APPENDIX D: EXISTING TRANSPORTATION CONDITIONS REPORT APPENDIX PART 2

- Appendix L: Horizon Year (2050) No-Build Conditions Capacity Analysis Results
- Appendix M: Interim Year (2040) No-Build Conditions Capacity Analysis Results

APPENDIX L: FUTURE 2050 NO-BUILD CONDITIONS CAPACITY ANALYSIS RESULTS

FREEWAY ANALYSIS

HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.54		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 SB, between Exit 123 (I-465) and Entrance Ramp from SB I-465	2760	2
2	Merge	Basic	I-65 SB, Entrance Ramp from SB I-465	1500	3
3	Basic	Basic	I-65 SB, between I-465 and Lafayette Rd	6500	3
4	Diverge	Diverge	I-65 SB, Exit Ramp to Lafayette Rd	1500	3
5	Basic	Basic	I-65 SB, at Layfayette Rd	2700	3
6	Merge	Merge	I-65 SB, Entrance Ramp from Lafayette Rd	1500	3
7	Basic	Basic	I-65 SB, between Layfayette Rd and 38th St	6100	3
8	Diverge	Diverge	I-65 SB, Exit Ramp to 38th St	1500	3
9	Basic	Basic	I-65 SB, between 38th St Exit and 38th St Entrance	5200	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.855	3077	4700	0.65	64.7	23.8	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.855	0.962	5169	2092	7050	2000	0.73	1.05	63.5	63.5	27.1	27.1	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.901	5056	7050	0.72	63.8	26.4	D

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.901	0.952	5056	395	7050	2000	0.72	0.20	58.5	54.3	28.8	27.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.901	4639	7050	0.66	64.7	23.9	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.901	0.990	6231	1592	7050	2000	0.88	0.80	53.8	51.5	38.6	35.9	E

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.917	6276	7050	0.89	58.2	35.9	E

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.917	0.971	6276	760	7050	2000	0.89	0.38	57.6	53.6	36.3	32.1	D

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.909	5520	7050	0.78	62.3	29.5	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	6623	5562	7.03	175.80	60.8	29.9	27.0	5.50	D

Facility Overall Results

Space Mean Speed, mi/h	60.8	Average Density, veh/mi/ln	27.0
Average Travel Time, min	5.50	Average Density, pc/mi/ln	29.9
Total VMT, veh-mi	6623	Total VHD, veh-h	7.03
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	175.80

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.05		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Basic	I-65 SB, Entrance Ramp from 38th St	3200	3
2	Basic	Basic	I-65 SB, between 38th St and Dr MLK Jr St	4200	3
3	Diverge	Diverge	I-65 SB, Exit Ramp to Dr MLK Jr St	1500	3
4	Basic	Basic	I-65 SB, at Dr MLK Jr St	1200	3
5	Merge	Merge	I-65 SB, Entrance Ramp from Dr MLK Jr St	1500	3
6	Basic	Basic	I-65 SB, between Dr MLK Jr St and 29th St	2500	3
7	Weaving	Weaving	I-65 SB, between 29th St and 21st St	2000	4

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.909	0.943	6239	2254	7050	2000	1.12	1.13	33.7	33.7	61.7	61.7	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.917	5995	7050	1.08	31.0	64.4	F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.917	0.980	5905	345	7050	2000	1.08	0.17	29.1	54.4	67.8	40.8	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

			(pc/h)	(pc/h)	Ratio	(mi/h)	(pc/mi/ln)	
1	0.87	0.917	5471	7050	1.03	23.8	76.5	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.917	0.980	6565	1151	7050	2000	1.19	0.58	54.1	52.0	40.8	32.1	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.926	6565	7050	1.19	56.2	38.9	F

Segment 7: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.926	7484	8340	1.11	45.2	41.4	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4592	4497	54.18	1354.57	36.8	55.5	51.0	5.00	F

Facility Overall Results

Space Mean Speed, mi/h	36.8	Average Density, veh/mi/ln	51.0
Average Travel Time, min	5.00	Average Density, pc/mi/ln	55.5
Total VMT, veh-mi	4592	Total VHD, veh-h	54.18
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1354.57

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.98		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 SB, between 21st Exit Ramp and 21st St Entrance Ramp	1140	3
2	Weaving	Weaving	I-65 SB, between 21st Entrance Ramp and West St Exit Ramp	4030	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.926	4504	7050	1.24	15.4	97.4	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.926	5149	5530	1.68	55.2	23.3	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1903	1718	15.72	392.95	42.3	36.3	33.9	1.40	F

Facility Overall Results

Space Mean Speed, mi/h	42.3	Average Density, veh/mi/ln	33.9
Average Travel Time, min	1.40	Average Density, pc/mi/ln	36.3
Total VMT, veh-mi	1903	Total VHD, veh-h	15.72
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	392.95

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.36		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 SB, between West St Exit Ramp and Illinois St	500	3
2	Diverge	Diverge	I-65 SB, Exit Ramp to N Illinois St	1500	3
3	Basic	Basic	I-65 SB, between N Illinois St Exit and West St Entrance	350	3
4	Weaving	Weaving	I-65 SB, between Entrance Ramp from West St and North Split	4340	3
5	Basic	Basic	I-65 SB, at North Split	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.901	6224	7050	0.88	58.6	35.4	E

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.901	0.990	6224	1594	7050	2000	0.88	0.80	56.3	51.9	36.9	36.0	E

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.877	4630	7050	0.65	63.1	23.9	C

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.877	6045	6165	0.97	43.5	46.3	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.893	2194	4700	0.48	64.6	16.9	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1750	1282	9.61	240.21	47.9	41.0	36.7	1.70	E

Facility Overall Results

Space Mean Speed, mi/h	47.9	Average Density, veh/mi/ln	36.7
Average Travel Time, min	1.70	Average Density, pc/mi/ln	41.0
Total VMT, veh-mi	1750	Total VHD, veh-h	9.61
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	240.21

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, EB 38th St Frontage		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.75		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	38th St Frontage, from Industrial Blvd / Commercial Dr	1640	2
2	Weaving	Weaving	38th St Frontage, Between Entrance from I-65 SB and Kessler Blvd	3330	4
3	Weaving	Weaving	38th St Frontage, Between Kessler Blvd and Exit to I-65 SB	1640	3
4	Basic	Basic	38th St Frontage, to Cold Spring Rd	2640	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.952	2770	4700	0.59	65.0	21.3	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.952	3500	8008	0.44	54.0	16.2	B

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.980	3284	5670	0.58	53.8	20.3	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.980	1069	4700	0.23	64.7	8.2	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1111	837	2.46	61.44	56.8	16.0	14.0	1.80	B

Facility Overall Results

Space Mean Speed, mi/h	56.8	Average Density, veh/mi/ln	14.0
Average Travel Time, min	1.80	Average Density, pc/mi/ln	16.0
Total VMT, veh-mi	1111	Total VHD, veh-h	2.46
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	61.44

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, WB 38th St Frontage		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.55		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	38th St Frontage, from NB I-65	1000	2
2	Weaving	Weaving	38th St Frontage, Between Cold Springs Entrance and Exit to Kessler Blvd	2950	4
3	Weaving	Weaving	38th St Frontage, Between Entrance from Kessler Blvd and NB I-65	2590	4
4	Basic	Basic	38th St Frontage, to Industrial Blvd	1640	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.83	0.980	2090	4700	0.44	65.0	16.1	B

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.83	0.980	3939	5128	0.77	57.8	17.0	B

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.83	0.962	3922	7732	0.51	58.1	16.9	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.83	0.962	3127	4700	0.67	64.6	24.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1322	850	1.88	47.02	59.5	17.8	15.0	1.60	B

Facility Overall Results

Space Mean Speed, mi/h	59.5	Average Density, veh/mi/ln	15.0
Average Travel Time, min	1.60	Average Density, pc/mi/ln	17.8
Total VMT, veh-mi	1322	Total VHD, veh-h	1.88
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	47.02

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	Collector-Distributor I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.08		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Collector-Distributor I-70/I-65 SB at Washington St	2010	2
2	Weaving	Weaving	Collector-Distributor I-70/I-65 SB Between E Washington St Entrance and Fletcher Ave Exit	1750	3
3	Basic	Basic	Collector-Distributor I-70/I-65 SB, Slip Ramp to Mainline	1940	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.962	948	2300	0.41	59.7	7.9	A

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.962	2722	2725	1.18	40.6	22.3	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.952	2163	4600	0.58	59.0	18.0	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	531	352	2.09	52.24	48.5	16.7	15.9	1.30	F

Facility Overall Results

Space Mean Speed, mi/h	48.5	Average Density, veh/mi/ln	15.9
Average Travel Time, min	1.30	Average Density, pc/mi/ln	16.7

Total VMT, veh-mi	531	Total VHD, veh-h	2.09
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	52.24

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	Main I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70/I-65 SB from North Split	5750	3
2	Weaving	Weaving	I-70/I-65 SB, Between Slip Ramp and East St	1700	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.885	4302	6900	0.84	15.7	91.2	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.885	4817	5173	1.57	41.8	23.0	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1638	1711	53.00	1325.05	20.4	68.7	61.0	4.10	F

Facility Overall Results

Space Mean Speed, mi/h	20.4	Average Density, veh/mi/ln	61.0
Average Travel Time, min	4.10	Average Density, pc/mi/ln	68.7
Total VMT, veh-mi	1638	Total VHD, veh-h	53.00
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1325.05

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	Main I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.53		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	I-70/I-65 SB, to I-70 WB	820	4
2	Basic	Basic	I-65 SB, through South Split	2000	2

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.901	0.885	9200	4689	9200	4000	0.75	1.17	50.0	44.7	46.0	41.2	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.917	4600	4600	0.49	51.1	45.0	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	721	418	2.23	55.81	50.6	45.5	41.4	0.60	F

Facility Overall Results

Space Mean Speed, mi/h	50.6	Average Density, veh/mi/ln	41.4
Average Travel Time, min	0.60	Average Density, pc/mi/ln	45.5
Total VMT, veh-mi	721	Total VHD, veh-h	2.23
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	55.81

