		0		
Park St																								
Washington St to University Ave		0		0		0		0		0		0		0		0		0		0		0		
University Ave to Robinson Ave		0		0		0		0		0		0		0		0		0		0		0		
Robinson Ave to Upas St		0		0		0		0		0		0		0		0		0		0		0		
Upas St to Laurel St		0		0		0		0		0		0		0		0		0		0		0		
Laurel St to Juniper St		0		0		0		0		0		0		0		0		0		0		0		
Juniper St to Grape St		0		0		0		0		0		0		0		0		0		0		0		
Grape St to Elm St		0		0		0		0		0		0		0		0		0		0		0		
Park St																								
Washington St to Glenwood Dr		0		0		0		0		0		0		0		0		0		0		0		
Glenwood Dr to Sandstone St		0		0		0		0		0		0		0		0		0		0		0		
Sandstone St to Redwood St		0		0		0		0		0		0		0		0		0		0		0		
Redwood St to Palm St		0		0		0		0		0		0		0		0		0		0		0		
Park Blvd to Washington St		0		0		0		0		0		0		0		0		0		0		0		
Washington St to University Ave		0		0		0		0		0		0		0		0		0		0		0		
Park Blvd																								
Adams Ave to Mission Ave		0		0		0		0		0		0		0		0		0		0		0		
Mission Ave to El Cajon Blvd		0		0		0		0		0		0		0		0		0		0		0		
El Cajon Blvd to Polk Ave		0		0		0		0		0		0		0		0		0		0		0		
Polk Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		
University Ave to Robinson Ave		0		0		0		0		0		0		0		0		0		0		0		
Robinson Ave to Upas St		0		0		0		0		0		0		0		0		0		0		0		
Upas St to Zoo Pl		0		0		0		0		0		0		0		0		0		0		0		
San Diego Ave																								
Hortense St to McKee St		0		0		0		0		0		0		0		0		0		43.2		0		
McKee St to Washington St		0		0		0		0		0		0		0		0		0		0		0		
Washington St to India St		0		0		0		0		0		0		0		0		0		0		0		
University Ave																								
Ind St to Abbott St		0		0		0		0		0		0		0		0		0		0		0		
Abbott St to First Ave		0		0		0		0		0		0		0		0		0		0		0		
First Ave to Fifth Ave		0		0		0		0		0		0		0		0		0		0		0		
Fifth Ave to Sixth Ave		0		0		0		0		0		0		0		0		0		0		0		
Sixth Ave to Eighth Ave		0		0		0		0		0		0		0		0		0		0		0		
Vermont St to Richmond St		0		0		0		0		0		0		0		0		0		0		0		
Richmond St to Park Blvd		0		0		0		0		0		0		0		0		0		0		0		
Park Blvd																								
Third Ave to South Ave		0		0		0		0		0		0		0		0		0		0		0		
Washington St																								
India St to University Ave		0		0		0		0		0		0		0		0		0		0		0		
University Ave to First Ave		0		0		0		0		0		0		0		0		0		0		0		
First Ave to Fourth Ave		0		0		0		0		0		0		0		0		0		0		0		
Fourth Ave to Fifth Ave		0		0		0		0		0		0		0		0		0		0		0		
Fifth Ave to Sixth Ave		0		0		0		0		0		0		0		0		0		0		0		
Sixth Ave to Richmond St		0		0		0		0		0		0		0		0		0		0		0		
Richmond St to Normal St		0		0		0		0		0		0		0		0		0		0		0		
Park St																								
Adams Ave to Meade Ave		0		0		0		0		0		100%		30		0		0		60%		43.2		0
Meade Ave to El Cajon Blvd	30%	81		100%		0		0		0		100%		30		30%		144		0		0		
El Cajon Blvd to Howard Ave	30%	81	35%	207.9		30%	-7.2	30%	122.4		30%	-7.2	30%	144		30%		144		0		0		
Howard Ave to Lincoln Ave	30%	81	60%	386.1		30%	-7.2	30%	122.4		30%	-7.2	30%	144		30%		144		30%		19.8		
Lincoln Ave to University Ave	35%	94.5	30%	178.2		30%	-7.2	30%	122.4		30%	-7.2	30%	9		30%		144		0		0		
University Ave to North Park Way		0		0		0		0		30%		-7.2	0				0		30%		19.8		0	
North Park Way Ave to Upas St		0		0		0		0		0		0		0		0		0		0		0		
Upas St to Redwood St		0		0		0		0		0		0		0		0		0		0		0		
Redwood St to Juniper St		0		0		0		0		0		0		0		0		0		0		0		
32nd St																								
Howard Ave to Lincoln Ave		0		0		0		0		0		0		0		0		0		0		0		
Lincoln Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		
University Ave to Myrtle Ave		0		0		0		0		0		0		0		0		0		0		0		
Myrtle Ave to Upas St		0		0		0		0		0		0		0		0		0		0		0		
Upas St to Redwood St		0		0		0		0		0		0		0		0		0		0		0		
Redwood St to Juniper St		0		0		0		0		0		0		0		0		0		0		0		
Park Blvd to Florida St		0		0		0		0		0		0		0		0		0		0		0		
Florida St to Texas St		0		0		0		0		0		0		0		0		0		0		0		
Texas St to Oregon St		0		0		0		0		0		0		0		70%		592.2		0		0		
Oregon St to Utah St		0		0		0		0		0		0		0		70%		592.2		0		0		
Utah St to 30th St		0	35%	207.9		0		0		0		0		0		70%		592.2		0		0		
30th St to Illinois St	30%	81	70%	415.8		30%	-7.2	30%	142.8		30%	-7.2	70%	21		35%		168		70%		19.8		

LAND USE CHANGES																						
ROADWAY SEGMENT	TAZ 4751		TAZ 4755		TAZ 4758		TAZ 4758		TAZ 4714		TAZ 4715		TAZ 4716		TAZ 4734		TAZ 4735		TAZ 4736		TAZ 4737	
	Change in ADT = 1140		Change in ADT = 36		Change in ADT = -24		Change in ADT = -150		Change in ADT = 162		Change in ADT = -152		Change in ADT = 186		Change in ADT = 168		Change in ADT = 168		Change in ADT = 162		Change in ADT = 150	
	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign
UPTOWN																						
Archer Dr to Washington Ave	0		0		0		0		0		0		0		0		0		0		0	
Washington Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Pennsylvania Ave	0		0		0		0		0		0		0		0		0		0		0	
Pennsylvania Ave to Walnut Ave	0		0		0		0		0		0		0		0		0		0		0	
Walnut Ave to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Juniper St	0		0		0		0		0		0		0		0		0		0		0	
Juniper St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Elm St																						
Archer Dr to Washington Ave	0		0		0		0		0		0		0		0		0		0		0	
Washington Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Walnut Ave	0		0		0		0		0		0		0		0		0		0		0	
Walnut Ave to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Elm St																						
Washington Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Walnut Ave	0		0		0		0		0		0		0		0		0		0		0	
Walnut St to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Hawthorn St	0		0		0		0		0		0		0		0		0		0		0	
Hawthorn St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Elm St																						
Washington St to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Upas St	0		0		0		0		0		0		0		0		0		0		0	
Upas St to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Juniper St	0		0		0		0		0		0		0		0		0		0		0	
Juniper St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Elm St																						
Washington St to Greenwood Dr	0		0		0		0		0		0		0		0		0		0		0	
Greenwood Dr to Sanderson St	0		0		0		0		0		0		0		0		0		0		0	
Sanderson St to Redwood St	0		0		0		0		0		0		0		0		0		0		0	
Redwood St to Palm St	0		0		0		0		0		0		0		0		0		0		0	
Palm St																						
Park Blvd to Washington St	0		0		0		0		0		0		0		0		0		0		0	
Washington St to University Ave	0		0		0		0		0		0		0		0		0		0		0	
Park Blvd																						
Adams Ave to Mission Ave	0		0		0		0		0		0		0		0		0		0		0	
Mission Ave to El Cajon Blvd	0		0		0		0		0		0		0		0		0		0		0	
El Cajon Blvd to Howard Ave	0		0		0		0		0		0		0		0		0		0		0	
Howard Ave to Lincoln Ave	0		0		0		0		0		0		0		0		0		0		0	
Lincoln Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Upas St	0		0		0		0		0		0		0		0		0		0		0	
Upas St to Zoo Pl	0		0		0		0		0		0		0		0		0		0		0	
Zoo Pl																						
San Diego Ave																						
Hortensia St to McKee St	0		0		0		0		0		0		0		0		0		0		0	
McKee St to Washington St	0		0		0		0		0		0		0		0		0		0		0	
Washington St to India St	0		0		0		0		0		0		0		0		0		0		0	
India St																						
Bin St to Albarron St	0		0		0		0		0		0		0		0		0		0		0	
Albarron St to First Ave	0		0		0		0		0		0		0		0		0		0		0	
First Ave to Fifth Ave	0		0		0		0		0		0		0		0		0		0		0	
Fifth Ave to Sixth Ave	0		0		0		0		0		0		0		0		0		0		0	
Sixth Ave to Eighth Ave	0		0		0		0		0		0		0		0		0		0		0	
Vermont St to Richmond St	0		0		0		0		0		0		0		0		0		0		0	
Richmond St to Park Blvd	0		0		0		0		0		0		0		0		0		0		0	
Park Blvd																						
Third Ave to South Ave	0		0		0		0		0		0		0		0		0		0		0	
South Ave																						
Indiana St																						
India St to University Ave	0		0		0		0		0		0		0		0		0		0		0	

