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

Appendix B2

Costa Verde Updated Traffic Analysis

September 2020

MEMORANDUM

To:	Mr. George Ghossain City of San Diego Development Services	Date:	August 13, 2020
From:	LLG Engineers	LLG Ref:	3-14-2408
Subject:	Costa Verde Updated Traffic Analysis		

Linscott, Law and Greenspan, Engineers (LLG) has prepared the following memorandum to provide an updated analysis of the SR 52 EB Ramps / Genesee Avenue intersection, which includes updated flashing "Don't Walk" and yellow time. The intersection delays for this intersection were revised for all scenarios with the updated signal timing and the analysis results are incorporated in this memo. ***Tables A*** through ***G*** provide the intersection LOS analysis and ***Attachment A*** includes the peak hour calculation worksheets.

It is concluded that these updates do not change the significance findings or the conclusions of the EIR relative to Transportation / Circulation.

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TABLE A
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	~~44.4~~ 44.0	D
		PM	~~**152.4**~~ **158.6**	**F**

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
General Notes:
1. **Bold** typeface indicates intersections operating at LOS E or F.

SIGNALIZED

DELAY/LOS THRESHOLDS

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

TABLE B
EXISTING + PROJECT INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Existing + Project		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	~~44.4~~ 44.0	D	~~48.1~~ 47.8	D	~~3.7~~ 3.8	No
		PM	~~**152.4**~~ **158.6**	**F**	~~**173.6**~~ **180.6**	**F**	~~**21.2**~~ **22.0**	**Yes**

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. "Δ" denotes the project-induced increase in delay.
General Notes:
1. **Bold** typeface indicates intersections operating at LOS E or F.

SIGNALIZED

DELAY/LOS THRESHOLDS

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

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TABLE C
NEAR-TERM (OPENING DAY 2023) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Near-Term		Near-Term + Project (Opening Day 2023)		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	~~53.3~~ 53.6	D	~~59.4~~ **59.8**	**E**	~~6.1~~ **6.2**	**Yes**
		PM	~~**152.6**~~ **152.9**	**F**	~~**173.8**~~ **174.2**	**F**	~~**21.2**~~ **21.3**	**Yes**

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. "Δ" denotes the project-induced increase in delay.

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

SIGNALIZED

DELAY/LOS THRESHOLDS

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

TABLE D
YEAR 2035 (COMMUNITY BUILDOUT) INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2035 (Community Buildout)		Year 2035 (Community Buildout) + Project		Δ[c]	Significant Impact?
			Delay[a]	LOS[b]	Delay	LOS		
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	~~**87.8**~~ **88.8**	**F**	~~**96.3**~~ **97.3**	**F**	**8.5**	**Yes**
		PM	~~**179.6**~~ **180.0**	**F**	~~**201.9**~~ **202.3**	**F**	**22.3**	**Yes**

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. "Δ" denotes the project-induced increase in delay.

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

SIGNALIZED

DELAY/LOS THRESHOLDS

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

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TABLE E
EXISTING + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Existing		Existing + Project			Existing + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS[b]	Δ[c]	Delay	LOS[b]	Δ[d]		
31. Genesee Avenue / SR 52 EB Ramps	Signal	PM	~~152.4~~ 158.6	F	~~173.6~~ 180.6	F	~~21.2~~ 22.0	137.1	F	~~(15.3)~~ (21.5)	Yes	Install right-turn overlap phasing on the westbound approach. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or the City's control as it requires Caltrans approval.

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the project-induced increase in delay.
d. Δ denotes a decrease in delay due to project mitigation.

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TABLE F
NEAR-TERM (OPENING DAY 2023) + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Near-Term (Opening Day 2023)		Near-Term (Opening Day 2023) + Project			Near-Term (Opening Day 2023) + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]	Delay	LOS	Δ[d]		
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	~~53.3~~ 53.6	D	~~59.4~~ 59.8	E	~~6.1~~ 6.2	~~49.8~~ 50.3	D	~~(3.5)~~ (3.3)	Yes	Install right-turn overlap phasing on the westbound approach. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval
		PM	~~152.6~~ 152.9	F	~~173.8~~ 174.2	F	~~21.2~~ 21.3	~~139.1~~ 140.0	F	~~(13.5)~~ (12.9)		

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the project-induced increase in delay.
d. Δ denotes a decrease in delay due to project mitigation.