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, I-70 EB, South Split to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.39		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, through South Split	1950	3
2	Merge	Basic	I-65 NB / I-70 EB, between South Split and Calvary St	1800	5
3	Merge	Merge	I-65 NB / I-70 EB, Entrance Ramp from Calvary St	800	5
4	Diverge	Diverge	I-65 NB / I-70 EB, Exit Ramp to Washington St	800	5
5	Basic	Basic	I-65 NB / I-70 EB, Washington St to South of North Split	2000	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.935	4593	6900	0.67	60.0	25.5	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.935	0.847	8968	4375	11500	4400	0.78	0.99	59.3	59.3	30.2	30.2	D

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.893	0.952	9876	917	11500	2000	0.86	0.46	53.7	52.5	27.5	29.3	D

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.93	0.93	0.893	0.962	9936	2289	11500	4000	0.86	0.57	54.7	48.6	29.1	23.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	7607	9200	0.83	58.3	32.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2413	1891	1.64	41.09	57.6	29.4	26.7	1.40	D

Facility Overall Results

Space Mean Speed, mi/h	57.6	Average Density, veh/mi/ln	26.7
Average Travel Time, min	1.40	Average Density, pc/mi/ln	29.4
Total VMT, veh-mi	2413	Total VHD, veh-h	1.64
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	41.09

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, between North Split and Delaware St	1800	3
2	Diverge	Diverge	I-65 NB, Exit Ramp to West St	1500	3
3	Basic	Basic	I-65 NB, between West St Exit Ramp and Illinois St Ent Ramp	700	3
4	Merge	Merge	I-65 NB, Entrance Ramp from Illinois St	1500	3
5	Basic	Basic	I-65 NB, between Entrance Ramp from Illinois St and Entrance Ramp from West St	470	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	7050	7050	1.21	52.2	45.0	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.926	0.990	7050	2615	7050	2000	1.21	1.31	54.0	49.8	43.5	41.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	4435	7050	0.83	63.1	22.8	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.909	0.971	5026	591	7050	2000	0.91	0.30	57.7	56.3	29.0	26.7	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	5026	7050	0.92	63.5	26.2	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1580	1763	4.28	107.00	55.3	36.5	33.6	1.20	F

Facility Overall Results

Space Mean Speed, mi/h	55.3	Average Density, veh/mi/ln	33.6
Average Travel Time, min	1.20	Average Density, pc/mi/ln	36.5
Total VMT, veh-mi	1580	Total VHD, veh-h	4.28
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	107.00

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.28		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Weaving	Weaving	I-65 NB, between Entrance Ramp from West St and Exit Ramp to 21st St	2300	4
2	Basic	Basic	I-65 NB, at 21st St	970	3
3	Weaving	Weaving	I-65 NB, between 21st St and 29th St	3500	4

Facility Segment Data

Segment 1: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	7597	5455	1.37	40.3	47.1	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	5455	7050	0.77	62.5	29.1	D

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	5801	8248	0.68	47.9	30.3	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1856	1545	12.07	301.81	45.7	36.1	33.5	1.70	F

Facility Overall Results

Space Mean Speed, mi/h	45.7	Average Density, veh/mi/ln	33.5
Average Travel Time, min	1.70	Average Density, pc/mi/ln	36.1
Total VMT, veh-mi	1856	Total VHD, veh-h	12.07
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	301.81

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	8.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, at W 29th St	2950	3
2	Merge	Merge	I-65 NB, Entrance Ramp from 30th St	1500	3
3	Basic	Basic	I-65 NB, between 30th St and Dr MLK Jr St	1100	3
4	Merge	Merge	I-65 NB, Entrance Ramp from Dr MLK Jr St	1500	3
5	Basic	Basic	I-65 NB, between from Dr MLK Jr St and 38th St	3200	3
6	Diverge	Diverge	I-65 NB, Exit Ramp to 38th St	2500	3
7	Basic	Basic	I-65 NB, between Exit Ramp to 38th St and Entrance Ramp from 38th St	6930	3
8	Merge	Merge	I-65 NB, Entrance Ramp from 38th St	1500	3
9	Basic	Basic	I-65 NB, between 38th St and Lafayette Rd	6400	3
10	Diverge	Diverge	I-65 NB, Exit Ramp to Lafayette Rd	1500	3
11	Basic	Basic	I-65 NB, at Lafayette Rd	2660	3
12	Merge	Merge	I-65 NB, Entrance Ramp from Lafayette Rd	1500	3
13	Basic	Basic	I-65 NB, between Lafayette Rd and I-465	4990	3
14	Diverge	Diverge	I-65 NB, Exit Ramp to I-465	1500	3
15	Basic	Basic	I-65 NB, at I-465	4700	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	4453	7050	0.63	64.9	22.9	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.962	4772	319	7050	2000	0.68	0.16	58.7	57.7	27.1	21.6	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	4796	7050	0.68	64.2	24.8	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.952	4914	118	7050	2000	0.70	0.06	58.4	57.4	28.0	22.8	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	4921	7050	0.70	64.2	25.5	C

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.943	4921	1656	7050	4000	0.70	0.41	56.7	51.7	28.9	17.6	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.877	3230	7050	0.46	65.0	16.6	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.877	0.971	3934	704	7050	2000	0.56	0.35	59.0	57.6	22.2	20.8	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	3938	7050	0.56	65.0	20.2	C

Segment 10: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.943	3938	868	7050	2000	0.56	0.43	57.5	53.4	22.8	22.6	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.877	3076	7050	0.44	64.7	15.8	B

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.877	0.962	3798	722	7050	2000	0.54	0.36	59.0	57.5	21.5	21.1	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	3799	7050	0.54	65.0	19.5	C

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.952	3799	2479	7050	4200	0.54	0.59	55.7	53.0	22.7	17.2	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.820	1259	4700	0.27	64.9	9.7	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	6918	6257	4.30	107.55	62.5	20.5	18.2	8.10	C

Facility Overall Results

Space Mean Speed, mi/h	62.5	Average Density, veh/mi/ln	18.2
Average Travel Time, min	8.10	Average Density, pc/mi/ln	20.5
Total VMT, veh-mi	6918	Total VHD, veh-h	4.30
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	107.55

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, I-465 to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, at I-465	1700	3
2	Merge	Merge	I-70 EB, Entrance Ramp from NB I-465	1500	3
3	Basic	Basic	I-70 EB, between I-465 and Sam Jones Expy	2070	3
4	Diverge	Diverge	I-70 EB, Exit Ramp to Sam Jones Expy	1500	3
5	Basic	Basic	I-70 EB, at Sam Jones Expy	2400	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.893	5498	7050	0.78	62.3	29.4	D

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.893	0.935	6122	624	7050	2000	0.87	0.31	55.9	54.4	36.5	30.8	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.901	6097	7050	0.86	59.3	34.3	D

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.901	0.855	6097	481	7050	2000	0.86	0.24	58.2	54.2	34.9	31.2	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.901	5640	7050	0.80	61.7	30.5	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2290	2003	3.21	80.21	59.6	32.9	29.5	1.70	D

Facility Overall Results

Space Mean Speed, mi/h	59.6	Average Density, veh/mi/ln	29.5
Average Travel Time, min	1.70	Average Density, pc/mi/ln	32.9
Total VMT, veh-mi	2290	Total VHD, veh-h	3.21
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	80.21

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, I-465 to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	17
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.01		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 EB, Entrance Ramp from Sam Jones Expy	1500	3
2	Basic	Basic	I-70 EB, between Sam Jones Expy and Holt Rd	4320	3
3	Diverge	Diverge	I-70 EB, Exit Ramp to Holt Rd	1500	3
4	Basic	Basic	I-70 EB, at Holt Rd	3000	3
5	Merge	Merge	I-70 EB, Entrance Ramp from Holt Rd	1500	3
6	Basic	Basic	I-70 EB, between Holt Rd and Harding St	4700	3
7	Diverge	Diverge	I-70 EB, Exit Ramp to Harding St	1500	3
8	Basic	Basic	I-70 EB, at Harding St	1800	3
9	Merge	Merge	I-70 EB, Entrance Ramp from Harding St	1500	3
10	Basic	Basic	I-70 EB, between Harding St and West St	1550	3
11	Diverge	Diverge	I-70 EB, Exit Ramp to West St	1500	3
12	Basic	Basic	I-70 EB, over West St	650	3
13	Diverge	Diverge	I-70 EB, Exit Ramp to Madison Ave & Illinois St	1000	3
14	Basic	Basic	I-70 EB, between Missouri St and Kenwood Ave	1300	3
15	Merge	Merge	I-70 EB, Entrance Ramp from Missouri St	650	3
16	Weaving	Weaving	I-70 EB, Entrance Ramp from Madison Ave & Exit to SB I-65	3000	4
17	Basic	Basic	I-70 EB at South Split	780	2

Facility Segment Data

Segment 1: Merge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.901	0.952	6679	2473	7050	2000	1.15	1.24	42.3	49.8	52.6	45.6	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.917	6511	7050	1.08	39.8	54.5	F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.917	0.893	6451	756	7050	2000	1.08	0.38	37.9	53.6	56.7	39.4	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.917	5457	7050	0.98	24.9	73.2	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.917	0.862	6565	1984	7050	2000	1.26	0.99	52.8	50.6	47.0	38.6	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.909	6565	7050	1.25	56.2	38.9	F

Segment 7: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.909	0.943	6565	1271	7050	2000	1.25	0.64	56.7	52.5	38.6	35.6	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.901	5294	7050	1.07	63.1	28.0	F

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.901	0.806	6464	1170	7050	2000	1.24	0.58	53.8	51.5	40.0	35.3	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.893	6464	7050	1.23	56.9	37.9	F

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.893	0.943	6464	948	7050	2000	1.23	0.47	57.2	53.2	37.7	36.7	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.885	5516	7050	1.10	62.3	29.5	F

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.885	0.980	5516	1319	7050	2000	1.10	0.66	56.7	52.4	32.4	32.7	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.870	4197	7050	0.91	63.7	21.5	C

Segment 15: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.870	0.870	5256	1059	7050	2000	1.06	0.53	57.1	55.5	30.7	28.8	F

Segment 16: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.855	5426	7643	1.00	56.6	24.0	F

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.862	3086	4700	1.13	64.6	23.8	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8404	9182	49.81	1245.30	46.9	42.0	38.0	7.70	F