ROADWAY SEGMENT	TAZ 4740		TAZ 4741		TAZ 3142		TAZ 3163		TAZ 3186		TAZ 3216		TAZ 3220		TAZ 3229		TAZ 3282		TAZ 3296		TAZ 3303	
	Change in ADT = -396		Change in ADT = 204		Change in ADT = -24		Change in ADT = -102		Change in ADT = -546		Change in ADT = -168		Change in ADT = -6		Change in ADT = -6		Change in ADT = 42		Change in ADT = -86		Change in ADT = -78	
	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign
Archer Dr to Washington Ave	0		0		0		0		0		0		0		0		0		0		0	
Washington Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Pennsylvania Ave	0		0		0		0		0		0		0		0		0		0		0	
Pennsylvania Ave to Walnut Ave	0		0		0		0		0		0		0		0		0		0		0	
Walnut Ave to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Juniper St	0		0		0		0		0		0		0		0		0		0		0	
Juniper St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Elm St																						
Archer Dr to Washington Ave	0		0		0		0		0		0		0		0		0		0		0	
Washington Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Walnut Ave	0		0		0		0		0		0		0		0		0		0		0	
Walnut Ave to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Elm St																						
Washington Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Walnut Ave	0		0		0		0		0		0		0		0		0		0		0	
Walnut St to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Hawthorn St	0		0		0		0		0		0		0		0		0		0		0	
Hawthorn St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Elm St																						
Washington St to University Ave	0		0		0		0		0		0		0		0		0		30%	-28.8		0
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0					0
Robinson Ave to Upas St	0		0		0		0		0		0		0		0		0					0
Upas St to Laurel St	0		0		0		0		0		0		0		0		0					0
Laurel St to Juniper St	0		0		0		0		0		0		0		0		0					0
Juniper St to Grape St	0		0		0		0		0		0		0		0		0					0
Grape St to Elm St	0		0		0		0		0		0		0		0		0					0
Elm St																						
Washington St to Greenwood Dr	0		0		0		0		0		0		0		0		0					0
Greenwood Dr to Sanderson St	0		0		0		0		0		0		0		0		0					0
Sanderson St to Redwood St	0		0		0		0		0		0		0		0		0					0
Redwood St to Palm St	0		0		0		0		0		0		0		0		0					0
Palm St																						
Park Blvd to Washington St	0		0		70%	-16.8		0		0		0		0		0		0				0
Washington St to University Ave	0		0				0		0		0		0		0		0					0
Park Blvd																						
Adams Ave to Mission Ave	0		0		70%	-16.8	100%	-102	100%	-546	100%	-168		0		0		0				0
Mission Ave to El Cajon Blvd	0		0		70%	-16.8	100%	-102	100%	-546	100%	-168		0		0		0				0
El Cajon Blvd to Polk Ave	0		0				30%	-30.6	30%	-163.8	30%	-50.4		0		0		0				0
Polk Ave to University Ave	70%	-277.2	0			0	30%	-30.6	30%	-163.8	30%	-50.4		0		0		0				0
University Ave to Robinson Ave	70%	-277.2	0			0		0		0		0		0		0		0				0
Robinson Ave to Upas St	70%	-277.2	0			0		0		0		0		0		0		0				0
Upas St to Zoo Pl	30%	-118.8	0			0		0		0		0		0		0		0				0
Zoo Pl																						
San Diego Ave																						
Hortensia St to McKee St	0		0		0		0		0		0		0		0		0		0			0
McKee St to Washington St	0		0		0		0		0		0		0		0		0		0			0
Washington St to India St	0		0		0		0		0		0		0		0		0		0			0
India St																						
University Ave																						
Bin St to Albatross St	0		0		0		0		0		0		0		0		0		0		30%	-23.4
Albatross St to First Ave	0		0		0		0		0		0		0		0		0		0		30%	-23.4
First Ave to Fifth Ave	0		0		0		0		0		0		0		0		0		0		30%	-23.4
Fifth Ave to Sixth Ave	0		0		0		0		0		0		0		0		0		0		30%	-23.4
Sixth Ave to Eighth Ave	0		0		0		0		0		0		0		0		0		30%	-28.8	30%	-23.4
Vermont St to Richmond St	0		0		70%	-16.8	30%	-30.6	30%	-163.8	30%	-50.4		0		0		0		30%	30%	-23.4
Richmond St to Park Blvd	0		0		70%	-16.8	30%	-71.4	30%	-163.8	30%	-50.4		0		0		0		30%	30%	-23.4
Park Blvd																						
Third Ave to South Ave	0		0		0		0		0		0		0		0		0					0
South Ave																						

ROADWAY SEGMENT	TAZ 3316		TAZ 3317		TAZ 3318		TAZ 3336		TAZ 3337		TAZ 3341		TAZ 3348		TAZ 3383		TAZ 3384		TAZ 3389		TAZ 3391	
	Change in ADT = -30		Change in ADT = 66		Change in ADT = -12		Change in ADT = 54		Change in ADT = 6		Change in ADT = 168		Change in ADT = -126		Change in ADT = 284		Change in ADT = -42		Change in ADT = 276		Change in ADT = 6	
	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign
Archer Dr to Washington Ave	0		0		0		0		0		0		0		0		0		0		0	
Washington Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Pennsylvania Ave	0		0		0		0		0		0		0		0		0		0		0	
Pennsylvania Ave to Walnut Ave	0		0		0		0		0		0		0		0		0		0		0	
Walnut Ave to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Juniper St	0		0		0		0		0		0		0		0		0		0		0	
Juniper St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Archer Dr to Washington Ave	0		0		0		0		0		0		0		35%	92.4		0		0		0
Washington Ave to University Ave	0		0		0		0		0		0		0		35%	92.4		0		0		0
University Ave to Robinson Ave	0		0		0		0		0		0		0		35%	92.4		0		0		0
Robinson Ave to Walnut Ave	0		0		0		0		0		0		0		35%	92.4		0		0		0
Walnut Ave to Laurel St	0		0		0		0		0		0		0		35%	92.4		0		0		0
Laurel St to Grape St	0		0		0		0		0		0		0		35%	92.4		0		0		0
Grape St to Elm St	0		0		0		0		0		0		0		35%	92.4		0		0		0
Washington Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Walnut Ave	0		0		0		0		0		0		0		0		0		0		0	
Walnut St to Laurel St	0		0		0		0		0		0		0		0		0		0		0	
Laurel St to Hawthorn St	0		0		0		0		0		0		0		0		0		0		0	
Hawthorn St to Grape St	0		0		0		0		0		0		0		0		0		0		0	
Grape St to Elm St	0		0		0		0		0		0		0		0		0		0		0	
Washington St to University Ave	0		0		0		0		0		0		0		35%	92.4		0		0		0
University Ave to Robinson Ave	0		0		0		0		0		0		0		35%	92.4		0		30%	82.8	0
Robinson Ave to Upas St	0		0		0		0		0		0		0		35%	92.4		0		30%	82.8	0
Upas St to Laurel St	0		0		0		0		0		0		0		35%	92.4		0		30%	82.8	0
Laurel St to Juniper St	0		0		0		0		0		0		0		35%	92.4		0		30%	82.8	0
Juniper St to Grape St	0		0		0		0		0		0		0		35%	92.4		0		30%	82.8	0
Grape St to Elm St	0		0		0		0		0		0		0		35%	92.4		0		30%	82.8	0
Washington St to Greenwood Dr	0		0		0		0		0		0		0		0		0		0		0	
Greenwood Dr to Sanderson St	0		0		0		0		0		0		0		0		0		0		0	
Sanderson St to Redwood St	0		0		0		0		0		0		0		0		0		0		0	
Redwood St to Palm St	0		0		0		0		0		0		0		0		0		0		0	
Park Blvd to Washington St	0		0		0		0		0		0		0		0		0		0		0	
Washington St to University Ave	0		0		0		0		0		0		0		0		0		0		0	
Adams Ave to Mission Ave	0		0		0		0		0		0		0		0		0		0		0	
Mission Ave to El Capin Blvd	0		0		0		0		0		0		0		0		0		0		0	
El Capin Blvd to Polk Ave	0		0		0		0		0		0		0		0		0		0		0	
Polk Ave to University Ave	0		0		0		0		0		0		0		0		0		0		0	
University Ave to Robinson Ave	0		0		0		0		0		0		0		0		0		0		0	
Robinson Ave to Upas St	0		0		0		0		0		0		0		0		0		0		0	
Upas St to Zoo Pl	0		0		0		0		0		0		0		0		0		0		0	
Hortensia Ave	0		0		0		0		0		0		0		0		0		0		0	
Hortensia St to McKee St	0		0		0		0		0		0		0		0		0		0		0	
McKee St to Washington St	0		0		0		0		0		0		0		0		0		0		0	
Washington St to India St	0		0		0		0		0		0		0		0		0		0		0	
Bin St to Albarron St	0	30%	19.8	0	30%	18.2	70%	4.2	0	30%	-37.8	30%	79.2	0	0	0	0	0	100%	6	0	0
Albarron St to First Ave	0	30%	19.8	0	30%	18.2	0	0	0	30%	-37.8	30%	79.2	0	0	0	0	0	30%	1.8	0	0
First Ave to Fifth Ave	0	30%	19.8	0	30%	18.2	0	0	0	30%	-37.8	30%	79.2	0	0	0	0	0	30%	1.8	0	0
Fifth Ave to Sixth Ave	0	30%	19.8	0	30%	18.2	0	0	0	30%	-37.8	30%	79.2	0	0	0	0	0	30%	1.8	0	0
Sixth Ave to Eighth Ave	0	30%	19.8	0	30%	18.2	0	0	0	30%	-37.8	30%	79.2	0	0	0	0	0	70%	193.2	30%	1.8
Vermont St to Richmond St	0	30%	19.8	0	30%	18.2	0	0	0	30%	50.4	30%	-37.8	0	0	0	0	0	70%	193.2	30%	1.8
Richmond St to Park Blvd	0	30%	19.8	0	30%	18.2	0	0	0	30%	50.4	30%	-37.8	0	30%	193.2	-12.6	70%	193.2	30%	1.8	0
Third Ave to South Ave	0		0		0		0		0		0		0		0		0		0		0	
India St to University Ave	70%	-21	70%	48.2	70%	-8.4	70%	37.8	0	70%	117.6	70%	-88.2	0	70%	-29.4	0	70%	-29.4	0	70%	4.2
University Ave to First Ave	70%	-21	0	0	70%	-8.4	0	0	70%	117.6	0	0	0	70%	-29.4	0	70%	-29.4	0	70%	-29.4	0
First Ave to Fourth Ave	70%	-21	0	0	70%	-8.4	0	0	70%	117.6	0	0	0	70%	-29.4	0	70%	-29.4	0	70%	-29.4	0
Fourth Ave to Fifth Ave	70%	-21	0	0	70%	0	0	0	70%	117.6	0	0										