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TABLE G
YEAR 2035 (COMMUNITY BUILDOUT) + PROJECT INTERSECTION MITIGATION ANALYSIS

Intersection	Control Type	Peak Hour	Year 2035 (Community Buildout)		Year 2035 (Community Buildout) + Project			Year 2035 (Community Buildout) + Project with Mitigation			Significant After Mitigation?	Mitigation
			Delay[a]	LOS[b]	Delay	LOS	Δ[c]		LOS	Δ[d]		
31. Genesee Avenue / SR 52 EB Ramps	Signal	AM	~~87.8~~ 88.8	F	~~96.3~~ 97.3	F	8.5	~~79.0~~ 79.8	E	~~(8.8)~~ (9.0)	Yes	Install right-turn overlap phasing on the westbound approach. Impact is considered significant and unmitigated because the timing of the identified improvements are not within the Applicant's or City's control as it requires Caltrans approval
		PM	~~179.6~~ 180.0	F	~~201.9~~ 202.3	F	22.3	~~147.4~~ 148.3	F	~~(32.2)~~ (31.7)		

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the project-induced increase in delay.
d. Δ denotes a decrease in delay due to project mitigation.

ATTACHMENT A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	132	170	1192	721	432	586
Future Volume (veh/h)	132	170	1192	721	432	586
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	143	185	1296	0	470	637
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	257	229	1493		388	2477
Arrive On Green	0.14	0.14	0.42	0.00	0.22	0.70
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	143	185	1296	0	470	637
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	5.9	9.0	26.5	0.0	17.3	5.3
Cycle Q Clear(g_c), s	5.9	9.0	26.5	0.0	17.3	5.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	257	229	1493		388	2477
V/C Ratio(X)	0.56	0.81	0.87		1.21	0.26
Avail Cap(c_a), veh/h	717	638	1493		388	2477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	32.9	21.0	0.0	31.1	4.4
Incr Delay (d2), s/veh	0.7	2.6	7.1	0.0	117.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	3.5	10.9	0.0	19.4	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.3	35.5	28.1	0.0	148.2	4.7
LnGrp LOS	C	D	C		F	A
Approach Vol, veh/h	328		1296	A		1107
Approach Delay, s/veh	34.1		28.1			65.6
Approach LOS	C		C			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	40.9		16.6		62.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		55.4
Max Q Clear Time (g_c+I1), s	19.3	28.5		11.0		7.3
Green Ext Time (p_c), s	0.0	2.6		0.5		2.7

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	225	561	300	760	1220
Future Volume (veh/h)	352	225	561	300	760	1220
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	245	610	0	826	1326
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	445	396	1232		374	2165
Arrive On Green	0.25	0.25	0.35	0.00	0.21	0.61
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	383	245	610	0	826	1326
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	18.4	12.3	12.1	0.0	18.8	20.8
Cycle Q Clear(g_c), s	18.4	12.3	12.1	0.0	18.8	20.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	445	396	1232		374	2165
V/C Ratio(X)	0.86	0.62	0.50		2.21	0.61
Avail Cap(c_a), veh/h	755	672	1232		374	2165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	29.8	23.1	0.0	35.3	10.9
Incr Delay (d2), s/veh	5.2	1.6	1.4	0.0	551.5	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	4.7	4.9	0.0	65.0	6.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.3	31.3	24.5	0.0	586.8	12.2
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	628		610	A		2152
Approach Delay, s/veh	35.0		24.5			232.7
Approach LOS	C		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.5	38.5		27.4		62.0
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 19	31.0		37.9		54.5
Max Q Clear Time (g_c+I1), s	20.8	14.1		20.4		22.8
Green Ext Time (p_c), s	0.0	3.4		2.0		11.2