Facility Overall Results

Space Mean Speed, mi/h	46.9	Average Density, veh/mi/ln	38.0
Average Travel Time, min	7.70	Average Density, pc/mi/ln	42.0
Total VMT, veh-mi	8404	Total VHD, veh-h	49.81
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1245.30

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	17
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.10		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, between North Split and Keystone Way	4840	5
2	Diverge	Diverge	I-70 EB, Exit Ramp to SB Keystone Way	1500	5
3	Diverge	Basic	I-70 EB, Exit Ramp to NB Keystone Way	1460	5
4	Basic	Basic	I-70 EB, at Keystone Way	1170	4
5	Merge	Merge	I-70 EB, Entrance Ramp from Keystone Way	1500	4
6	Basic	Basic	I-70 EB, between Keystone Way and Emerson Ave	3870	4
7	Diverge	Diverge	I-70 EB, Exit Ramp to Emerson Ave	1500	4
8	Basic	Basic	I-70 EB, West of Emerson Ave	1530	4
9	Merge	Merge	I-70 EB, Entrance Ramp from SB Emerson Ave	1420	4
10	Merge	Merge	I-70 EB, Entrance Ramp from NB Emerson Ave	1600	4
11	Basic	Basic	I-70 EB, between Emerson Ave and Shadeland (5 Lane)	4415	5
12	Diverge	Diverge	I-70 EB, Exit Ramp to Shadeland Ave	1500	5
13	Basic	Basic	I-70 EB, at Shadeland Ave	5360	3
14	Merge	Merge	I-70 EB, Entrance Ramp from Shadeland Ave	1800	3
15	Merge	Merge	I-70 EB, Entrance Ramp from SB I-465	1500	4
16	Merge	Basic	I-70 EB, Entrance Ramp from NB I-465	1500	5
17	Basic	Basic	I-70 EB, East of I-465	1000	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.94		0.885		8365		11750		0.71		63.9		26.2		D
Segment 2: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.885	0.943	8365	483	11750	2000	0.71	0.24	60.8	54.2	22.0	26.3	C
Segment 3: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.885	0.917	7851	1001	11750	2000	0.67	0.50	64.6	64.6	24.3	24.3	C
Segment 4: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.94		0.877		6875		9400		0.73		63.6		27.0		D
Segment 5: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.877	0.917	7405	530	9400	2000	0.79	0.27	58.1	56.5	31.9	26.0	C
Segment 6: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.94		0.885		7363		9400		0.78		62.2		29.6		D
Segment 7: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.885	0.935	7363	1322	9400	2000	0.78	0.66	58.8	52.4	31.3	33.1	D
Segment 8: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.94		0.870		6069		9400		0.65		64.5		23.4		C
Segment 9: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.870	0.926	6392	323	9400	2000	0.68	0.16	59.1	57.6	27.0	21.5	C
Segment 10: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.870	0.971	7003	591	9400	2000	0.75	0.30	58.5	56.8	29.9	24.9	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.885	6952	11750	0.59	65.0	21.4	C

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.885	0.901	6952	4534	11750	5000	0.59	0.91	57.1	57.1	24.3	24.3	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.847	2440	7050	0.35	65.0	12.5	B

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.847	0.833	2583	143	7050	2000	0.37	0.07	60.0	58.2	14.4	13.8	B

Segment 15: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.847	0.926	3590	1009	9400	4000	0.38	0.25	61.2	59.3	14.7	11.6	B

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.870	0.833	5544	1958	11750	2000	0.47	0.98	64.7	65.0	17.1	17.1	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.862	5512	11750	0.47	65.0	17.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	9590	8749	6.42	160.44	62.3	23.1	20.2	6.80	C

Facility Overall Results

Space Mean Speed, mi/h	62.3	Average Density, veh/mi/ln	20.2
Average Travel Time, min	6.80	Average Density, pc/mi/ln	23.1
Total VMT, veh-mi	9590	Total VHD, veh-h	6.42
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	160.44

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.66		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, east of I-465	500	5
2	Diverge	Diverge	I-70 WB, Exit to I-465 NB/SB	1500	5
3	Basic	Basic	I-70 WB, east of I-465	1600	3
4	Diverge	Diverge	I-70 WB, Exit to Shadeland Ave	1500	3
5	Basic	Basic	I-70 WB, west of I-465	1650	3
6	Merge	Merge	I-70 WB, Entrance Ramp From SB I-465	1500	4
7	Basic	Basic	I-70 WB, East of Entrance Ramp From NB I-465	500	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.901	9008	11750	0.77	62.7	28.7	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.885	9008	4004	11750	4000	0.77	1.00	52.7	46.9	27.3	32.4	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.909	5004	7050	0.71	64.0	26.1	D

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.94	0.94	0.909	0.935	5004	309	7050	2000	0.71	0.15	58.7	54.5	28.4	24.6	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.909	4695	7050	0.67	64.5	24.2	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.909	0.971	8300	3605	9400	4000	0.88	0.90	54.3	51.1	38.2	37.3	E

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	8300	9400	0.89	58.5	35.5	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2489	2127	4.77	119.30	57.8	29.4	26.8	1.70	F

Facility Overall Results

Space Mean Speed, mi/h	57.8	Average Density, veh/mi/ln	26.8
Average Travel Time, min	1.70	Average Density, pc/mi/ln	29.4
Total VMT, veh-mi	2489	Total VHD, veh-h	4.77
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	119.30

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	10
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.88		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 WB, Entrance Ramp from I-465 N	1350	4
2	Merge	Merge	I-70 WB Entrance Ramp from Shadeland Ave	1500	4
3	Basic	Basic	I-70 WB, between Shadeland Entrance and Emerson Exit	4780	4
4	Diverge	Diverge	I-70 WB, Exit Ramp to Emerson Ave	1500	4
5	Basic	Basic	I-70 WB, East of Emerson Ave	1500	4
6	Merge	Merge	I-70 WB, Entrance Ramp From NB Emerson Ave	1500	4
7	Merge	Merge	I-70 WB, Entrance Ramp From SB Emerson Ave	1500	4
8	Basic	Basic	I-70 WB, between Emerson Ave and Keystone Way	4000	4
9	Diverge	Diverge	I-70 WB, Exit Ramp to Keystone Way	1500	4
10	Basic	Basic	I-70 WB, East of Keystone Way	1350	4

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.917	7681	566	9400	2000	0.95	0.28	26.9	54.5	71.5	30.7	F

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.952	8690	1628	9400	2000	1.12	0.81	47.0	50.1	46.2	39.9	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	8378	9400	1.12	40.6	51.6	F

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.952	8280	838	9400	2000	1.12	0.42	36.0	53.4	57.5	43.5	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	7285	9400	1.03	25.6	71.0	F

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.962	7845	670	9400	2000	1.10	0.34	29.0	50.0	67.6	38.6	F

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.935	8753	908	9400	2000	1.20	0.45	56.1	53.9	39.0	31.4	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	8753	9400	1.20	56.2	38.9	F

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.935	8753	750	9400	2000	1.20	0.37	59.5	53.6	36.8	37.6	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	8003	9400	1.12	59.9	33.4	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7554	8806	64.60	1614.91	41.8	49.9	46.6	5.60	F

Facility Overall Results

Space Mean Speed, mi/h	41.8	Average Density, veh/mi/ln	46.6
Average Travel Time, min	5.60	Average Density, pc/mi/ln	49.9
Total VMT, veh-mi	7554	Total VHD, veh-h	64.60

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1614.91

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.01		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 WB, Entrance Ramp from NB Keystone Way	1450	5
2	Merge	Merge	I-70 WB, Entrance Ramp from SB Keystone Way	1500	5
3	Basic	Basic	I-70 WB, between Keystone Way and North Split	2370	5

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.926	10939	408	11750	2000	0.93	0.20	57.3	56.6	29.5	24.5	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.943	11631	696	11750	2000	0.99	0.35	55.5	53.6	32.9	32.3	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	11637	11750	0.99	52.8	44.1	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2696	2466	7.83	195.65	54.7	37.0	34.6	1.10	E

Facility Overall Results

Space Mean Speed, mi/h	54.7	Average Density, veh/mi/ln	34.6
Average Travel Time, min	1.10	Average Density, pc/mi/ln	37.0
Total VMT, veh-mi	2696	Total VHD, veh-h	7.83
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	195.65

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at South Split	1600	2
2	Weaving	Weaving	I-70 WB, between I-65 Ramp and Madison Ave	2100	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.885	4196	4700	1.02	34.6	60.5	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	4796	5150	1.70	51.2	23.4	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	762	691	5.78	144.57	43.5	33.7	30.3	1.00	F

Facility Overall Results

Space Mean Speed, mi/h	43.5	Average Density, veh/mi/ln	30.3
Average Travel Time, min	1.00	Average Density, pc/mi/ln	33.7
Total VMT, veh-mi	762	Total VHD, veh-h	5.78
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	144.57

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at Madison Ave	350	3
2	Weaving	Weaving	I-70 WB, Ent from Madison Ave and Exit to Missouri St	1330	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.909	7050	7050	1.07	52.2	45.0	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.909	7363	7857	0.99	40.3	45.7	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	559	508	4.67	116.64	42.1	45.6	42.0	0.50	F

Facility Overall Results

Space Mean Speed, mi/h	42.1	Average Density, veh/mi/ln	42.0
Average Travel Time, min	0.50	Average Density, pc/mi/ln	45.6
Total VMT, veh-mi	559	Total VHD, veh-h	4.67
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	116.64