ROADWAY SEGMENT	TAZ 3392		TAZ 3411		TAZ 3414		TAZ 3424		TAZ 3468		TAZ 3487		TAZ 3472		TAZ 3473		TAZ 3485		TAZ 3486		TAZ 3495		TAZ 3523	
	Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =		Change in ADT =	
	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign	Dist %	Assign
Archer Dr to Washington Ave		0		0		0		0		0		0		0		0		0		0		0		0
Washington Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave		0		0		0		0	25%	163.5		0	50%	-27	50%	-306		0		0		0		0
Robinson Ave to Pennsylvania Ave		0		0		0		0	25%	163.5		0	80%	-43.2	80%	-489.6		0		0		0		0
Pennsylvania Ave to Walnut Ave		0		0		0		0		0		0	30%	-16.2	30%	-183.6		0		0		0		0
Walnut Ave to Laurel St		0		0		0		0		0		0	30%	-16.2	30%	-183.6	50%	30		0	100%	-102		0
Laurel St to Juniper St		0		0		0		0		0		0	30%	-16.2	30%	-183.6	50%	30		0	100%	-102		0
Juniper St to Grape St		0		0		0		0		0		0	30%	-16.2	30%	-183.6	50%	30		0	100%	-102		0
Grape St to Elm St		0		0		0		0		0		0	30%	-16.2	30%	-183.6	50%	30		0	100%	-102		0
Elm St																								
Archer Dr to Washington Ave		0		0		0		0		0		0		0		0		0		0		0		0
Washington Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave		0		0		0		0	30%	196.2		0		0		0		0		0		0		0
Robinson Ave to Walnut Ave		0		0		0		0	30%	196.2		0		0		0		0		0		0		0
Walnut Ave to Laurel St		0		0		0		0		0		0		0		0	50%	30		0		0		0
Laurel St to Grape St		0		0		0		0		0		0		0		0	50%	30		0		0		0
Grape St to Elm St		0		0		0		0		0		0		0		0	50%	30		0		0		0
Elm St																								
Washington Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave		0		0		0		0	25%	163.5		0		0		0		0		0		0		0
Robinson Ave to Walnut Ave		0		0		0		0	25%	163.5		0		0		0		0		0		0		0
Walnut St to Laurel St		0		0		0		0		0		0		0		0		0		0		0		0
Laurel St to Hawthorn St		0		0		0		0		0		0		0		0		0		0		0		0
Hawthorn St to Grape St		0		0		0		0		0		0		0		0		0		0		0		0
Grape St to Elm St		0		0		0		0		0		0		0		0		0		0		0		0
Elm St																								
Washington St to University Ave		0		0		0		0		0		0		0		0		0		0		0		0
University Ave to Robinson Ave		0	30%	3.6		0		0	20%	130.8		0		0		0		0		0		0		0
Robinson Ave to Upas St		0		0		0		0	20%	130.8		0		0		0		0		0		0		0
Upas St to Laurel St		0		0		0		0		0		0		0		0		0		0		0		0
Laurel St to Juniper St		0		0		0		0		0		0		0		0		0		0		0		0
Juniper St to Grape St		0		0		0		0		0		0		0		0		0		0		0		0
Grape St to Elm St		0		0		0		0		0		0		0		0		0		0		0		0
Elm St																								
Washington St to Greenwood Dr		0		0	25%	25.5	25%	-4.5		0	25%	3		0		0		0	25%	-22.5		0		0
Greenwood Dr to Sanderson St		0		0	25%	25.5	25%	-4.5		0	25%	3		0		0		0	25%	-22.5		0		0
Sanderson St to Redwood St		0		0		0		0		0		0		0		0		0		0		0		0
Redwood St to Palm St		0		0		0		0		0		0		0		0		0		0		0		0
Palm St																								
Park Blvd to Washington St		0		0		0		0		0		0		0		0		0		0		0		0
Washington St to University Ave		0		0		0		0		0		0		0		0		0		0		0		0
Park Blvd																								
Adams Ave to Mission Ave		0		0		0		0		0		0		0		0		0		0		0		0
Mission Ave to El Cajon Blvd		0		0		0		0		0		0		0		0		0		0		0		0
El Cajon Blvd to Howard Ave		0		0		0		0		0		0		0		0		0		0		0		0
Howard Ave to Lincoln Ave		0		0		0		0		0		0		0		0		0		0		0		0
Lincoln Ave to University Ave		0		0		0		0		0		0		0		0		0		0		0		0
University Ave to North Park Way		0		0		0		0		0		0		0		0		0		0		0		0
North Park Way Ave to Upas St		0		0		0		0		0		0		0		0		0		0		0		0
Upas St to Redwood St		0		0		0		0		0		0		0		0		0		0		0		0
Redwood St to Zoo Pl		0		0		0		0		0		0		0		0		0		0		0		0
Zoo Pl																								
San Diego Ave																								
Hortensia St to McKee St		0		0	25%	25.5		0		0		0		0		0		0		0	25%	-22.5		0
McKee St to Washington St		0		0	25%	25.5		0		0	25%	3		0		0		0		0	25%	-22.5		0
University Ave		0		0	25%	25.5		0		0	25%	3		0		0		0		0	25%	-22.5		0
Bin St to Alhambra St		0		0		0		0		0		0		0		0		0		0		0		0
Alhambra St to First Ave		0		0		0		0	50%	327		0		0		0		0		0		0		0
First Ave to Fifth Ave	70%	-4.2		0		0		0	50%	327		0	70%	-37.8	70%	-428.4		0		0		0		0
Fifth Ave to Sixth Ave	70%	-4.2		0		0		0	50%	327		0	70%	-37.8	70%	-428.4		0		0		0		0
Sixth Ave to Eighth Ave																								