Intersection Summary	
HCM 6th Ctrl Delay	158.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	132	181	1213	721	442	590
Future Volume (veh/h)	132	181	1213	721	442	590
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	143	197	1318	0	480	641
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	270	241	1481		384	2456
Arrive On Green	0.15	0.15	0.42	0.00	0.22	0.69
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	143	197	1318	0	480	641
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	5.9	9.7	27.6	0.0	17.3	5.5
Cycle Q Clear(g_c), s	5.9	9.7	27.6	0.0	17.3	5.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	270	241	1481		384	2456
V/C Ratio(X)	0.53	0.82	0.89		1.25	0.26
Avail Cap(c_a), veh/h	711	633	1481		384	2456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	32.9	21.7	0.0	31.4	4.7
Incr Delay (d2), s/veh	0.6	2.6	8.4	0.0	131.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	3.8	11.6	0.0	20.9	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.0	35.6	30.1	0.0	163.3	4.9
LnGrp LOS	C	D	C		F	A
Approach Vol, veh/h	340		1318	A		1121
Approach Delay, s/veh	34.0		30.1			72.7
Approach LOS	C		C			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	40.9		17.3		62.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		55.4
Max Q Clear Time (g_c+I1), s	19.3	29.6		11.7		7.5
Green Ext Time (p_c), s	0.0	2.2		0.5		2.7

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	228	567	300	810	1238
Future Volume (veh/h)	352	228	567	300	810	1238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	248	616	0	880	1346
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	445	396	1231		374	2165
Arrive On Green	0.25	0.25	0.35	0.00	0.21	0.61
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	383	248	616	0	880	1346
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	18.4	12.4	12.3	0.0	18.8	21.3
Cycle Q Clear(g_c), s	18.4	12.4	12.3	0.0	18.8	21.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	445	396	1231		374	2165
V/C Ratio(X)	0.86	0.63	0.50		2.35	0.62
Avail Cap(c_a), veh/h	755	672	1231		374	2165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	29.8	23.1	0.0	35.3	11.0
Incr Delay (d2), s/veh	5.2	1.6	1.5	0.0	616.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	4.8	5.0	0.0	71.7	7.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.3	31.5	24.6	0.0	651.4	12.4
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	631		616	A		2226
Approach Delay, s/veh	35.0		24.6			265.0
Approach LOS	D		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.5	38.5		27.5		62.0
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 19	31.0		37.9		54.5
Max Q Clear Time (g_c+I1), s	20.8	14.3		20.4		23.3
Green Ext Time (p_c), s	0.0	3.5		2.0		11.4

Intersection Summary	
HCM 6th Ctrl Delay	180.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	194	1352	769	434	675
Future Volume (veh/h)	140	194	1352	769	434	675
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	211	1470	0	472	734
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	286	254	1465		380	2431
Arrive On Green	0.16	0.16	0.41	0.00	0.21	0.68
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	152	211	1470	0	472	734
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.3	10.4	33.4	0.0	17.3	6.7
Cycle Q Clear(g_c), s	6.3	10.4	33.4	0.0	17.3	6.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	286	254	1465		380	2431
V/C Ratio(X)	0.53	0.83	1.00		1.24	0.30
Avail Cap(c_a), veh/h	704	626	1465		380	2431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	32.9	23.8	0.0	31.8	5.1
Incr Delay (d2), s/veh	0.6	2.7	24.3	0.0	128.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.1	17.0	0.0	20.4	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.8	35.6	48.1	0.0	160.6	5.4
LnGrp LOS	C	D	F		F	A
Approach Vol, veh/h	363		1470	A		1206
Approach Delay, s/veh	34.0		48.1			66.2
Approach LOS	C		D			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	40.9		18.1		62.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		55.4
Max Q Clear Time (g_c+I1), s	19.3	35.4		12.4		8.7
Green Ext Time (p_c), s	0.0	0.0		0.6		3.2