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at Kenwood Ave	1050	3
2	Merge	Merge	I-70 WB, Entrance Ramp from Capitol Ave	1600	3
3	Merge	Merge	I-70 WB, Entrance from West St	1500	3
4	Basic	Basic	I-70 WB, between West St and Harding St	1370	3
5	Diverge	Diverge	I-70 WB, Exit to Harding St	1500	3
6	Basic	Basic	I-70 WB, at Harding St	1600	3
7	Merge	Merge	I-70 WB, Entrance from Harding St	1500	3
8	Basic	Basic	I-70 WB, between Harding St and Holt Rd	5200	3
9	Diverge	Diverge	I-70 WB, Exit to Holt Rd	1500	3
10	Basic	Basic	I-70 WB, at Holt Rd	2650	3
11	Merge	Merge	I-70 WB, Entrance Ramp from Holt Rd	1500	3
12	Basic	Basic	I-70 WB, between Holt Rd and Sam Jones Expy	3380	3
13	Diverge	Diverge	I-70 WB, Exit to Sam Jones Expy	1500	3
14	Basic	Basic	I-70 WB, at Sam Jones Expy	3180	3
15	Merge	Merge	I-70 WB, Entrance Ramp from Sam Jones Expy	1400	3
16	Basic	Basic	I-70 WB, Between Sam Jones Expy and I-465	3770	3
17	Diverge	Diverge	I-70 WB, Exit Ramp to NB I-465	1500	4
18	Diverge	Basic	I-70 WB, Exit Ramp to SB I-465	1200	4
19	Basic	Basic	I-70 WB, West of I-465	4500	3

Facility Segment Data

Segment 1: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.93		0.901		6003		7050		0.85		59.9		33.4		D
Segment 2: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.901	0.909	6223	220	7050	2000	0.88	0.11	55.8	54.7	37.2	31.0	D
Segment 3: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.901	0.901	6793	570	7050	2000	0.96	0.29	52.7	50.1	43.0	37.5	E
Segment 4: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.93		0.901		6793		7050		0.96		54.4		41.6		E
Segment 5: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.901	0.935	6793	1470	7050	2000	0.96	0.73	56.3	52.1	40.2	37.2	E
Segment 6: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.93		0.893		5323		7050		0.75		63.0		28.2		D
Segment 7: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.893	0.794	6222	899	7050	2000	0.88	0.45	55.0	53.0	37.7	32.9	D
Segment 8: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.93		0.885		6222		7050		0.88		58.6		35.4		E
Segment 9: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.885	0.926	6222	2050	7050	2000	0.88	1.02	55.1	50.9	37.6	34.1	F
Segment 10: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.93		0.870		4172		7050		0.58		64.7		21.4		C

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.870	0.847	4778	606	7050	2000	0.67	0.30	57.9	56.4	27.5	26.3	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.870	4778	7050	0.66	64.5	24.7	C

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.870	0.926	4778	2202	7050	2000	0.66	1.10	54.1	50.6	29.4	30.8	F

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.847	2576	7050	0.34	64.8	13.2	B

Segment 15: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.847	0.730	2851	275	7050	2000	0.38	0.14	59.9	58.2	15.9	15.2	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.840	2851	7050	0.38	64.9	14.6	B

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.840	0.752	2851	147	9400	2000	0.28	0.07	62.6	54.9	11.4	5.5	A

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.847	0.901	2704	251	9400	2000	0.27	0.13	62.0	62.0	10.9	10.9	A

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.840	2453	7050	0.32	65.0	12.6	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7828	6983	11.88	296.96	59.2	25.1	22.0	8.00	F

Facility Overall Results

Space Mean Speed, mi/h	59.2	Average Density, veh/mi/ln	22.0
Average Travel Time, min	8.00	Average Density, pc/mi/ln	25.1
Total VMT, veh-mi	7828	Total VHD, veh-h	11.88
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	296.96

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/23/2024
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	South Split, EB I-70 to SB I-65		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South Split, EB I-70	1050	2
2	Merge	Merge	South Split, SB I-65 and EB I-70	360	4
3	Merge	Basic	SB I-65, On-ramp from Morris St	1500	5
4	Basic	Basic	SB I-65, south of South Split	1900	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.84	0.893	2480	4700	0.53	65.0	19.1	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.84	0.84	0.893	0.917	5336	2856	9400	4400	0.57	0.65	57.4	55.2	23.2	29.7	D

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.84	0.84	0.909	0.943	5572	255	11750	2000	0.47	0.13	63.3	65.0	17.1	17.1	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.84	0.909	5582	11750	0.48	64.9	17.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1008	796	0.32	8.11	63.7	17.8	16.1	0.90	B

Facility Overall Results

Space Mean Speed, mi/h	63.7	Average Density, veh/mi/ln	16.1
Average Travel Time, min	0.90	Average Density, pc/mi/ln	17.8
Total VMT, veh-mi	1008	Total VHD, veh-h	0.32
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	8.11

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/23/2024
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	South Split, NB I-65 to WB I-70		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.06		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	NB I-65, Off-ramp to Morris St	1500	4
2	Diverge	Diverge	South Split, Off-ramp to NB I-65	1015	4
3	Basic	Basic	South Split, WB I-70	3100	2

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.943	0.990	8999	378	9600	2000	0.94	0.19	68.2	60.0	33.0	33.1	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.943	0.935	8602	4593	9400	6600	0.92	0.70	56.6	51.6	38.0	48.2	E

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.952	4010	4700	0.85	59.8	33.5	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1553	1444	2.48	62.09	61.9	34.4	32.6	1.00	D

Facility Overall Results

Space Mean Speed, mi/h	61.9	Average Density, veh/mi/ln	32.6
Average Travel Time, min	1.00	Average Density, pc/mi/ln	34.4

Total VMT, veh-mi	1553	Total VHD, veh-h	2.48
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	62.09

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/24/2024
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB C-D near Shadeland Ave and I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.57		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Collector-Distributor I-70 WB	500	2
2	Weaving	Weaving	Collector-Distributor I-70 WB, I-465 and Shadeland Ave	2000	3
3	Basic	Basic	Collector-Distributor I-70 WB, to Shadeland Ave	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.81	0.926	949	4500	0.21	55.0	8.6	A

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.81	0.917	1909	6159	0.31	49.6	12.8	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.81	0.917	657	2250	0.29	54.3	6.0	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	208	96	0.35	8.64	50.4	11.4	8.8	0.70	B

Facility Overall Results

Space Mean Speed, mi/h	50.4	Average Density, veh/mi/ln	8.8
Average Travel Time, min	0.70	Average Density, pc/mi/ln	11.4
Total VMT, veh-mi	208	Total VHD, veh-h	0.35

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	8.64

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/24/2024
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB C-D near Shadeland Ave and I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.02		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Basic	Collector-Distributor I-70 EB, Shadeland Exit Ramp	1380	3
2	Basic	Basic	Collector-Distributor I-70 EB	1000	2
3	Weaving	Weaving	Collector-Distributor I-70 EB, Shadeland Entrance Ramp and Slip ramp to EB I-70	2500	3
4	Basic	Basic	Collector-Distributor I-70 EB	500	3

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.86	0.86	0.901	0.926	4956	1105	6750	2000	0.73	0.55	55.0	55.0	30.0	30.0	D

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.893	3854	4500	0.86	54.6	35.3	E

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.893	4527	5706	0.79	45.4	33.2	D

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.893	4380	6750	0.65	54.2	26.5	D

Facility Analysis Results

AP	VMT	VMT-Demand	VHD	Total Delay Cost	Speed	Density	Density	TT	LOS

	veh-mi/AP	veh-mi/AP	veh-h/AP	$/AP	mi/h	pc/mi/ln	veh/mi/ln	min	
1	1026	821	1.89	47.18	50.0	31.9	26.5	1.20	D

Facility Overall Results

Space Mean Speed, mi/h	50.0	Average Density, veh/mi/ln	26.5
Average Travel Time, min	1.20	Average Density, pc/mi/ln	31.9
Total VMT, veh-mi	1026	Total VHD, veh-h	1.89
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	47.18

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	23
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	11.06		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 SB, between Exit 123 (I-465) and Entrance Ramp from SB I-465	2760	2
2	Merge	Basic	I-65 SB, Entrance Ramp from SB I-465	1500	3
3	Basic	Basic	I-65 SB, between I-465 and Lafayette Rd	6500	3
4	Diverge	Diverge	I-65 SB, Exit Ramp to Lafayette Rd	1500	3
5	Basic	Basic	I-65 SB, at Layfayette Rd	2700	3
6	Merge	Merge	I-65 SB, Entrance Ramp from Lafayette Rd	1500	3
7	Basic	Basic	I-65 SB, between Layfayette Rd and 38th St	6100	3
8	Diverge	Diverge	I-65 SB, Exit Ramp to 38th St	1500	3
9	Basic	Basic	I-65 SB, between 38th St Exit and 38th St Entrance	5200	3
10	Merge	Basic	I-65 SB, Entrance Ramp from 38th St	3200	3
11	Basic	Basic	I-65 SB, between 38th St and Dr MLK Jr St	4200	3
12	Diverge	Diverge	I-65 SB, Exit Ramp to Dr MLK Jr St	1500	3
13	Basic	Basic	I-65 SB, at Dr MLK Jr St	1200	3
14	Merge	Merge	I-65 SB, Entrance Ramp from Dr MLK Jr St	1500	3
15	Basic	Basic	I-65 SB, between Dr MLK Jr St and 29th St	2500	3
16	Weaving	Weaving	I-65 SB, between 29th St and 21st St	2000	4
17	Basic	Basic	I-65 SB, between 21st Exit Ramp and 21st St Entrance Ramp	1140	3
18	Weaving	Weaving	I-65 SB, between 21st Entrance Ramp and West St Exit Ramp	4030	4
19	Basic	Basic	I-65 SB, between West St Exit Ramp and Illinois St	500	3

20	Diverge	Diverge	I-65 SB, Exit Ramp to N Illinois St	1500	3
21	Basic	Basic	I-65 SB, between N Illinois St Exit and West St Entrance	350	3
22	Weaving	Weaving	I-65 SB, between Entrance Ramp from West St and North Split	4340	3
23	Basic	Basic	I-65 SB, at North Split	1170	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.813	2682	4664	0.58	63.2	21.2	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.813	0.962	4482	1800	7050	2000	0.64	0.90	58.4	58.4	25.6	25.6	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	4482	7050	0.63	64.9	23.0	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.877	0.971	4482	636	7050	2000	0.63	0.32	57.8	53.8	25.8	26.2	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.870	3846	7050	0.54	64.8	19.7	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.870	0.980	4981	1135	7050	2000	0.70	0.57	57.2	55.6	29.0	28.9	D

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	4981	7050	0.70	64.0	25.9	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.893	0.980	4981	946	7050	2000	0.70	0.47	57.5	53.2	28.9	27.0	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.870	4035	7050	0.57	65.0	20.7	C