ROADWAY SEGMENT	TAZ 4710		TAZ 4713						NOTES
	Change in ADT =		Change in ADT =		2035 ADT	Total ADT Change	% Change	Resulting 2035 ADT	
	Dist %	Assign	Dist %	Assign					
Archer Dr to Washington Ave		0		0	7,500	0	0%	7500	
Washington Ave to University Ave		0		0	9,100	0	0%	9100	
University Ave to Robinson Ave		0		0	16,300	-169.5	-1%	16130	
Robinson Ave to Pennsylvania Ave		0		0	11,500	-360.3	-3%	11131	
Pennsylvania Ave to Walnut Ave		0		0	12,800	-199.5	-2%	12600	
Walnut Ave to Laurel St		0		0	11,900	-271.8	-2%	11628	
Laurel St to Juniper St		0		0	8,400	-271.8	-3%	8128	
Juniper St to Grape St		0		0	6,800	-271.8	-4%	6528	
Grape St to Elm St		0		0	4,500	-271.8	-6%	4228	
South Ave									
Archer Dr to Washington Ave		0		0	14,900	92.4	1%	14992	
Washington Ave to University Ave	15%	167.4	30%	37.8	18,400	297.6	3%	18698	
University Ave to Robinson Ave	15%	167.4		0	12,900	456	4%	13356	
Robinson Ave to Walnut Ave	35%	390.6		0	11,400	679.2	6%	12079	
Walnut Ave to Laurel St	35%	390.6		0	15,100	513	3%	15613	
Laurel St to Grape St	35%	390.6		0	13,700	513	4%	14213	
Grape St to Elm St	35%	390.6		0	9,700	513	5%	10213	
South Ave									
Washington Ave to University Ave		0		0	11,800	0	0%	11800	
University Ave to Robinson Ave		0		0	14,000	163.5	1%	14164	
Robinson Ave to Walnut Ave		0		0	15,800	163.5	1%	15964	
Walnut St to Laurel St		0		0	14,800	0	0%	14800	
Laurel St to Hawthorn St		0		0	14,400	0	0%	14400	
Hawthorn St to Grape St		0		0	14,300	0	0%	14300	
Grape St to Elm St		0		0	10,100	0	0%	10100	
South Ave									
Washington St to University Ave		0		0	45,100	63.6	0%	45164	
University Ave to Robinson Ave	15%	167.4		0	32,600	477	1%	33077	
Robinson Ave to Upas St	35%	390.6		0	29,900	696.6	2%	30597	
Upas St to Laurel St	35%	390.6		0	25,900	565.8	2%	26466	
Laurel St to Juniper St	35%	390.6		0	16,400	565.8	3%	17166	
Juniper St to Grape St	35%	390.6		0	18,700	565.8	3%	19266	
Grape St to Elm St	35%	390.6		0	20,300	565.8	3%	20866	
Julia St									
Washington St to Greenwood Dr		0		0	11,000	1.5	0%	11002	
Greenwood Dr to Sanatras St		0		0	18,700	1.5	0%	18702	
Sanatras St to Redwood St		0		0	30,000	0	0%	30000	
Redwood St to Palm St		0		0	21,300	0	0%	21300	
South Ave									
Park Blvd to Washington St		0		0	28,300	-16.8	0%	28283	
Washington St to University Ave		0		0	4,974	0	0%	4974	
Park Blvd									
Adams Ave to Mission Ave		0		0	14,803	-832.8	-6%	14060	
Mission Ave to El Cajon Blvd		0		0	16,300	-832.8	-5%	15467	
El Cajon Blvd to Polk Ave		0		0	18,600	-244.8	-1%	18355	
Polk Ave to University Ave		0		0	22,500	-522	-2%	21978	
University Ave to Robinson Ave		0		0	19,800	-277.2	-1%	19523	
Robinson Ave to Upas St		0		0	17,500	-277.2	-2%	16923	
Upas St to Zoo Pl		0		0	17,700	-118.8	-1%	17581	
San Diego Ave									
Hortensia St to McKee St		0		0	18,500	25.5	0%	18526	
McKee St to Washington St		0		0	18,200	6	0%	18206	
Washington St to India St		0		0	7,100	6	0%	7106	
University Ave									
Bin St to Albarron St	15%	167.4	15%	18.9	14,700	577.5	4%	15278	
Albarron St to First Ave	15%	167.4	15%	18.9	20,800	569.1	3%	21369	
First Ave to Fifth Ave	15%	167.4	15%	18.9	14,100	98.7	1%	14199	
Fifth Ave to Sixth Ave	15%	167.4		0	24,900	79.8	0%	24980	
Sixth Ave to Eighth Ave	15%	167.4		0	29,300	227.4	1%	29527	
Vermont St to Richmond St	15%	167.4		0	25,600	-5.4	0%	25595	
Richmond St to Park Blvd	15%	167.4		0	21,200	-58.8	0%	21141	
South Ave									
Third Ave to South Ave		0		0	8,500	0	0%	8500	
Richmond St									
India St to University Ave	15%	167.4	85%	107.1	24,800	-7.5	0%	24793	
University Ave to First Ave	15%	167.4	85%	107.1	25,400	-279.9	-1%	25120	
First Ave to Fourth Ave		0		0	25,745	-550.2	-2%	25195	
Fourth Ave to Fifth Ave		0		0	37,300	-541.8	-1%	36758	
Fifth Ave to Sixth Ave		0		0	41,100	-541.8	-1%	40558	
Sixth Ave to Richmond St		0		0	41,778	-541.8	-1%	41236	
Richmond St to Normal St		0		0	47,100	-562.8	-1%	46537	
30th St									
Adams Ave to Meade Ave		0		0	10,400	138	1%	10538	
Meade Ave to El Cajon Blvd		0		0	14,400	442.2	3%	14842	
El Cajon Blvd to Howard Ave		0		0	12,444	760.5	6%	13245	Recommend intersection evaluation adjustments
Howard Ave to Lincoln Ave		0		0	17,900	933.3	5%	18833	Recommend intersection evaluation adjustments
Lincoln Ave to University Ave		0		0	14,000	738.9	5%	14739	Recommend intersection evaluation adjustments
University Ave to North Park Way		0		0	12,500	-9.9	0%	12490	
North Park Way Ave to Upas St		0		0	16,500	-22.5	0%	16477	
Upas St to Redwood St	15%	167.4		0	11,900	0	0%	11900	Recommend intersection evaluation adjustments
Redwood St to Juniper St		0		0	12,100	0	0%	12100	
32nd St									
Howard Ave to Lincoln Ave		0		0	4,400	93.6	2%	4494	
Lincoln Ave to University Ave		0		0	3,300	104.4	3%	3404	
University Ave to Myrtle Ave		0		0	11,200	-34.8	0%	11165	
Myrtle Ave to Upas St		0		0	7,900	-4.2	0%	7896	
Upas St to Redwood St		0		0	5,200	-4.2	0%	5196	
Redwood St to Juniper St		0		0	2,600	-1.8	0%	2598	
El Cajon Blvd									
Park Blvd to Florida St		0		0	27,100	697.65	3%	27798	
Florida St to Texas St		0		0	34,600	1552.5	4%	36153	
Texas St to Oregon St		0		0	24,400	2621.95	9%	27424	Recommend intersection evaluation adjustments
Oregon St to Utah St		0		0	42,800	2811.6	7%	45612	Recommend intersection evaluation adjustments
Utah St to 30th St		0		0	39,800	3177.9	8%	42978	Recommend intersection evaluation adjustments
30th St to Illinois St		0		0	48,800	3896.4	8%	52696	Recommend intersection evaluation adjustments
Illinois St to 32nd St		0		0	58,900	4329	7%	63229	Recommend intersection evaluation adjustments
Florida Ave									
Adams Ave to Mission Ave		0		0	39,100	4.8	0%	39105	
Mission Ave to El Cajon Blvd		0		0	38,300	660	2%	38960	
El Cajon Blvd to Howard Ave		0		0	13,700	1338	11%	14808	Recommend intersection evaluation adjustments
Howard Ave to University Ave		0		0	14,400	1338	9%	15738	Recommend intersection evaluation adjustments
University Ave to Myrtle Ave		0		0	5,700	212.4	4%	5912	
Myrtle Ave to Upas St		0		0	4,100	0	0%	4100	
Florida Ave									
Park Blvd to Florida St	15%	167.4		0	23,900	365.95	1%	24166	
Florida St to Texas St	15%	167.4		0	21,611	252.3	1%	21863	
Texas St to Oregon St	15%	167.4		0	23,700	1672.95	7%	25373	Recommend intersection evaluation adjustments
Oregon St to Utah St	15%	167.4		0	22,900	1798.8	8%	24699	Recommend intersection evaluation adjustments
Utah St to 30th St	15%	167.4		0	26,400	1978.5	10%	27778	Recommend intersection evaluation adjustments
30th St to Illinois St	15%	167.4		0	22,800	2591.4	11%	25391	Recommend intersection evaluation adjustments
Illinois St to 32nd St	15%	167.4		0	22,600	2728.5	12%	25329	Recommend intersection evaluation adjustments
32nd St to Boundary St	15%	167.4		0	29,600	2848.8	10%	32449	Recommend intersection evaluation adjustments

# HCM Signalized Intersection Capacity Analysis

62: Texas St & El Cajon Blvd





















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰↰		↰	↰↰↰			↰↰			↰↰	
Traffic Volume (vph)	102	397	18	51	764	121	72	320	26	102	179	97
Future Volume (vph)	102	397	18	51	764	121	72	320	26	102	179	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.98			0.99			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	5035		1770	4920			3471			3329	
Flt Permitted	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (perm)	1770	5035		1770	4920			3471			3329	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	432	20	55	830	132	78	348	28	111	195	105
RTOR Reduction (vph)	0	3	0	0	14	0	0	4	0	0	27	0
Lane Group Flow (vph)	111	449	0	55	948	0	0	450	0	0	384	0
Confl. Peds. (#/hr)			14			17			8			19
Confl. Bikes (#/hr)						2			3			
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												
Actuated Green, G (s)	10.9	59.4		7.5	56.0			21.7			22.3	
Effective Green, g (s)	10.9	59.4		7.5	56.0			21.7			22.3	
Actuated g/C Ratio	0.08	0.46		0.06	0.43			0.17			0.17	
Clearance Time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	6.8		2.0	6.8			2.0			2.0	
Lane Grp Cap (vph)	148	2300		102	2119			579			571	
v/s Ratio Prot	c0.06	c0.09		0.03	c0.19			c0.13			c0.12	
v/s Ratio Perm												
v/c Ratio	0.75	0.20		0.54	0.45			0.78			0.67	
Uniform Delay, d1	58.2	21.0		59.6	26.1			51.8			50.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	17.1	0.2		2.7	0.7			5.9			2.5	
Delay (s)	75.3	21.2		62.3	26.8			57.8			52.9	
Level of Service	E	C		E	C			E			D	
Approach Delay (s)		31.9			28.7			57.8			52.9	
Approach LOS		C			C			E			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay		38.9			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		130.0			Sum of lost time (s)			19.1				
Intersection Capacity Utilization		73.7%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

65: 30th St & El Cajon Blvd

3/10/2016


												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	702	43	89	1102	110	77	153	86	156	148	54
Future Volume (vph)	37	702	43	89	1102	110	77	153	86	156	148	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	5.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5017		1770	4974		1770	1742		1770	1765	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5017		1770	4974		1770	1742		1770	1765	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	763	47	97	1198	120	84	166	93	170	161	59
RTOR Reduction (vph)	0	5	0	0	8	0	0	22	0	0	13	0
Lane Group Flow (vph)	40	805	0	97	1310	0	84	237	0	170	207	0
Confl. Peds. (#/hr)			23			27			22			40
Confl. Bikes (#/hr)			2			1			2			5
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	4.9	43.6		9.1	47.8		8.1	24.9		11.7	28.5	
Effective Green, g (s)	4.9	43.6		9.1	47.8		8.1	24.9		11.7	28.5	
Actuated g/C Ratio	0.05	0.40		0.08	0.44		0.07	0.23		0.11	0.26	
Clearance Time (s)	4.4	5.0		4.4	5.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	80	2025		149	2201		132	401		191	465	
v/s Ratio Prot	0.02	0.16		c0.05	c0.26		0.05	c0.14		c0.10	c0.12	
v/s Ratio Perm												
v/c Ratio	0.50	0.40		0.65	0.60		0.64	0.59		0.89	0.44	
Uniform Delay, d1	50.4	22.9		47.9	22.8		48.5	37.0		47.5	33.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	0.6		7.5	1.2		7.2	1.6		35.6	0.2	
Delay (s)	52.1	23.5		55.4	24.0		55.7	38.6		83.1	33.4	
Level of Service	D	C		E	C		E	D		F	C	
Approach Delay (s)		24.8			26.1			42.8			55.1	
Approach LOS		C			C			D			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			31.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			108.0			Sum of lost time (s)				18.7		
Intersection Capacity Utilization			75.2%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