Intersection Summary	
HCM 6th Ctrl Delay	53.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	368	252	645	321	771	1407
Future Volume (veh/h)	368	252	645	321	771	1407
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	274	701	0	838	1529
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	461	410	1221		374	2148
Arrive On Green	0.26	0.26	0.34	0.00	0.21	0.60
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	400	274	701	0	838	1529
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	19.7	14.3	14.8	0.0	19.3	27.5
Cycle Q Clear(g_c), s	19.7	14.3	14.8	0.0	19.3	27.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	461	410	1221		374	2148
V/C Ratio(X)	0.87	0.67	0.57		2.24	0.71
Avail Cap(c_a), veh/h	712	634	1221		374	2148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	30.6	24.7	0.0	36.4	12.6
Incr Delay (d2), s/veh	7.2	1.9	2.0	0.0	567.8	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	5.5	6.1	0.0	66.8	9.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.7	32.4	26.7	0.0	604.1	14.7
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	674		701	A		2367
Approach Delay, s/veh	36.8		26.7			223.4
Approach LOS	D		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.0	39.1		28.9		63.1
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 19	31.6		36.8		55.6
Max Q Clear Time (g_c+I1), s	21.3	16.8		21.7		29.5
Green Ext Time (p_c), s	0.0	3.8		2.1		12.6

Intersection Summary	
HCM 6th Ctrl Delay	152.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	205	1373	769	444	679
Future Volume (veh/h)	140	205	1373	769	444	679
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	223	1492	0	483	738
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	299	266	1453		377	2410
Arrive On Green	0.17	0.17	0.41	0.00	0.21	0.68
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	152	223	1492	0	483	738
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.3	11.1	33.4	0.0	17.3	6.9
Cycle Q Clear(g_c), s	6.3	11.1	33.4	0.0	17.3	6.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	299	266	1453		377	2410
V/C Ratio(X)	0.51	0.84	1.03		1.28	0.31
Avail Cap(c_a), veh/h	698	621	1453		377	2410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	32.9	24.2	0.0	32.2	5.3
Incr Delay (d2), s/veh	0.5	2.7	30.8	0.0	145.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.4	18.3	0.0	22.1	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.4	35.7	54.9	0.0	177.4	5.7
LnGrp LOS	C	D	F		F	A
Approach Vol, veh/h	375		1492	A		1221
Approach Delay, s/veh	33.9		54.9			73.6
Approach LOS	C		D			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	40.9		18.8		62.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		55.4
Max Q Clear Time (g_c+I1), s	19.3	35.4		13.1		8.9
Green Ext Time (p_c), s	0.0	0.0		0.6		3.2

Intersection Summary	
HCM 6th Ctrl Delay	59.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	368	255	651	321	821	1425
Future Volume (veh/h)	368	255	651	321	821	1425
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	277	708	0	892	1549
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	461	410	1225		373	2149
Arrive On Green	0.26	0.26	0.34	0.00	0.21	0.60
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	400	277	708	0	892	1549
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	19.8	14.5	15.0	0.0	19.3	28.2
Cycle Q Clear(g_c), s	19.8	14.5	15.0	0.0	19.3	28.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	461	410	1225		373	2149
V/C Ratio(X)	0.87	0.68	0.58		2.39	0.72
Avail Cap(c_a), veh/h	707	629	1225		373	2149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	30.7	24.7	0.0	36.5	12.8
Incr Delay (d2), s/veh	7.3	1.9	2.0	0.0	635.4	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	5.6	6.2	0.0	73.6	9.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.0	32.7	26.7	0.0	671.9	14.9
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	677		708	A		2441
Approach Delay, s/veh	37.0		26.7			255.0
Approach LOS	D		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.0	39.3		29.0		63.3
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 19	31.8		36.6		55.8
Max Q Clear Time (g_c+I1), s	21.3	17.0		21.8		30.2
Green Ext Time (p_c), s	0.0	3.8		2.1		12.7