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.870	0.943	5872	1837	7050	2000	0.83	0.92	55.8	55.8	35.1	35.1	E

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	5872	7050	0.83	60.6	32.3	D

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.893	0.962	5872	447	7050	2000	0.83	0.22	58.3	54.2	33.6	29.9	D

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.885	5425	7050	0.77	62.6	28.9	D

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.885	0.952	6271	846	7050	2000	0.89	0.42	55.5	53.8	37.7	30.1	D

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	6271	7050	0.89	58.3	35.9	E

Segment 16: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	6806	8360	0.80	48.0	35.4	E

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.901	6089	7050	0.85	59.4	34.2	D

Segment 18: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.901	6841	8392	0.80	51.8	33.0	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	5664	7050	0.81	61.6	30.6	F

Segment 20: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.893	0.980	5510	644	7050	2000	0.81	0.32	30.9	53.8	59.4	32.2	F

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	4815	7050	0.72	18.7	85.8	F

Segment 22: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	5783	6210	1.02	44.9	42.9	F

Segment 23: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.885	1867	4700	0.51	64.8	14.4	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	12582	10857	33.57	839.20	55.4	30.4	26.9	12.00	F

Facility Overall Results

Space Mean Speed, mi/h	55.4	Average Density, veh/mi/ln	26.9
Average Travel Time, min	12.00	Average Density, pc/mi/ln	30.4
Total VMT, veh-mi	12582	Total VHD, veh-h	33.57
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	839.20

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, EB 38th St Frontage		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.75		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	38th St Frontage, from Industrial Blvd / Commercial Dr	1640	2
2	Weaving	Weaving	38th St Frontage, Between Entrance from I-65 SB and Kessler Blvd	3330	4
3	Weaving	Weaving	38th St Frontage, Between Kessler Blvd and Exit to I-65 SB	1640	3
4	Basic	Basic	38th St Frontage, to Cold Spring Rd	2640	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.90	0.962	3124	4700	0.66	64.6	24.2	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.90	0.962	4096	8136	0.50	55.8	18.4	B

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.90	0.980	4228	5772	0.73	53.5	26.3	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.90	0.980	2325	4700	0.49	64.6	17.9	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1459	1130	2.68	66.91	58.1	20.5	18.5	1.80	C

Facility Overall Results

Space Mean Speed, mi/h	58.1	Average Density, veh/mi/ln	18.5
Average Travel Time, min	1.80	Average Density, pc/mi/ln	20.5
Total VMT, veh-mi	1459	Total VHD, veh-h	2.68
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	66.91

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, WB 38th St Frontage		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.55		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	38th St Frontage, from NB I-65	1000	2
2	Weaving	Weaving	38th St Frontage, Between Cold Springs Entrance and Exit to Kessler Blvd	2950	4
3	Weaving	Weaving	38th St Frontage, Between Entrance from Kessler Blvd and NB I-65	2590	4
4	Basic	Basic	38th St Frontage, to Industrial Blvd	1640	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	2572	4700	0.55	65.0	19.8	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4572	4753	1.10	55.7	20.5	F

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4571	7720	0.59	56.4	20.3	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3740	4700	0.82	61.9	30.2	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1558	1112	3.08	76.88	57.6	21.5	20.8	1.60	F

Facility Overall Results

Space Mean Speed, mi/h	57.6	Average Density, veh/mi/ln	20.8
Average Travel Time, min	1.60	Average Density, pc/mi/ln	21.5
Total VMT, veh-mi	1558	Total VHD, veh-h	3.08
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	76.88

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	Collector-Distributor I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.08		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Collector-Distributor I-70/I-65 SB at Washington St	2010	2
2	Weaving	Weaving	Collector-Distributor I-70/I-65 SB Between E Washington St Entrance and Fletcher Ave Exit	1750	3
3	Basic	Basic	Collector-Distributor I-70/I-65 SB, Slip Ramp to Mainline	1940	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.917	543	2300	0.24	60.0	4.5	A

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.917	2439	2437	1.33	44.6	18.2	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.943	1888	4600	0.60	59.2	15.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	471	288	1.54	38.38	50.2	13.3	12.7	1.30	F

Facility Overall Results

Space Mean Speed, mi/h	50.2	Average Density, veh/mi/ln	12.7
Average Travel Time, min	1.30	Average Density, pc/mi/ln	13.3

Total VMT, veh-mi	471	Total VHD, veh-h	1.54
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	38.38

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	Main I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70/I-65 SB from North Split	5750	3
2	Weaving	Weaving	I-70/I-65 SB, Entrance from Slip Ramp	1700	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.870	5557	6900	0.96	25.3	73.2	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.870	6208	6667	1.36	44.7	27.8	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1970	1973	33.82	845.59	29.6	58.2	50.9	2.90	F

Facility Overall Results

Space Mean Speed, mi/h	29.6	Average Density, veh/mi/ln	50.9
Average Travel Time, min	2.90	Average Density, pc/mi/ln	58.2
Total VMT, veh-mi	1970	Total VHD, veh-h	33.82
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	845.59

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	Main I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.53		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	I-70/I-65 SB, to I-70 WB	820	4
2	Basic	Basic	I-65 SB, through South Split	2000	2

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.885	0.847	8923	4323	9200	4000	0.91	1.08	50.8	45.3	43.9	38.2	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.935	4600	4600	0.87	51.1	45.0	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	714	622	2.11	52.69	51.0	44.5	40.6	0.60	F

Facility Overall Results

Space Mean Speed, mi/h	51.0	Average Density, veh/mi/ln	40.6
Average Travel Time, min	0.60	Average Density, pc/mi/ln	44.5
Total VMT, veh-mi	714	Total VHD, veh-h	2.11
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	52.69

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, I-70 EB, South Split to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.39		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, through South Split	1950	3
2	Merge	Basic	I-65 NB / I-70 EB, between South Split and Calvary St	1800	5
3	Merge	Merge	I-65 NB / I-70 EB, Entrance Ramp from Calvary St	800	5
4	Diverge	Diverge	I-65 NB / I-70 EB, Exit Ramp to Washington St	800	5
5	Basic	Basic	I-65 NB / I-70 EB, Washington St to South of North Split	2000	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.917	3500	6900	0.51	60.0	19.4	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.917	0.877	8117	4617	11500	4400	0.71	1.05	60.0	60.0	27.1	27.1	D

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.893	0.980	9124	1209	11500	2000	0.79	0.60	54.1	52.6	25.4	28.9	D

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.95	0.95	0.901	0.980	9161	1707	11500	4000	0.80	0.43	55.7	49.5	26.3	18.0	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.893	7370	9200	0.80	58.9	31.3	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2175	1685	1.16	28.93	58.1	26.4	23.9	1.40	D

Facility Overall Results

Space Mean Speed, mi/h	58.1	Average Density, veh/mi/ln	23.9
Average Travel Time, min	1.40	Average Density, pc/mi/ln	26.4
Total VMT, veh-mi	2175	Total VHD, veh-h	1.16
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	28.93

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, between North Split and Delaware St	1800	3
2	Diverge	Diverge	I-65 NB, Exit Ramp to West St	1500	3
3	Basic	Basic	I-65 NB, between West St Exit Ramp and Illinois St Ent Ramp	700	3
4	Merge	Merge	I-65 NB, Entrance Ramp from Illinois St	1500	3
5	Basic	Basic	I-65 NB, between Entrance Ramp from Illinois St and Entrance Ramp from West St	470	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.917	6478	7050	0.92	56.8	38.0	E

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.917	0.971	6478	1643	7050	2000	0.92	0.82	55.9	51.8	38.6	36.9	E

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.901	4822	7050	0.68	63.5	25.0	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.901	1.000	6548	1726	7050	2000	0.93	0.86	52.4	49.8	41.7	36.8	E

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.926	6556	7050	0.93	56.3	38.8	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1626	1440	4.11	102.64	55.8	37.6	34.3	1.20	E

Facility Overall Results

Space Mean Speed, mi/h	55.8	Average Density, veh/mi/ln	34.3
Average Travel Time, min	1.20	Average Density, pc/mi/ln	37.6
Total VMT, veh-mi	1626	Total VHD, veh-h	4.11
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	102.64

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.28		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Weaving	Weaving	I-65 NB, between Entrance Ramp from West St and Exit Ramp to 21st St	2300	4
2	Basic	Basic	I-65 NB, at 21st St	970	3
3	Weaving	Weaving	I-65 NB, between 21st St and 29th St	3500	4

Facility Segment Data

Segment 1: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.926	6477	6522	1.38	50.8	31.9	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.943	5492	7050	1.09	24.0	76.1	F

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.943	6278	6742	1.25	44.4	35.3	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2244	2081	18.68	467.01	42.2	38.7	36.7	1.80	F

Facility Overall Results

Space Mean Speed, mi/h	42.2	Average Density, veh/mi/ln	36.7
Average Travel Time, min	1.80	Average Density, pc/mi/ln	38.7
Total VMT, veh-mi	2244	Total VHD, veh-h	18.68
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	467.01

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HCS Freeway Facilities Report

Project Information

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Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	8.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, at W 29th St	2950	3
2	Merge	Merge	I-65 NB, Entrance Ramp from 30th St	1500	3
3	Basic	Basic	I-65 NB, between 30th St and Dr MLK Jr St	1100	3
4	Merge	Merge	I-65 NB, Entrance Ramp from Dr MLK Jr St	1500	3
5	Basic	Basic	I-65 NB, between from Dr MLK Jr St and 38th St	3200	3
6	Diverge	Diverge	I-65 NB, Exit Ramp to 38th St	2500	3
7	Basic	Basic	I-65 NB, between Exit Ramp to 38th St and Entrance Ramp from 38th St	6930	3
8	Merge	Merge	I-65 NB, Entrance Ramp from 38th St	1500	3
9	Basic	Basic	I-65 NB, between 38th St and Lafayette Rd	6400	3
10	Diverge	Diverge	I-65 NB, Exit Ramp to Lafayette Rd	1500	3
11	Basic	Basic	I-65 NB, at Lafayette Rd	2660	3
12	Merge	Merge	I-65 NB, Entrance Ramp from Lafayette Rd	1500	3
13	Basic	Basic	I-65 NB, between Lafayette Rd and I-465	4990	3
14	Diverge	Diverge	I-65 NB, Exit Ramp to I-465	1500	3
15	Basic	Basic	I-65 NB, at I-465	4700	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.935	5856	7050	0.97	28.1	69.6	F