## 67: I-805 SB Ramps & El Cajon Blvd



















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	967	608	203	1265	0	0	0	0	159	2	457
Future Volume (vph)	0	967	608	203	1265	0	0	0	0	159	2	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.2	5.0					5.0	5.0	5.0
Lane Util. Factor		0.91	1.00	0.97	0.91					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.98	1.00	1.00					1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		5085	1559	3433	5085					1681	1687	1557
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		5085	1559	3433	5085					1681	1687	1557
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1051	661	221	1375	0	0	0	0	173	2	497
RTOR Reduction (vph)	0	0	365	0	0	0	0	0	0	0	0	50
Lane Group Flow (vph)	0	1051	296	221	1375	0	0	0	0	88	87	447
Confl. Peds. (#/hr)			2			1			1			4
Confl. Bikes (#/hr)												1
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		2		1	6						8	
Permitted Phases			2							8		8
Actuated Green, G (s)		43.0	43.0	11.8	59.0					27.0	27.0	27.0
Effective Green, g (s)		43.0	43.0	11.8	59.0					27.0	27.0	27.0
Actuated g/C Ratio		0.45	0.45	0.12	0.61					0.28	0.28	0.28
Clearance Time (s)		5.0	5.0	4.2	5.0					5.0	5.0	5.0
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Lane Grp Cap (vph)		2277	698	421	3125					472	474	437
v/s Ratio Prot		0.21		c0.06	c0.27							
v/s Ratio Perm			0.19							0.05	0.05	c0.29
v/c Ratio		0.46	0.42	0.52	0.44					0.19	0.18	1.02
Uniform Delay, d1		18.4	18.1	39.5	9.8					26.2	26.1	34.5
Progression Factor		1.00	1.00	1.03	0.58					1.00	1.00	1.00
Incremental Delay, d2		0.7	1.9	0.8	0.3					0.1	0.1	48.8
Delay (s)		19.1	19.9	41.4	5.9					26.2	26.2	83.3
Level of Service		B	B	D	A					C	C	F
Approach Delay (s)		19.4			10.9			0.0			68.4	
Approach LOS		B			B			A			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			24.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			96.0			Sum of lost time (s)				14.2		
Intersection Capacity Utilization			76.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 68: I-805 NB Ramps & El Cajon Blvd





















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	707	417	0	0	751	453	714	4	134	0	0	0
Future Volume (vph)	707	417	0	0	751	453	714	4	134	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00	1.00			
Frt	1.00	1.00			0.94		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	3433	5085			4774		1681	1686	1563			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	3433	5085			4774		1681	1686	1563			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	768	453	0	0	816	492	776	4	146	0	0	0
RTOR Reduction (vph)	0	0	0	0	113	0	0	0	105	0	0	0
Lane Group Flow (vph)	768	453	0	0	1195	0	388	392	41	0	0	0
Confl. Peds. (#/hr)			4			1			1			
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases							4		4			
Actuated Green, G (s)	24.1	59.1			30.8		26.9	26.9	26.9			
Effective Green, g (s)	24.1	59.1			30.8		26.9	26.9	26.9			
Actuated g/C Ratio	0.25	0.62			0.32		0.28	0.28	0.28			
Clearance Time (s)	4.2	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Lane Grp Cap (vph)	861	3130			1531		471	472	437			
v/s Ratio Prot	c0.22	0.09			c0.25							
v/s Ratio Perm							0.23	0.23	0.03			
v/c Ratio	0.89	0.14			0.78		0.82	0.83	0.09			
Uniform Delay, d1	34.7	7.8			29.5		32.3	32.4	25.5			
Progression Factor	0.68	1.05			1.00		1.00	1.00	1.00			
Incremental Delay, d2	10.8	0.1			4.0		10.6	11.3	0.0			
Delay (s)	34.4	8.3			33.5		43.0	43.7	25.6			
Level of Service	C	A			C		D	D	C			
Approach Delay (s)		24.7			33.5			40.5			0.0	
Approach LOS		C			C			D			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			32.3				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			96.0				Sum of lost time (s)		14.2			
Intersection Capacity Utilization			76.7%				ICU Level of Service		D			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

73: Texas St & University Ave

3/10/2016





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	280	32	10	413	33	124	89	12	47	77	125
Future Volume (vph)	98	280	32	10	413	33	124	89	12	47	77	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.5	4.5		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3473		1770	3486		1770	1830		1770	1690	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3473		1770	3486		1770	1830		1770	1690	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	107	304	35	11	449	36	135	97	13	51	84	136
RTOR Reduction (vph)	0	9	0	0	7	0	0	5	0	0	63	0
Lane Group Flow (vph)	107	330	0	11	478	0	135	105	0	51	157	0
Confl. Peds. (#/hr)			6			16						
Confl. Bikes (#/hr)			2			10						
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	4.3	20.1		0.5	16.3		9.0	9.0		5.4	5.4	
Effective Green, g (s)	4.3	20.1		0.5	16.3		9.0	9.0		5.4	5.4	
Actuated g/C Ratio	0.07	0.34		0.01	0.28		0.15	0.15		0.09	0.09	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.5	4.5		4.0	4.0	
Vehicle Extension (s)	2.0	2.2		2.0	2.1		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	129	1183		15	963		270	279		162	154	
v/s Ratio Prot	c0.06	c0.10		0.01	c0.14		c0.08	0.06		0.03	c0.09	
v/s Ratio Perm												
v/c Ratio	0.83	0.28		0.73	0.50		0.50	0.38		0.31	1.02	
Uniform Delay, d1	27.0	14.2		29.2	17.9		22.9	22.5		25.1	26.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.3	0.1		93.0	0.2		0.5	0.3		0.4	78.3	
Delay (s)	59.3	14.2		122.2	18.1		23.5	22.8		25.5	105.1	
Level of Service	E	B		F	B		C	C		C	F	
Approach Delay (s)		25.0			20.4			23.2			90.1	
Approach LOS		C			C			C			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			35.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			59.0			Sum of lost time (s)			21.5			
Intersection Capacity Utilization			53.6%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												



# HCM Signalized Intersection Capacity Analysis

75: 30th St & University Ave


3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	381	40	122	402	54	68	200	114	56	207	63
Future Volume (vph)	83	381	40	122	402	54	68	200	114	56	207	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	4.9		3.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3460		1770	3397		1770	1726		1770	1761	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3460		1770	3397		1770	1726		1770	1761	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	90	414	43	133	437	59	74	217	124	61	225	68
RTOR Reduction (vph)	0	9	0	0	12	0	0	27	0	0	15	0
Lane Group Flow (vph)	90	448	0	133	484	0	74	314	0	61	278	0
Confl. Peds. (#/hr)			38			85			40			82
Confl. Bikes (#/hr)			4			6			7			4
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.3	25.1		9.0	27.8		6.1	23.6		4.7	21.2	
Effective Green, g (s)	6.3	25.1		9.0	27.8		6.1	23.6		4.7	21.2	
Actuated g/C Ratio	0.08	0.31		0.11	0.35		0.08	0.30		0.06	0.26	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		3.4	4.9	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	139	1085		199	1180		134	509		103	466	
v/s Ratio Prot	0.05	0.13		c0.08	c0.14		c0.04	c0.18		0.03	0.16	
v/s Ratio Perm												
v/c Ratio	0.65	0.41		0.67	0.41		0.55	0.62		0.59	0.60	
Uniform Delay, d1	35.8	21.6		34.1	19.9		35.6	24.3		36.7	25.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.5	1.2		6.4	1.1		2.8	1.6		5.9	1.4	
Delay (s)	43.3	22.8		40.5	20.9		38.4	25.9		42.7	27.0	
Level of Service	D	C		D	C		D	C		D	C	
Approach Delay (s)		26.2			25.1			28.1			29.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay	26.9			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.56											
Actuated Cycle Length (s)	80.0			Sum of lost time (s)			18.6					
Intersection Capacity Utilization	66.5%			ICU Level of Service			C					
Analysis Period (min)	15											
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 77: Boundary St & University Ave


