Intersection Summary	
HCM 6th Ctrl Delay	174.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	147	253	1507	808	444	754
Future Volume (veh/h)	147	253	1507	808	444	754
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	275	1638	0	483	820
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	355	316	1397		363	2318
Arrive On Green	0.20	0.20	0.39	0.00	0.20	0.65
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	160	275	1638	0	483	820
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.7	14.3	33.4	0.0	17.3	8.9
Cycle Q Clear(g_c), s	6.7	14.3	33.4	0.0	17.3	8.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	355	316	1397		363	2318
V/C Ratio(X)	0.45	0.87	1.17		1.33	0.35
Avail Cap(c_a), veh/h	671	597	1397		363	2318
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	32.9	25.8	0.0	33.8	6.7
Incr Delay (d2), s/veh	0.3	2.9	85.4	0.0	166.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.6	29.0	0.0	23.8	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.2	35.8	111.2	0.0	200.7	7.1
LnGrp LOS	C	D	F		F	A
Approach Vol, veh/h	435		1638	A		1303
Approach Delay, s/veh	33.8		111.2			78.9
Approach LOS	C		F			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	40.9		22.0		62.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		55.4
Max Q Clear Time (g_c+I1), s	19.3	35.4		16.3		10.9
Green Ext Time (p_c), s	0.0	0.0		0.7		3.6

Intersection Summary	
HCM 6th Ctrl Delay	88.8
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	380	287	723	338	822	1585
Future Volume (veh/h)	380	287	723	338	822	1585
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	413	312	786	0	893	1723
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	475	423	1246		351	2125
Arrive On Green	0.27	0.27	0.35	0.00	0.20	0.60
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	413	312	786	0	893	1723
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	20.6	16.7	17.2	0.0	18.3	35.2
Cycle Q Clear(g_c), s	20.6	16.7	17.2	0.0	18.3	35.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	475	423	1246		351	2125
V/C Ratio(X)	0.87	0.74	0.63		2.55	0.81
Avail Cap(c_a), veh/h	705	627	1246		351	2125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	31.1	25.2	0.0	37.3	14.6
Incr Delay (d2), s/veh	7.8	2.5	2.4	0.0	704.7	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	6.5	7.1	0.0	76.1	12.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.4	33.7	27.6	0.0	742.1	18.1
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	725		786	A		2616
Approach Delay, s/veh	37.5		27.6			265.2
Approach LOS	D		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.0	40.1		29.9		63.1
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 18	32.6		36.8		55.6
Max Q Clear Time (g_c+I1), s	20.3	19.2		22.6		37.2
Green Ext Time (p_c), s	0.0	4.1		2.2		11.8

Intersection Summary	
HCM 6th Ctrl Delay	180.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	147	264	1528	808	454	758
Future Volume (veh/h)	147	264	1528	808	454	758
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	287	1661	0	493	824
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	368	328	1385		360	2297
Arrive On Green	0.21	0.21	0.39	0.00	0.20	0.65
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	160	287	1661	0	493	824
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.7	15.0	33.4	0.0	17.3	9.2
Cycle Q Clear(g_c), s	6.7	15.0	33.4	0.0	17.3	9.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	368	328	1385		360	2297
V/C Ratio(X)	0.43	0.88	1.20		1.37	0.36
Avail Cap(c_a), veh/h	665	592	1385		360	2297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	32.9	26.2	0.0	34.2	7.0
Incr Delay (d2), s/veh	0.3	3.0	97.0	0.0	183.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	5.9	31.1	0.0	25.3	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.9	35.9	123.2	0.0	218.1	7.4
LnGrp LOS	C	D	F		F	A
Approach Vol, veh/h	447		1661	A		1317
Approach Delay, s/veh	33.8		123.2			86.3
Approach LOS	C		F			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	40.9		22.8		62.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		55.4
Max Q Clear Time (g_c+I1), s	19.3	35.4		17.0		11.2
Green Ext Time (p_c), s	0.0	0.0		0.7		3.7