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.935	0.990	6323	521	7050	2000	1.05	0.26	36.2	50.6	58.2	34.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.943	6283	7050	1.04	34.9	60.0	F

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.943	0.990	6565	282	7050	2000	1.08	0.14	55.2	53.9	39.6	31.0	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.943	6565	7050	1.08	56.2	38.9	F

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.943	0.971	6565	2535	7050	4000	1.08	0.63	54.5	49.9	40.2	28.1	F

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.935	4030	7050	0.72	65.0	20.7	C

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.935	0.990	4836	806	7050	2000	0.83	0.40	58.1	56.7	27.7	25.3	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.935	4836	7050	0.84	64.4	25.0	C

Segment 10: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.935	0.980	4836	1670	7050	2000	0.84	0.84	55.7	51.7	28.9	28.8	D

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.926	3166	7050	0.60	64.7	16.2	B

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.926	0.980	3807	641	7050	2000	0.69	0.32	59.0	57.5	21.5	20.9	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.926	3807	7050	0.70	65.0	19.5	C

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.926	0.962	3807	1898	7050	4200	0.70	0.45	58.0	54.2	21.9	14.5	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.909	1909	4700	0.63	65.0	14.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8942	10344	32.84	821.05	52.5	29.9	28.0	9.60	F

Facility Overall Results

Space Mean Speed, mi/h	52.5	Average Density, veh/mi/ln	28.0
Average Travel Time, min	9.60	Average Density, pc/mi/ln	29.9
Total VMT, veh-mi	8942	Total VHD, veh-h	32.84
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	821.05

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, I-465 to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, at I-465	1700	3
2	Merge	Merge	I-70 EB, Entrance Ramp from NB I-465	1500	3
3	Basic	Basic	I-70 EB, between I-465 and Sam Jones Expy	2070	3
4	Diverge	Diverge	I-70 EB, Exit Ramp to Sam Jones Expy	1500	3
5	Basic	Basic	I-70 EB, at Sam Jones Expy	2400	3
6	Merge	Merge	I-70 EB, Entrance Ramp from Sam Jones Expy	1500	3
7	Basic	Basic	I-70 EB, between Sam Jones Expy and Holt Rd	4320	3
8	Diverge	Diverge	I-70 EB, Exit Ramp to Holt Rd	1500	3
9	Basic	Basic	I-70 EB, at Holt Rd	3000	3
10	Merge	Merge	I-70 EB, Entrance Ramp from Holt Rd	1500	3
11	Basic	Basic	I-70 EB, between Holt Rd and Harding St	4700	3
12	Diverge	Diverge	I-70 EB, Exit Ramp to Harding St	1500	3
13	Basic	Basic	I-70 EB, at Harding St	1800	3
14	Merge	Merge	I-70 EB, Entrance Ramp from Harding St	1500	3
15	Basic	Basic	I-70 EB, between Harding St and West St	1550	3
16	Diverge	Diverge	I-70 EB, Exit Ramp to West St	1500	3
17	Basic	Basic	I-70 EB, over West St	650	3
18	Diverge	Diverge	I-70 EB, Exit Ramp to Madison Ave & Illinois St	1000	3
19	Basic	Basic	I-70 EB, between Missouri St and Kenwood Ave	1300	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.847	3916	7050	0.56	65.0	20.1	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.847	0.943	4166	250	7050	2000	0.59	0.13	59.0	57.7	23.5	20.7	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.855	4156	7050	0.59	64.7	21.3	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.855	0.862	4156	801	7050	2000	0.59	0.40	57.7	53.5	24.0	23.6	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.855	3348	7050	0.47	64.7	17.2	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.855	0.935	4622	1274	7050	2000	0.66	0.64	57.9	56.4	26.6	26.1	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	4623	7050	0.66	64.7	23.8	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.877	0.870	4623	528	7050	2000	0.66	0.26	58.2	54.1	26.5	24.2	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	4099	7050	0.58	64.8	21.0	C

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.94	0.94	0.877	0.952	5794	1695	7050	2000	0.82	0.85	55.5	53.6	34.8	30.0	D

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.893	5833	7050	0.83	60.8	32.0	D

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.893	0.943	5833	537	7050	2000	0.83	0.27	58.2	54.1	33.4	31.6	D

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.893	5266	7050	0.75	63.2	27.8	D

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.893	0.952	6483	1217	7050	2000	0.92	0.61	53.9	51.7	40.1	35.1	E

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.901	6505	7050	0.92	56.6	38.3	E

Segment 16: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.935	6505	551	7050	2000	0.92	0.28	57.9	54.0	37.4	35.1	E

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.901	5933	7050	0.84	60.3	32.8	D

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.962	5933	320	7050	2000	0.84	0.16	58.5	54.5	33.8	32.7	D

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.893	5642	7050	0.80	61.7	30.5	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7628	6912	9.04	226.02	60.4	27.7	24.4	6.90	D

Facility Overall Results

Space Mean Speed, mi/h	60.4	Average Density, veh/mi/ln	24.4
Average Travel Time, min	6.90	Average Density, pc/mi/ln	27.7
Total VMT, veh-mi	7628	Total VHD, veh-h	9.04
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	226.02

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Facility Name		Units	U.S. Customary
Project Description	I-70 EB, I-465 to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 EB, Entrance Ramp from Missouri St	650	3
2	Weaving	Weaving	I-70 EB, Entrance Ramp from Madison Ave & Exit to SB I-65	3000	4
3	Basic	Basic	I-70 EB at South Split	780	2

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.893	0.962	4137	1791	7050	2000	1.05	0.90	13.1	49.8	104.9	40.8	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.870	4745	5096	1.76	58.7	20.2	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.885	564	4700	1.03	64.7	4.3	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1309	1197	8.85	221.15	45.2	29.3	26.6	1.10	F

Facility Overall Results

Space Mean Speed, mi/h	45.2	Average Density, veh/mi/ln	26.6
Average Travel Time, min	1.10	Average Density, pc/mi/ln	29.3

Total VMT, veh-mi	1309	Total VHD, veh-h	8.85
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	221.15

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Agency	HNTB Corporation	Analysis Year	2050
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Facility Name		Units	U.S. Customary
Project Description	I-70 EB, North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	10
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.86		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, between North Split and Keystone Way	4840	5
2	Diverge	Diverge	I-70 EB, Exit Ramp to SB Keystone Way	1500	5
3	Diverge	Basic	I-70 EB, Exit Ramp to NB Keystone Way	1460	5
4	Basic	Basic	I-70 EB, at Keystone Way	1170	4
5	Merge	Merge	I-70 EB, Entrance Ramp from Keystone Way	1500	4
6	Basic	Basic	I-70 EB, between Keystone Way and Emerson Ave	3870	4
7	Diverge	Diverge	I-70 EB, Exit Ramp to Emerson Ave	1500	4
8	Basic	Basic	I-70 EB, West of Emerson Ave	1530	4
9	Merge	Merge	I-70 EB, Entrance Ramp from SB Emerson Ave	1420	4
10	Merge	Merge	I-70 EB, Entrance Ramp from NB Emerson Ave	1600	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.926	9648	11750	1.02	27.2	70.9	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.926	0.909	9386	419	11750	2000	1.02	0.21	26.5	54.3	70.8	36.8	F

Segment 3: Diverge

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.926	0.935	8747	879	11750	2000	0.98	0.44	21.7	21.7	80.7	80.7	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.926	7779	9400	1.14	28.0	69.5	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.926	0.980	8753	974	9400	2000	1.24	0.49	56.0	53.5	39.1	32.1	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.935	8753	9400	1.23	56.2	38.9	F

Segment 7: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.935	0.952	8753	1545	9400	2000	1.23	0.77	58.1	52.0	37.7	39.3	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.926	7208	9400	1.08	62.7	28.7	F

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.926	0.971	7688	480	9400	2000	1.13	0.24	57.8	56.4	33.3	26.2	F

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.935	0.980	8213	525	9400	2000	1.17	0.26	57.1	55.6	36.0	28.4	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7824	9722	91.42	2285.57	36.9	54.0	50.1	6.30	F

Facility Overall Results

Space Mean Speed, mi/h	36.9	Average Density, veh/mi/ln	50.1
Average Travel Time, min	6.30	Average Density, pc/mi/ln	54.0
Total VMT, veh-mi	7824	Total VHD, veh-h	91.42

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	2285.57

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Facility Name		Units	U.S. Customary
Project Description	I-70 EB, North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.23		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, between Emerson Ave and Shadeland (5 Lane)	4415	5
2	Diverge	Diverge	I-70 EB, Exit Ramp to Shadeland Ave	1500	5
3	Basic	Basic	I-70 EB, at Shadeland Ave	5360	3
4	Merge	Merge	I-70 EB, Entrance Ramp from Shadeland Ave	1800	3
5	Merge	Merge	I-70 EB, Entrance Ramp from SB I-465	1500	4
6	Merge	Basic	I-70 EB, Entrance Ramp from NB I-465	1500	5
7	Basic	Basic	I-70 EB, East of I-465	1000	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.935	11067	11750	0.94	55.6	39.8	E

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.935	0.962	11067	6507	11750	6000	0.94	1.08	57.1	57.1	38.7	38.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.901	4560	7050	0.64	64.8	23.5	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.96	0.96	0.901	0.971	4823	263	7050	2000	0.68	0.13	58.1	56.9	27.7	24.5	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.901	0.926	6527	1704	9400	4000	0.69	0.43	58.7	56.6	27.8	23.7	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.909	0.833	8360	1833	11750	2000	0.71	0.92	57.8	57.8	22.8	22.8	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.893	8360	11750	0.71	64.0	26.1	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5622	5151	9.72	242.90	58.4	31.1	28.6	3.30	F

Facility Overall Results

Space Mean Speed, mi/h	58.4	Average Density, veh/mi/ln	28.6
Average Travel Time, min	3.30	Average Density, pc/mi/ln	31.1
Total VMT, veh-mi	5622	Total VHD, veh-h	9.72
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	242.90