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗		↔↔			↔↔	↗		↔↔	↗
Traffic Volume (vph)	8	963	177	220	513	0	138	8	121	29	86	1
Future Volume (vph)	8	963	177	220	513	0	138	8	121	29	86	1
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	4.5
Lane Util. Factor		0.95	1.00		0.95			0.95	0.95		1.00	1.00
Frpb, ped/bikes		1.00	0.96		1.00			1.00	0.99		1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00		1.00	1.00
Frt		1.00	0.85		1.00			0.99	0.85		1.00	0.85
Flt Protected		1.00	1.00		0.99			0.96	1.00		0.99	1.00
Satd. Flow (prot)		3538	1527		3487			1675	1482		1839	1583
Flt Permitted		1.00	1.00		0.99			0.67	1.00		0.88	1.00
Satd. Flow (perm)		3538	1527		3487			1167	1482		1645	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	1047	192	239	558	0	150	9	132	32	93	1
RTOR Reduction (vph)	0	0	66	0	0	0	0	5	96	0	0	1
Lane Group Flow (vph)	0	1056	126	0	797	0	0	167	23	0	125	0
Confl. Peds. (#/hr)			5			11			2			
Confl. Bikes (#/hr)			2			4						
Turn Type	Split	NA	Perm	Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8		8	4		4
Actuated Green, G (s)		23.0	23.0		19.9			13.6	13.6		13.6	13.6
Effective Green, g (s)		23.0	23.0		19.9			13.6	13.6		13.6	13.6
Actuated g/C Ratio		0.33	0.33		0.28			0.19	0.19		0.19	0.19
Clearance Time (s)		4.5	4.5		4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)		1162	501		991			226	287		319	307
v/s Ratio Prot		c0.30			c0.23							
v/s Ratio Perm			0.08					c0.14	0.02		0.08	0.00
v/c Ratio		0.91	0.25		0.80			0.74	0.08		0.39	0.00
Uniform Delay, d1		22.5	17.2		23.2			26.5	23.1		24.6	22.7
Progression Factor		1.00	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		12.0	1.2		4.5			10.4	0.0		0.3	0.0
Delay (s)		34.4	18.4		27.8			36.9	23.1		24.9	22.7
Level of Service		C	B		C			D	C		C	C
Approach Delay (s)		32.0			27.8			31.3			24.9	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			30.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 78: I-805 NB Ramps & University Ave


















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	323	755	340	366	16	355	114	168	32	73	18
Future Volume (vph)	12	323	755	340	366	16	355	114	168	32	73	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6			4.6			4.6	
Lane Util. Factor		0.95	1.00		0.95			0.95			1.00	
Frpb, ped/bikes		1.00	0.98		1.00			1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00			1.00			1.00	
Frt		1.00	0.85		1.00			0.96			0.98	
Flt Protected		1.00	1.00		0.98			0.97			0.99	
Satd. Flow (prot)		3533	1551		3445			3291			1802	
Flt Permitted		1.00	1.00		0.98			0.76			0.67	
Satd. Flow (perm)		3533	1551		3445			2556			1224	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	351	821	370	398	17	386	124	183	35	79	20
RTOR Reduction (vph)	0	0	368	0	2	0	0	54	0	0	9	0
Lane Group Flow (vph)	0	364	453	0	783	0	0	639	0	0	125	0
Confl. Peds. (#/hr)			6			10			7			
Confl. Bikes (#/hr)			3			3						
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			4			4	
Permitted Phases			2				4			4		
Actuated Green, G (s)		17.0	17.0		18.1			19.1			19.1	
Effective Green, g (s)		17.0	17.0		18.1			19.1			19.1	
Actuated g/C Ratio		0.25	0.25		0.27			0.28			0.28	
Clearance Time (s)		4.6	4.6		4.6			4.6			4.6	
Vehicle Extension (s)		2.0	2.0		2.0			2.0			2.0	
Lane Grp Cap (vph)		883	387		916			717			343	
v/s Ratio Prot		0.10			c0.23							
v/s Ratio Perm			c0.29					c0.25			0.10	
v/c Ratio		0.41	1.17		0.85			0.93dl			0.36	
Uniform Delay, d1		21.3	25.5		23.7			23.5			19.6	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		1.4	100.8		7.6			13.0			0.2	
Delay (s)		22.7	126.3		31.3			36.5			19.8	
Level of Service		C	F		C			D			B	
Approach Delay (s)		94.5			31.3			36.5			19.8	
Approach LOS		F			C			D			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			58.8				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			68.0				Sum of lost time (s)			13.8		
Intersection Capacity Utilization			86.1%				ICU Level of Service			E		
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

# HCM Unsignalized Intersection Capacity Analysis

## 80: 33rd St/Boundary St & N Park Way/I-805 SB Ramps


3/10/2016

																			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Sign Control		Stop			Stop			Stop			Stop								
Traffic Volume (vph)	0	128	8	92	128	263	44	0	81	425	30	64							
Future Volume (vph)	0	128	8	92	128	263	44	0	81	425	30	64							
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	139	9	100	139	286	48	0	88	462	33	70							
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1														
Volume Total (vph)	148	239	286	136	565														
Volume Left (vph)	0	100	0	48	462														
Volume Right (vph)	9	0	286	88	70														
Hadj (s)	0.00	0.12	-0.57	-0.28	0.12														
Departure Headway (s)	6.5	6.4	3.2	6.0	5.6														
Degree Utilization, x	0.27	0.43	0.25	0.23	0.87														
Capacity (veh/h)	509	527	1112	555	565														
Control Delay (s)	11.9	14.1	7.3	10.7	34.9														
Approach Delay (s)	11.9	10.4		10.7	34.9														
Approach LOS	B	B		B	D														
Intersection Summary																			
Delay			20.7																
Level of Service			C																
Intersection Capacity Utilization			64.9%	ICU Level of Service		C													
Analysis Period (min)			15																

# HCM Signalized Intersection Capacity Analysis

62: Texas St & El Cajon Blvd





















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑		↰	↑↑↑			↑↑			↑↑	
Traffic Volume (vph)	256	980	38	73	700	147	52	371	68	402	700	199
Future Volume (vph)	256	980	38	73	700	147	52	371	68	402	700	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.97			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	5041		1770	4900			3426			3393	
Flt Permitted	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (perm)	1770	5041		1770	4900			3426			3393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	278	1065	41	79	761	160	57	403	74	437	761	216
RTOR Reduction (vph)	0	3	0	0	21	0	0	9	0	0	10	0
Lane Group Flow (vph)	278	1103	0	79	900	0	0	525	0	0	1404	0
Confl. Peds. (#/hr)			13			8			23			8
Confl. Bikes (#/hr)			5			2			2			2
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		4	4		3	3	
Permitted Phases												
Actuated Green, G (s)	24.6	41.4		9.4	26.2			28.0			52.1	
Effective Green, g (s)	24.6	41.4		9.4	26.2			28.0			52.1	
Actuated g/C Ratio	0.16	0.28		0.06	0.17			0.19			0.35	
Clearance Time (s)	4.4	4.9		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	6.8		2.0	6.8			2.0			2.0	
Lane Grp Cap (vph)	290	1391		110	855			639			1178	
v/s Ratio Prot	c0.16	0.22		0.04	c0.18			c0.15			c0.41	
v/s Ratio Perm												
v/c Ratio	0.96	0.79		0.72	1.05			0.82			1.19	
Uniform Delay, d1	62.2	50.3		69.0	61.9			58.6			49.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	40.9	4.7		16.9	45.4			8.0			95.0	
Delay (s)	103.1	55.0		85.9	107.3			66.6			144.0	
Level of Service	F	E		F	F			E			F	
Approach Delay (s)		64.7			105.6			66.6			144.0	
Approach LOS		E			F			E			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay		100.3			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		1.04										
Actuated Cycle Length (s)		150.0			Sum of lost time (s)			19.1				
Intersection Capacity Utilization		105.9%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

65: 30th St & El Cajon Blvd

3/10/2016













												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	1432	135	214	1356	119	143	334	152	227	444	107
Future Volume (vph)	113	1432	135	214	1356	119	143	334	152	227	444	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	5.0		4.4	5.0		4.4	4.9		4.4	4.9	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4913		1770	4958		1770	1742		1770	1780	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4913		1770	4958		1770	1742		1770	1780	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	123	1557	147	233	1474	129	155	363	165	247	483	116
RTOR Reduction (vph)	0	8	0	0	7	0	0	12	0	0	6	0
Lane Group Flow (vph)	123	1696	0	233	1596	0	155	516	0	247	593	0
Confl. Peds. (#/hr)			64			40			38			58
Confl. Bikes (#/hr)			6			7			10			12
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	12.0	45.0		18.0	51.0		12.8	39.3		19.0	45.5	
Effective Green, g (s)	12.0	45.0		18.0	51.0		12.8	39.3		19.0	45.5	
Actuated g/C Ratio	0.09	0.32		0.13	0.36		0.09	0.28		0.14	0.32	
Clearance Time (s)	4.4	5.0		4.4	5.0		4.4	4.9		4.4	4.9	
Vehicle Extension (s)	2.0	6.0		2.0	6.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	151	1579		227	1806		161	489		240	578	
v/s Ratio Prot	0.07	c0.35		c0.13	0.32		0.09	0.30		c0.14	c0.33	
v/s Ratio Perm												
v/c Ratio	0.81	1.07		1.03	0.88		0.96	1.06		1.03	1.03	
Uniform Delay, d1	62.9	47.5		61.0	41.7		63.4	50.4		60.5	47.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	26.2	45.4		66.8	6.7		59.2	56.3		65.9	44.2	
Delay (s)	89.1	92.9		127.8	48.4		122.5	106.7		126.4	91.4	
Level of Service	F	F		F	D		F	F		F	F	
Approach Delay (s)		92.7			58.5			110.3			101.6	
Approach LOS		F			E			F			F	
Intersection Summary												
HCM 2000 Control Delay	84.4			HCM 2000 Level of Service			F					
HCM 2000 Volume to Capacity ratio	1.06											
Actuated Cycle Length (s)	140.0			Sum of lost time (s)			18.7					
Intersection Capacity Utilization	102.3%			ICU Level of Service			G					
Analysis Period (min)	15											
c Critical Lane Group												