Intersection Summary	
HCM 6th Ctrl Delay	97.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	380	290	729	338	872	1603
Future Volume (veh/h)	380	290	729	338	872	1603
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	413	315	792	0	948	1742
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	475	423	1246		350	2124
Arrive On Green	0.27	0.27	0.35	0.00	0.20	0.60
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	413	315	792	0	948	1742
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	20.6	16.9	17.3	0.0	18.3	36.0
Cycle Q Clear(g_c), s	20.6	16.9	17.3	0.0	18.3	36.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	475	423	1246		350	2124
V/C Ratio(X)	0.87	0.75	0.64		2.70	0.82
Avail Cap(c_a), veh/h	705	627	1246		350	2124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	31.2	25.2	0.0	37.4	14.8
Incr Delay (d2), s/veh	7.8	2.7	2.5	0.0	775.2	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	6.6	7.2	0.0	83.0	12.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.4	33.9	27.7	0.0	812.5	18.4
LnGrp LOS	D	C	C		F	B
Approach Vol, veh/h	728		792	A		2690
Approach Delay, s/veh	37.6		27.7			298.3
Approach LOS	D		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.0	40.1		29.9		63.1
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 18	32.6		36.8		55.6
Max Q Clear Time (g_c+I1), s	20.3	19.3		22.6		38.0
Green Ext Time (p_c), s	0.0	4.1		2.2		11.6

Intersection Summary	
HCM 6th Ctrl Delay	202.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	228	567	300	810	1238
Future Volume (veh/h)	352	228	567	300	810	1238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	383	248	616	0	880	1346
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	435	786	1155		448	2221
Arrive On Green	0.24	0.24	0.32	0.00	0.25	0.63
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	383	248	616	0	880	1346
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	20.0	9.0	13.7	0.0	24.3	22.1
Cycle Q Clear(g_c), s	20.0	9.0	13.7	0.0	24.3	22.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	435	786	1155		448	2221
V/C Ratio(X)	0.88	0.32	0.53		1.96	0.61
Avail Cap(c_a), veh/h	590	924	1155		448	2221
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	14.5	26.6	0.0	36.2	10.9
Incr Delay (d2), s/veh	11.2	0.2	1.8	0.0	442.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	0.0	5.7	0.0	64.9	7.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.4	14.8	28.4	0.0	478.1	12.2
LnGrp LOS	D	B	C		F	B
Approach Vol, veh/h	631		616	A		2226
Approach Delay, s/veh	34.0		28.4			196.4
Approach LOS	C		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	29.0	38.9		28.7		67.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 24	31.4		32.0		60.4
Max Q Clear Time (g_c+I1), s	26.3	15.7		22.0		24.1
Green Ext Time (p_c), s	0.0	3.4		1.6		12.0

Intersection Summary	
HCM 6th Ctrl Delay	137.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	140	205	1373	769	444	679
Future Volume (veh/h)	140	205	1373	769	444	679
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	152	223	1492	0	483	738
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	243	589	1441		420	2493
Arrive On Green	0.14	0.14	0.41	0.00	0.24	0.70
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	152	223	1492	0	483	738
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.3	8.0	31.5	0.0	18.3	6.1
Cycle Q Clear(g_c), s	6.3	8.0	31.5	0.0	18.3	6.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	243	589	1441		420	2493
V/C Ratio(X)	0.63	0.38	1.04		1.15	0.30
Avail Cap(c_a), veh/h	754	1045	1441		420	2493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	17.8	23.1	0.0	29.7	4.4
Incr Delay (d2), s/veh	1.0	0.1	33.3	0.0	92.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	7.9	17.9	0.0	17.8	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.7	18.0	56.4	0.0	121.7	4.7
LnGrp LOS	C	B	F		F	A
Approach Vol, veh/h	375		1492	A		1221
Approach Delay, s/veh	23.9		56.4			51.0
Approach LOS	C		E			D

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	23.0	39.0		15.7		62.0
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 18	31.5		32.9		54.5
Max Q Clear Time (g_c+I1), s	20.3	33.5		10.0		8.1
Green Ext Time (p_c), s	0.0	0.0		0.6		3.2