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Facility Name		Units	U.S. Customary
Project Description	I-70 WB, I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	20
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.54		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, east of I-465	500	5
2	Diverge	Diverge	I-70 WB, Exit to I-465 NB/SB	1500	5
3	Basic	Basic	I-70 WB, east of I-465	1600	3
4	Diverge	Diverge	I-70 WB, Exit to Shadeland Ave	1500	3
5	Basic	Basic	I-70 WB, west of I-465	1650	3
6	Merge	Merge	I-70 WB, Entrance Ramp From SB I-465	1500	4
7	Basic	Basic	I-70 WB, East of Entrance Ramp From NB I-465	500	4
8	Merge	Merge	I-70 WB, Entrance Ramp from I-465 N	1350	4
9	Merge	Merge	I-70 WB Entrance Ramp from Shadeland Ave	1500	4
10	Basic	Basic	I-70 WB, between Shadeland Entrance and Emerson Exit	4780	4
11	Diverge	Diverge	I-70 WB, Exit Ramp to Emerson Ave	1500	4
12	Basic	Basic	I-70 WB, East of Emerson Ave	1500	4
13	Merge	Merge	I-70 WB, Entrance Ramp From NB Emerson Ave	1500	4
14	Merge	Merge	I-70 WB, Entrance Ramp From SB Emerson Ave	1500	4
15	Basic	Basic	I-70 WB, between Emerson Ave and Keystone Way	4000	4
16	Diverge	Diverge	I-70 WB, Exit Ramp to Keystone Way	1500	4
17	Basic	Basic	I-70 WB, East of Keystone Way	1350	4
18	Merge	Basic	I-70 WB, Entrance Ramp from NB Keystone Way	1450	5
19	Merge	Merge	I-70 WB, Entrance Ramp from SB Keystone Way	1500	5
20	Basic	Basic	I-70 WB, between Keystone Way and North Split	2370	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.870	6499	11750	0.55	65.0	20.0	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.870	0.855	6499	3659	11750	4000	0.55	0.91	51.9	47.6	21.3	26.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.885	2854	7050	0.40	63.9	14.6	B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.885	0.893	2854	175	7050	2000	0.40	0.09	58.9	54.8	16.2	17.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.885	2677	7050	0.38	64.5	13.7	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.885	0.917	5067	2390	9400	4000	0.54	0.60	59.2	57.2	21.4	22.0	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.901	5062	9400	0.54	63.9	19.5	C

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.943	5705	643	9400	2000	0.61	0.32	59.5	57.6	24.0	21.0	C

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.714	8579	2844	9400	2000	0.91	1.42	53.8	50.1	39.9	39.0	E

Segment 10: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		7520		9400		0.80		61.7		30.5		D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.877	0.943	7520	1388	9400	2000	0.80	0.69	58.7	52.3	32.0	34.2	D

Segment 12: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.862		6132		9400		0.65		64.4		23.7		C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.862	0.971	6549	417	9400	2000	0.70	0.21	58.9	57.4	27.8	22.5	C

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.870	0.962	7437	895	9400	2000	0.79	0.45	57.9	56.0	32.1	27.2	C

Segment 15: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		7471		9400		0.79		61.9		30.2		D

Segment 16: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.877	0.962	7471	766	9400	2000	0.79	0.38	60.0	53.6	31.1	32.8	D

Segment 17: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.870		6684		9400		0.71		64.0		26.1		D

Segment 18: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.870	0.917	7280	596	11750	2000	0.62	0.30	64.9	65.0	22.4	22.4	C

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.94	0.94	0.870	0.935	8321	1009	11750	2000	0.71	0.50	58.8	56.7	21.6	24.9	C

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	8330	11750	0.71	64.0	26.0	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	9439	8358	10.89	272.28	60.5	26.1	22.9	6.50	D

Facility Overall Results

Space Mean Speed, mi/h	60.5	Average Density, veh/mi/ln	22.9
Average Travel Time, min	6.50	Average Density, pc/mi/ln	26.1
Total VMT, veh-mi	9439	Total VHD, veh-h	10.89
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	272.28

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.52		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at South Split	1600	2
2	Weaving	Weaving	I-70 WB, between I-65 Ramp and Madison Ave	2100	4
3	Basic	Basic	I-70 WB, at Madison Ave	350	3
4	Weaving	Weaving	I-70 WB, Ent from Madison Ave and Exit to Missouri St	1330	4
5	Basic	Basic	I-70 WB, at Kenwood Ave	1050	3
6	Merge	Merge	I-70 WB, Entrance Ramp from Capitol Ave	1600	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.847	4323	4700	0.92	56.8	38.1	E

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.840	6096	7208	0.88	55.1	27.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.862	5801	7050	0.87	34.4	56.2	F

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.862	6456	8116	0.85	24.9	64.8	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.870	5813	7050	0.91	28.5	67.9	F

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.870	0.990	6565	752	7050	2000	1.01	0.38	54.5	52.6	40.2	34.0	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1951	1704	18.35	458.68	40.3	44.9	39.1	2.30	F

Facility Overall Results

Space Mean Speed, mi/h	40.3	Average Density, veh/mi/ln	39.1
Average Travel Time, min	2.30	Average Density, pc/mi/ln	44.9
Total VMT, veh-mi	1951	Total VHD, veh-h	18.35
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	458.68

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.39		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 WB, Entrance from West St	1500	3
2	Basic	Basic	I-70 WB, between West St and Harding St	1370	3
3	Diverge	Diverge	I-70 WB, Exit to Harding St	1500	3
4	Basic	Basic	I-70 WB, at Harding St	1600	3
5	Merge	Merge	I-70 WB, Entrance from Harding St	1500	3
6	Basic	Basic	I-70 WB, between Harding St and Holt Rd	5200	3
7	Diverge	Diverge	I-70 WB, Exit to Holt Rd	1500	3
8	Basic	Basic	I-70 WB, at Holt Rd	2650	3
9	Merge	Merge	I-70 WB, Entrance Ramp from Holt Rd	1500	3
10	Basic	Basic	I-70 WB, between Holt Rd and Sam Jones Expy	3380	3
11	Diverge	Diverge	I-70 WB, Exit to Sam Jones Expy	1500	3

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.885	0.943	6636	984	7050	2000	1.15	0.49	41.3	49.5	53.5	44.1	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.893	6596	7050	1.15	40.7	54.0	F

Segment 3: Diverge

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.893	0.862	6552	950	7050	2000	1.15	0.47	39.8	53.2	54.9	46.6	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.893	5485	7050	1.02	24.7	74.2	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.893	0.962	6565	1080	7050	2000	1.17	0.54	53.7	51.5	40.7	34.7	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.901	6565	7050	1.17	56.2	38.9	F

Segment 7: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.901	0.893	6565	1829	7050	2000	1.17	0.91	55.6	51.4	39.4	34.8	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.901	4736	7050	0.92	64.5	24.5	C

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.901	0.917	5522	786	7050	2000	1.03	0.39	56.3	54.6	32.7	30.6	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.901	5522	7050	1.03	62.3	29.5	F

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.901	0.952	5522	2296	7050	2000	1.03	1.15	54.1	50.4	34.0	34.6	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5917	7164	29.06	726.43	49.3	40.6	36.4	5.40	F

Facility Overall Results

Space Mean Speed, mi/h	49.3	Average Density, veh/mi/ln	36.4
Average Travel Time, min	5.40	Average Density, pc/mi/ln	40.6
Total VMT, veh-mi	5917	Total VHD, veh-h	29.06
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	726.43

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	2.95		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at Sam Jones Expy	3180	3
2	Merge	Merge	I-70 WB, Entrance Ramp from Sam Jones Expy	1400	3
3	Basic	Basic	I-70 WB, Between Sam Jones Expy and I-465	3770	3
4	Diverge	Diverge	I-70 WB, Exit Ramp to NB I-465	1500	4
5	Diverge	Basic	I-70 WB, Exit Ramp to SB I-465	1200	4
6	Basic	Basic	I-70 WB, West of I-465	4500	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.885	4915	7050	0.70	64.2	25.5	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.885	0.909	5237	322	7050	2000	0.74	0.16	57.6	56.4	30.3	26.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.893	5199	7050	0.74	63.4	27.3	D

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.893	0.901	5199	320	9400	2000	0.55	0.16	61.7	54.5	21.1	15.1	B

Segment 5: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.885	0.935	4919	384	9400	2000	0.52	0.19	64.6	65.0	18.9	18.9	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.885	4514	7050	0.64	64.8	23.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3219	3104	1.39	34.70	63.2	24.5	21.8	2.80	C

Facility Overall Results

Space Mean Speed, mi/h	63.2	Average Density, veh/mi/ln	21.8
Average Travel Time, min	2.80	Average Density, pc/mi/ln	24.5
Total VMT, veh-mi	3219	Total VHD, veh-h	1.39
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	34.70

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/23/2024
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	South Split, EB I-70 to SB I-65		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South Split, EB I-70	1050	2
2	Merge	Merge	South Split, SB I-65 and EB I-70	360	4
3	Merge	Basic	SB I-65, On-ramp from Morris St	1500	5
4	Basic	Basic	SB I-65, south of South Split	1900	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.971	4056	4700	0.86	59.4	34.1	D

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.971	0.935	8028	3972	9400	4400	0.85	0.90	53.6	50.5	37.4	42.8	E

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.943	0.990	8894	779	11750	2000	0.76	0.39	62.5	63.0	28.2	28.2	D

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.952	8848	11750	0.75	63.1	28.1	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1682	1502	1.44	36.01	61.6	29.4	28.0	0.90	D

Facility Overall Results

Space Mean Speed, mi/h	61.6	Average Density, veh/mi/ln	28.0
Average Travel Time, min	0.90	Average Density, pc/mi/ln	29.4
Total VMT, veh-mi	1682	Total VHD, veh-h	1.44
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	36.01

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/23/2024
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	South Split, NB I-65 to WB I-70		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.06		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	NB I-65, Off-ramp to Morris St	1500	4
2	Diverge	Diverge	South Split, Off-ramp to NB I-65	1015	4
3	Basic	Basic	South Split, WB I-70	3100	2