# HCM Signalized Intersection Capacity Analysis

## 67: I-805 SB Ramps & El Cajon Blvd

























3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑					↑	↑	↑
Traffic Volume (vph)	0	1315	835	375	1100	0	0	0	0	865	6	1164
Future Volume (vph)	0	1315	835	375	1100	0	0	0	0	865	6	1164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.2	5.0					5.0	5.0	5.0
Lane Util. Factor		0.91	1.00	0.97	0.91					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.96	1.00	1.00					1.00	1.00	0.99
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		5085	1523	3433	5085					1681	1687	1562
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		5085	1523	3433	5085					1681	1687	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1429	908	408	1196	0	0	0	0	940	7	1265
RTOR Reduction (vph)	0	0	573	0	0	0	0	0	0	0	0	27
Lane Group Flow (vph)	0	1429	335	408	1196	0	0	0	0	470	477	1238
Confl. Peds. (#/hr)			11			7						1
Confl. Bikes (#/hr)			5			3						
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		2		1	6						8	
Permitted Phases			2							8		8
Actuated Green, G (s)		27.0	27.0	15.8	47.0					63.0	63.0	63.0
Effective Green, g (s)		27.0	27.0	15.8	47.0					63.0	63.0	63.0
Actuated g/C Ratio		0.22	0.22	0.13	0.39					0.52	0.52	0.52
Clearance Time (s)		5.0	5.0	4.2	5.0					5.0	5.0	5.0
Vehicle Extension (s)		5.5	5.5	3.0	4.8					2.0	2.0	2.0
Lane Grp Cap (vph)		1144	342	452	1991					882	885	820
v/s Ratio Prot		c0.28		c0.12	0.24							
v/s Ratio Perm			0.22							0.28	0.28	c0.79
v/c Ratio		1.25	0.98	0.90	0.60					0.53	0.54	1.51
Uniform Delay, d1		46.5	46.2	51.3	29.0					18.8	18.9	28.5
Progression Factor		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		119.5	44.0	21.0	1.3					0.3	0.3	235.9
Delay (s)		166.0	90.2	72.3	30.4					19.1	19.2	264.4
Level of Service		F	F	E	C					B	B	F
Approach Delay (s)		136.6			41.1			0.0			159.4	
Approach LOS		F			D			A			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			119.9			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			1.35									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				14.2		
Intersection Capacity Utilization			101.8%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 68: I-805 NB Ramps & El Cajon Blvd





















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  			 				
Traffic Volume (vph)	423	1810	0	0	1042	349	479	2	301	0	0	0
Future Volume (vph)	423	1810	0	0	1042	349	479	2	301	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.0			5.0		5.0	5.0	5.0			
Lane Util. Factor	0.97	0.91			0.91		0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00	0.98			
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00	1.00			
Frt	1.00	1.00			0.96		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (prot)	3433	5085			4859		1681	1686	1555			
Flt Permitted	0.95	1.00			1.00		0.95	0.95	1.00			
Satd. Flow (perm)	3433	5085			4859		1681	1686	1555			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	460	1967	0	0	1133	379	521	2	327	0	0	0
RTOR Reduction (vph)	0	0	0	0	42	0	0	0	45	0	0	0
Lane Group Flow (vph)	460	1967	0	0	1470	0	260	263	282	0	0	0
Confl. Peds. (#/hr)			15			7			4			
Confl. Bikes (#/hr)			2			5			1			
Turn Type	Prot	NA			NA		Perm	NA	Perm			
Protected Phases	5	2			6			4				
Permitted Phases							4		4			
Actuated Green, G (s)	20.8	80.8			55.8		25.2	25.2	25.2			
Effective Green, g (s)	20.8	80.8			55.8		25.2	25.2	25.2			
Actuated g/C Ratio	0.18	0.70			0.48		0.22	0.22	0.22			
Clearance Time (s)	4.2	5.0			5.0		5.0	5.0	5.0			
Vehicle Extension (s)	3.0	4.2			5.3		2.0	2.0	2.0			
Lane Grp Cap (vph)	615	3541			2337		365	366	337			
v/s Ratio Prot	c0.13	0.39			c0.30							
v/s Ratio Perm							0.15	0.16	c0.18			
v/c Ratio	0.75	0.56			0.63		0.71	0.72	0.84			
Uniform Delay, d1	45.1	8.7			22.4		42.0	42.1	43.4			
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00			
Incremental Delay, d2	5.0	0.6			1.3		5.4	5.5	15.6			
Delay (s)	50.1	9.3			23.7		47.4	47.6	59.0			
Level of Service	D	A			C		D	D	E			
Approach Delay (s)		17.1			23.7			51.9			0.0	
Approach LOS		B			C			D			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay		25.3			HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		116.0			Sum of lost time (s)				14.2			
Intersection Capacity Utilization		101.8%			ICU Level of Service				G			
Analysis Period (min)		15										
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

73: Texas St & University Ave





















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	770	48	14	592	87	61	193	34	245	193	122
Future Volume (vph)	152	770	48	14	592	87	61	193	34	245	193	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.5	4.5		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3490		1770	3413		1770	1802		1770	1727	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3490		1770	3413		1770	1802		1770	1727	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	837	52	15	643	95	66	210	37	266	210	133
RTOR Reduction (vph)	0	3	0	0	10	0	0	6	0	0	20	0
Lane Group Flow (vph)	165	886	0	15	728	0	66	241	0	266	323	0
Confl. Peds. (#/hr)			20			42			28			17
Confl. Bikes (#/hr)			18			12			3			2
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases												
Actuated Green, G (s)	10.2	34.0		2.3	26.1		15.5	15.5		19.3	19.3	
Effective Green, g (s)	10.2	34.0		2.3	26.1		15.5	15.5		19.3	19.3	
Actuated g/C Ratio	0.10	0.34		0.02	0.26		0.16	0.16		0.19	0.19	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.5	4.5		4.0	4.0	
Vehicle Extension (s)	2.0	2.2		2.0	2.1		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	180	1188		40	892		274	279		342	333	
v/s Ratio Prot	c0.09	c0.25		0.01	0.21		0.04	c0.13		0.15	c0.19	
v/s Ratio Perm												
v/c Ratio	0.92	0.75		0.38	0.82		0.24	0.86		0.78	0.97	
Uniform Delay, d1	44.4	29.1		48.0	34.6		37.0	41.1		38.2	40.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	43.0	2.3		2.1	5.6		0.2	22.4		9.7	40.4	
Delay (s)	87.3	31.4		50.2	40.2		37.2	63.6		48.0	80.4	
Level of Service	F	C		D	D		D	E		D	F	
Approach Delay (s)		40.2			40.4			58.0			66.2	
Approach LOS		D			D			E			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			48.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			99.8			Sum of lost time (s)			21.5			
Intersection Capacity Utilization			68.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

75: 30th St & University Ave




















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	677	90	168	503	93	109	435	149	148	574	138
Future Volume (vph)	162	677	90	168	503	93	109	435	149	148	574	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.4	4.9		3.4	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.94		1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3374		1770	3264		1770	1749		1770	1759	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3374		1770	3264		1770	1749		1770	1759	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	176	736	98	183	547	101	118	473	162	161	624	150
RTOR Reduction (vph)	0	11	0	0	15	0	0	12	0	0	8	0
Lane Group Flow (vph)	176	823	0	183	633	0	118	623	0	161	766	0
Confl. Peds. (#/hr)			103			134			66			113
Confl. Bikes (#/hr)			10			9			8			4
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	10.4	24.1		10.2	23.9		7.0	39.5		8.6	40.1	
Effective Green, g (s)	10.4	24.1		10.2	23.9		7.0	39.5		8.6	40.1	
Actuated g/C Ratio	0.10	0.24		0.10	0.24		0.07	0.40		0.09	0.40	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.4	4.9		3.4	4.9	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	184	813		180	780		123	690		152	705	
v/s Ratio Prot	0.10	c0.24		c0.10	0.19		0.07	0.36		c0.09	c0.44	
v/s Ratio Perm												
v/c Ratio	0.96	1.01		1.02	0.81		0.96	0.90		1.06	1.09	
Uniform Delay, d1	44.6	38.0		44.9	35.9		46.4	28.4		45.7	29.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	52.9	34.8		71.5	9.0		67.2	14.8		89.6	59.6	
Delay (s)	97.5	72.7		116.4	44.9		113.6	43.3		135.3	89.6	
Level of Service	F	E		F	D		F	D		F	F	
Approach Delay (s)		77.0			60.6			54.3			97.4	
Approach LOS		E			E			D			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			73.7									HCM 2000 Level of Service E
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			100.0									Sum of lost time (s) 18.6
Intersection Capacity Utilization			93.0%									ICU Level of Service F
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 77: Boundary St & University Ave


















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1019	278	265	705	2	183	19	271	39	144	3
Future Volume (vph)	9	1019	278	265	705	2	183	19	271	39	144	3
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	4.5
Lane Util. Factor		0.95	1.00		0.95			0.95	0.95		1.00	1.00
Frpb, ped/bikes		1.00	0.85		1.00			1.00	0.96		1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00		1.00	1.00
Frt		1.00	0.85		1.00			0.98	0.85		1.00	0.85
Flt Protected		1.00	1.00		0.99			0.96	1.00		0.99	1.00
Satd. Flow (prot)		3538	1345		3490			1663	1445		1843	1557
Flt Permitted		1.00	1.00		0.99			0.52	1.00		0.76	1.00
Satd. Flow (perm)		3538	1345		3490			891	1445		1423	1557
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	1108	302	288	766	2	199	21	295	42	157	3
RTOR Reduction (vph)	0	0	78	0	0	0	0	5	200	0	0	2
Lane Group Flow (vph)	0	1118	224	0	1056	0	0	245	65	0	199	1
Confl. Peds. (#/hr)			32			28			13			4
Confl. Bikes (#/hr)			10			8			2			
Turn Type	Split	NA	Perm	Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8		8	4		4
Actuated Green, G (s)		32.5	32.5		29.5			24.5	24.5		24.5	24.5
Effective Green, g (s)		32.5	32.5		29.5			24.5	24.5		24.5	24.5
Actuated g/C Ratio		0.32	0.32		0.29			0.24	0.24		0.24	0.24
Clearance Time (s)		4.5	4.5		4.5			4.5	4.5		4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0			2.0	2.0		2.0	2.0
Lane Grp Cap (vph)		1149	437		1029			218	354		348	381
v/s Ratio Prot		c0.32			c0.30							
v/s Ratio Perm			0.17					c0.27	0.04		0.14	0.00
v/c Ratio		0.97	0.51		1.03			1.12	0.18		0.57	0.00
Uniform Delay, d1		33.3	27.3		35.2			37.8	29.8		33.1	28.5
Progression Factor		1.00	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2		20.8	4.3		34.9			97.8	0.1		1.4	0.0
Delay (s)		54.1	31.6		70.2			135.5	29.9		34.6	28.5
Level of Service		D	C		E			F	C		C	C
Approach Delay (s)		49.3			70.2			81.2			34.5	
Approach LOS		D			E			F			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			60.4				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			97.5%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 78: I-805 NB Ramps & University Ave


