Intersection Summary	
HCM 6th Ctrl Delay	50.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	368	255	651	321	821	1425
Future Volume (veh/h)	368	255	651	321	821	1425
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	277	708	0	892	1549
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	452	786	1163		432	2195
Arrive On Green	0.25	0.25	0.33	0.00	0.24	0.62
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	400	277	708	0	892	1549
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	21.1	10.4	16.4	0.0	23.7	28.9
Cycle Q Clear(g_c), s	21.1	10.4	16.4	0.0	23.7	28.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	452	786	1163		432	2195
V/C Ratio(X)	0.89	0.35	0.61		2.07	0.71
Avail Cap(c_a), veh/h	583	903	1163		432	2195
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	15.1	27.6	0.0	37.1	12.7
Incr Delay (d2), s/veh	12.6	0.3	2.4	0.0	487.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	0.1	6.9	0.0	68.2	10.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.7	15.3	30.0	0.0	525.0	14.6
LnGrp LOS	D	B	C		F	B
Approach Vol, veh/h	677		708	A		2441
Approach Delay, s/veh	34.5		30.0			201.1
Approach LOS	C		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.4	39.5		29.9		67.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 24	32.0		32.0		60.4
Max Q Clear Time (g_c+I1), s	25.7	18.4		23.1		30.9
Green Ext Time (p_c), s	0.0	3.7		1.7		13.6

Intersection Summary	
HCM 6th Ctrl Delay	140.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	147	264	1528	808	454	758
Future Volume (veh/h)	147	264	1528	808	454	758
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	287	1661	0	493	824
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	303	604	1449		376	2403
Arrive On Green	0.17	0.17	0.41	0.00	0.21	0.68
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	160	287	1661	0	493	824
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	6.7	11.2	33.4	0.0	17.3	8.0
Cycle Q Clear(g_c), s	6.7	11.2	33.4	0.0	17.3	8.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	303	604	1449		376	2403
V/C Ratio(X)	0.53	0.48	1.15		1.31	0.34
Avail Cap(c_a), veh/h	696	954	1449		376	2403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	19.2	24.3	0.0	32.3	5.6
Incr Delay (d2), s/veh	0.5	0.2	74.5	0.0	157.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	27.1	0.0	23.3	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.5	19.4	98.7	0.0	190.0	6.0
LnGrp LOS	C	B	F		F	A
Approach Vol, veh/h	447		1661	A		1317
Approach Delay, s/veh	23.7		98.7			74.8
Approach LOS	C		F			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	22.0	40.9		19.0		62.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 17	33.4		32.0		55.4
Max Q Clear Time (g_c+I1), s	19.3	35.4		13.2		10.0
Green Ext Time (p_c), s	0.0	0.0		0.7		3.7

Intersection Summary	
HCM 6th Ctrl Delay	79.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	380	290	729	338	872	1603
Future Volume (veh/h)	380	290	729	338	872	1603
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	413	315	792	0	948	1742
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	465	802	1134		437	2174
Arrive On Green	0.26	0.26	0.32	0.00	0.25	0.61
Sat Flow, veh/h	1781	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	413	315	792	0	948	1742
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	22.0	12.1	19.3	0.0	24.2	36.9
Cycle Q Clear(g_c), s	22.0	12.1	19.3	0.0	24.2	36.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	465	802	1134		437	2174
V/C Ratio(X)	0.89	0.39	0.70		2.17	0.80
Avail Cap(c_a), veh/h	577	902	1134		437	2174
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	15.0	29.5	0.0	37.3	14.6
Incr Delay (d2), s/veh	13.5	0.3	3.6	0.0	534.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	13.0	8.3	0.0	74.8	13.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.7	15.4	33.1	0.0	572.1	17.8
LnGrp LOS	D	B	C		F	B
Approach Vol, veh/h	728		792	A		2690
Approach Delay, s/veh	34.3		33.1			213.2
Approach LOS	C		C			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	28.9	39.0		30.9		67.9
Change Period (Y+Rc), s	* 4.7	7.5		5.1		7.5
Max Green Setting (Gmax), s	* 24	31.5		32.0		60.4
Max Q Clear Time (g_c+I1), s	26.2	21.3		24.0		38.9
Green Ext Time (p_c), s	0.0	3.6		1.7		13.2

Intersection Summary	
HCM 6th Ctrl Delay	148.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.