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	614	676	192	439	22	500	204	269	72	44	43
Future Volume (vph)	16	614	676	192	439	22	500	204	269	72	44	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6	4.6		4.6			4.6			4.6	
Lane Util. Factor		0.95	1.00		0.95			0.95			1.00	
Frpb, ped/bikes		1.00	0.95		1.00			0.99			1.00	
Flpb, ped/bikes		1.00	1.00		1.00			1.00			1.00	
Frt		1.00	0.85		0.99			0.96			0.96	
Flt Protected		1.00	1.00		0.99			0.97			0.98	
Satd. Flow (prot)		3535	1505		3462			3276			1755	
Flt Permitted		1.00	1.00		0.99			0.72			0.27	
Satd. Flow (perm)		3535	1505		3462			2409			484	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	667	735	209	477	24	543	222	292	78	48	47
RTOR Reduction (vph)	0	0	201	0	2	0	0	36	0	0	12	0
Lane Group Flow (vph)	0	684	534	0	708	0	0	1021	0	0	161	0
Confl. Peds. (#/hr)			21			32			14			
Confl. Bikes (#/hr)			8			5			1			
Turn Type	Split	NA	Perm	Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		1	1			4			4	
Permitted Phases			2				4			4		
Actuated Green, G (s)		34.1	34.1		20.6			41.5			41.5	
Effective Green, g (s)		34.1	34.1		20.6			41.5			41.5	
Actuated g/C Ratio		0.31	0.31		0.19			0.38			0.38	
Clearance Time (s)		4.6	4.6		4.6			4.6			4.6	
Vehicle Extension (s)		2.0	2.0		2.0			2.0			2.0	
Lane Grp Cap (vph)		1095	466		648			908			182	
v/s Ratio Prot		0.19			c0.20							
v/s Ratio Perm			c0.36					c0.42			0.33	
v/c Ratio		0.62	1.15		1.09			1.14dl			0.88	
Uniform Delay, d1		32.5	37.9		44.7			34.2			32.0	
Progression Factor		1.00	1.00		1.00			1.00			1.00	
Incremental Delay, d2		2.7	88.4		63.0			70.2			35.0	
Delay (s)		35.2	126.4		107.7			104.5			66.9	
Level of Service		D	F		F			F			E	
Approach Delay (s)		82.4			107.7			104.5			66.9	
Approach LOS		F			F			F			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			93.9			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)			13.8			
Intersection Capacity Utilization			89.5%			ICU Level of Service			E			
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												



# HCM Unsignalized Intersection Capacity Analysis 80: 33rd St/Boundary St & N Park Way/I-805 SB Ramps


3/10/2016

																			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Sign Control		Stop			Stop			Stop			Stop								
Traffic Volume (vph)	0	263	41	317	209	600	47	0	85	543	105	102							
Future Volume (vph)	0	263	41	317	209	600	47	0	85	543	105	102							
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	286	45	345	227	652	51	0	92	590	114	111							
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1														
Volume Total (vph)	331	572	652	143	815														
Volume Left (vph)	0	345	0	51	590														
Volume Right (vph)	45	0	652	92	111														
Hadj (s)	-0.05	0.15	-0.57	-0.28	0.10														
Departure Headway (s)	7.8	7.5	3.2	8.5	7.5														
Degree Utilization, x	0.72	1.00	0.58	0.34	1.00														
Capacity (veh/h)	452	572	1118	392	815														
Control Delay (s)	28.3	68.8	10.5	15.9	68.5														
Approach Delay (s)	28.3	37.7		15.9	68.5														
Approach LOS	D	E		C	F														
Intersection Summary																			
Delay	45.2																		
Level of Service	E																		
Intersection Capacity Utilization	103.5%			ICU Level of Service			G												
Analysis Period (min)	15																		

# HCM Signalized Intersection Capacity Analysis

## 77: Boundary St & University Ave






















3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔	↗		↔↔			↔↔	↗	↗	↗	↗
Traffic Volume (vph)	8	963	177	220	513	0	138	8	121	29	86	1
Future Volume (vph)	8	963	177	220	513	0	138	8	121	29	86	1
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	4.5	4.5
Lane Util. Factor		0.95	1.00		0.95			0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.98		1.00			1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00			0.99	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.99			0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)		3538	1550		3487			1675	1482	1770	1863	1583
Flt Permitted		1.00	1.00		0.99			0.69	1.00	0.56	1.00	1.00
Satd. Flow (perm)		3538	1550		3487			1203	1482	1034	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	1047	192	239	558	0	150	9	132	32	93	1
RTOR Reduction (vph)	0	0	66	0	0	0	0	5	96	0	0	1
Lane Group Flow (vph)	0	1056	126	0	797	0	0	167	23	32	93	0
Confl. Peds. (#/hr)			5			11			2			
Confl. Bikes (#/hr)			2			4						
Turn Type	Split	NA	Perm	Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8		8	4		4
Actuated Green, G (s)		23.1	23.1		20.0			13.4	13.4	13.4	13.4	13.4
Effective Green, g (s)		23.1	23.1		20.0			13.4	13.4	13.4	13.4	13.4
Actuated g/C Ratio		0.33	0.33		0.29			0.19	0.19	0.19	0.19	0.19
Clearance Time (s)		4.5	4.5		4.5			4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0			2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		1167	511		996			230	283	197	356	303
v/s Ratio Prot		c0.30			c0.23						0.05	
v/s Ratio Perm			0.08				c0.14	0.02	0.03			0.00
v/c Ratio		0.90	0.25		0.80		0.73	0.08	0.16	0.26		0.00
Uniform Delay, d1		22.4	17.1		23.1		26.6	23.2	23.6	24.1		22.9
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		11.6	1.1		4.4		9.3	0.0	0.1	0.1		0.0
Delay (s)		34.0	18.2		27.6		35.9	23.3	23.8	24.2		22.9
Level of Service		C	B		C		D	C	C	C		C
Approach Delay (s)		31.5			27.6		30.7			24.1		
Approach LOS		C			C		C			C		
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			70.0			Sum of lost time (s)			13.5			
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 77: Boundary St & University Ave

3/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1019	278	265	705	2	183	19	271	39	144	3
Future Volume (vph)	9	1019	278	265	705	2	183	19	271	39	144	3
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	4.5	4.5
Lane Util. Factor		0.95	1.00		0.95			0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes		1.00	0.91		1.00			1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes		1.00	1.00		1.00			1.00	1.00	1.00	1.00	1.00
Frt		1.00	0.85		1.00			0.98	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.99			0.96	1.00	0.95	1.00	1.00
Satd. Flow (prot)		3538	1441		3490			1663	1445	1770	1863	1556
Flt Permitted		1.00	1.00		0.99			0.58	1.00	0.36	1.00	1.00
Satd. Flow (perm)		3538	1441		3490			1006	1445	678	1863	1556
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	1108	302	288	766	2	199	21	295	42	157	3
RTOR Reduction (vph)	0	0	78	0	0	0	0	5	205	0	0	2
Lane Group Flow (vph)	0	1118	224	0	1056	0	0	245	60	42	157	1
Confl. Peds. (#/hr)			32			28			13			4
Confl. Bikes (#/hr)			10			8			2			
Turn Type	Split	NA	Perm	Split	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	2	2		1	1			8			4	
Permitted Phases			2				8		8	4		4
Actuated Green, G (s)		33.5	33.5		30.5			22.5	22.5	22.5	22.5	22.5
Effective Green, g (s)		33.5	33.5		30.5			22.5	22.5	22.5	22.5	22.5
Actuated g/C Ratio		0.34	0.34		0.30			0.22	0.22	0.22	0.22	0.22
Clearance Time (s)		4.5	4.5		4.5			4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0			2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		1185	482		1064			226	325	152	419	350
v/s Ratio Prot		c0.32			c0.30						0.08	
v/s Ratio Perm			0.16					c0.24	0.04	0.06		0.00
v/c Ratio		0.94	0.47		0.99			1.09	0.18	0.28	0.37	0.00
Uniform Delay, d1		32.3	26.2		34.6			38.8	31.3	32.0	32.8	30.0
Progression Factor		1.00	1.00		1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		15.7	3.2		25.6			84.5	0.1	0.4	0.2	0.0
Delay (s)		48.0	29.4		60.2			123.3	31.4	32.4	33.0	30.0
Level of Service		D	C		E			F	C	C	C	C
Approach Delay (s)		44.1			60.2			76.0			32.8	
Approach LOS		D			E			E			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			53.9				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			95.3%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												