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.917	0.990	5839	256	9400	2200	0.62	0.12	64.9	60.6	22.5	20.6	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.909	0.917	5612	3500	9400	6000	0.60	0.58	52.7	47.9	26.6	34.6	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.909	2081	4700	0.44	64.6	16.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	903	858	0.92	22.96	61.0	21.1	19.2	1.00	C

Facility Overall Results

Space Mean Speed, mi/h	61.0	Average Density, veh/mi/ln	19.2
Average Travel Time, min	1.00	Average Density, pc/mi/ln	21.1

Total VMT, veh-mi	903	Total VHD, veh-h	0.92
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	22.96

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/24/2024
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB C-D near Shadeland Ave and I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.57		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Collector-Distributor I-70 WB	500	2
2	Weaving	Weaving	Collector-Distributor I-70 WB, I-465 and Shadeland Ave	2000	3
3	Basic	Basic	Collector-Distributor I-70 WB, to Shadeland Ave	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.82	0.935	891	4500	0.20	55.0	8.1	A

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.82	0.943	1910	6324	0.30	50.6	12.6	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.82	0.943	737	2250	0.33	54.4	6.7	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	209	94	0.28	6.90	51.3	11.3	9.0	0.70	B

Facility Overall Results

Space Mean Speed, mi/h	51.3	Average Density, veh/mi/ln	9.0
Average Travel Time, min	0.70	Average Density, pc/mi/ln	11.3
Total VMT, veh-mi	209	Total VHD, veh-h	0.28

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	6.90

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/24/2024
Agency	HNTB Corporation	Analysis Year	2050
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB C-D near Shadeland Ave and I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.02		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Basic	Collector-Distributor I-70 EB, Shadeland Exit Ramp	1380	3
2	Basic	Basic	Collector-Distributor I-70 EB	1000	2
3	Weaving	Weaving	Collector-Distributor I-70 EB, Shadeland Entrance Ramp and Slip ramp to EB I-70	2500	3
4	Basic	Basic	Collector-Distributor I-70 EB	500	3

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.86	0.86	0.962	0.971	5601	1411	6750	2000	1.08	0.71	26.8	26.8	69.7	69.7	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.952	4190	4500	1.31	50.9	39.6	F

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.952	5257	5691	1.22	42.4	41.3	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.952	4972	6750	0.99	53.9	30.1	D

Facility Analysis Results

AP	VMT	VMT-Demand	VHD	Total Delay Cost	Speed	Density	Density	TT	LOS

	veh-mi/AP	veh-mi/AP	veh-h/AP	$/AP	mi/h	pc/mi/ln	veh/mi/ln	min	
1	1437	1322	11.29	282.36	38.4	47.7	45.6	1.60	F

Facility Overall Results

Space Mean Speed, mi/h	38.4	Average Density, veh/mi/ln	45.6
Average Travel Time, min	1.60	Average Density, pc/mi/ln	47.7
Total VMT, veh-mi	1437	Total VHD, veh-h	11.29
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	282.36

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INTERSECTION ANALYSIS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	178	0	627	347	393	0	0	1350	264
Future Volume (veh/h)	0	0	0	178	0	627	347	393	0	0	1350	264
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	0	1811	1841	1841	0	0	1870	1841
Adj Flow Rate, veh/h				191	0	76	373	423	0	0	1452	145
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	0	6	4	4	0	0	2	4
Cap, veh/h				285	0	226	415	2774	0	0	3209	980
Arrive On Green				0.08	0.00	0.08	0.11	0.79	0.00	0.00	0.63	0.63
Sat Flow, veh/h				3401	0	2701	1753	3589	0	0	5274	1560
Grp Volume(v), veh/h				191	0	76	373	423	0	0	1452	145
Grp Sat Flow(s),veh/h/ln				1700	0	1351	1753	1749	0	0	1702	1560
Q Serve(g_s), s				5.2	0.0	2.5	7.3	2.7	0.0	0.0	14.0	3.6
Cycle Q Clear(g_c), s				5.2	0.0	2.5	7.3	2.7	0.0	0.0	14.0	3.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				285	0	226	415	2774	0	0	3209	980
V/C Ratio(X)				0.67	0.00	0.34	0.90	0.15	0.00	0.00	0.45	0.15
Avail Cap(c_a), veh/h				770	0	611	607	2774	0	0	3209	980
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.84	0.84	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				42.2	0.0	41.0	15.6	2.3	0.0	0.0	9.2	7.2
Incr Delay (d2), s/veh				2.7	0.0	0.9	10.4	0.1	0.0	0.0	0.5	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.1	0.0	1.5	10.4	1.2	0.0	0.0	8.4	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.0	0.0	41.9	26.0	2.4	0.0	0.0	9.6	7.5
LnGrp LOS				D	A	D	C	A	A	A	A	A
Approach Vol, veh/h					267			796			1597	
Approach Delay, s/veh					44.1			13.5			9.4	
Approach LOS					D			B			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	81.5		15.6	65.9		13.5
Change Period (Y+Rc), s	* 6.2		* 5.4	* 6.2		5.5
Max Green Setting (Gmax), s	* 62		* 21	* 36		21.5
Max Q Clear Time (g_c+I1), s	4.7		9.3	16.0		7.2
Green Ext Time (p_c), s	3.2		0.9	11.3		0.8

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	0	284	0	0	0	0	635	532	966	582	0
Future Volume (veh/h)	74	0	284	0	0	0	0	635	532	966	582	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	0	1811				0	1841	1885	1885	1856	0
Adj Flow Rate, veh/h	79	0	30				0	676	0	1028	619	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	0	6				0	4	1	1	3	0
Cap, veh/h	109	0	99				0	1835		1010	2920	0
Arrive On Green	0.06	0.00	0.06				0.00	0.37	0.00	0.41	0.83	0.00
Sat Flow, veh/h	1697	0	1535				0	5191	1598	1795	3618	0
Grp Volume(v), veh/h	79	0	30				0	676	0	1028	619	0
Grp Sat Flow(s),veh/h/ln	1697	0	1535				0	1675	1598	1795	1763	0
Q Serve(g_s), s	4.3	0.0	1.8				0.0	9.4	0.0	38.6	3.5	0.0
Cycle Q Clear(g_c), s	4.3	0.0	1.8				0.0	9.4	0.0	38.6	3.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	109	0	99				0	1835		1010	2920	0
V/C Ratio(X)	0.72	0.00	0.30				0.00	0.37		1.02	0.21	0.00
Avail Cap(c_a), veh/h	232	0	210				0	1835		1010	2920	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.80	0.80	0.00
Uniform Delay (d), s/veh	43.6	0.0	42.4				0.0	22.1	0.0	14.8	1.7	0.0
Incr Delay (d2), s/veh	8.8	0.0	1.7				0.0	0.6	0.0	29.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.7	0.0	1.3				0.0	6.7	0.0	36.6	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	0.0	44.1				0.0	22.7	0.0	44.6	1.8	0.0
LnGrp LOS	D	A	D				A	C		F	A	A
Approach Vol, veh/h		109						676			1647	
Approach Delay, s/veh		50.1						22.7			28.5	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	44.0	40.9				84.9		10.1				
Change Period (Y+Rc), s	* 5.4	* 6.2				* 6.2		4.0				
Max Green Setting (Gmax), s	* 39	* 28				* 72		13.0				
Max Q Clear Time (g_c+I1), s	40.6	11.4				5.5		6.3				
Green Ext Time (p_c), s	0.0	4.3				5.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	1970	18	115	1772	65	4	35	295	81	14	170
Future Volume (veh/h)	118	1970	18	115	1772	65	4	35	295	81	14	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1900	1841	1841	1752	1900	1900	1826	1693	1900	1781
Adj Flow Rate, veh/h	134	2239	9	131	2014	35	5	40	32	92	16	19
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	0	4	4	10	0	0	5	14	0	8
Cap, veh/h	415	2692	863	161	1957	578	69	72	59	121	21	117
Arrive On Green	0.47	1.00	1.00	0.09	0.39	0.39	0.04	0.04	0.04	0.08	0.08	0.08
Sat Flow, veh/h	1753	5025	1610	1753	5025	1485	1810	1900	1547	1552	270	1510
Grp Volume(v), veh/h	134	2239	9	131	2014	35	5	40	32	108	0	19
Grp Sat Flow(s),veh/h/ln	1753	1675	1610	1753	1675	1485	1810	1900	1547	1822	0	1510
Q Serve(g_s), s	4.5	0.0	0.0	7.0	37.0	1.4	0.3	2.0	1.9	5.5	0.0	1.1
Cycle Q Clear(g_c), s	4.5	0.0	0.0	7.0	37.0	1.4	0.3	2.0	1.9	5.5	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	415	2692	863	161	1957	578	69	72	59	142	0	117
V/C Ratio(X)	0.32	0.83	0.01	0.81	1.03	0.06	0.07	0.56	0.55	0.76	0.00	0.16
Avail Cap(c_a), veh/h	415	2692	863	186	1957	578	324	340	277	201	0	167
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	0.0	42.3	29.0	18.1	44.1	44.9	44.9	42.9	0.0	40.9
Incr Delay (d2), s/veh	0.0	0.3	0.0	21.0	28.2	0.2	0.4	6.5	7.7	10.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	0.1	0.0	6.9	26.4	0.9	0.2	1.9	1.5	5.2	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	0.3	0.0	63.3	57.2	18.3	44.5	51.5	52.6	53.1	0.0	41.6
LnGrp LOS	C	A	A	E	F	B	D	D	D	D	A	D
Approach Vol, veh/h		2382			2180			77			127	
Approach Delay, s/veh		1.4			56.9			51.5			51.4	
Approach LOS		A			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.6	57.9		13.9	29.5	44.0		7.6
Change Period (Y+Rc), s	6.9	* 7		6.5	* 7	* 7		4.0
Max Green Setting (Gmax), s	10.1	* 33		10.5	* 6.5	* 37		17.0
Max Q Clear Time (g_c+I1), s	9.0	2.0		7.5	6.5	39.0		4.0
Green Ext Time (p_c), s	0.0	21.8		0.1	0.0	0.0		0.2

Intersection Summary		
HCM 6th Ctrl Delay	28.9	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	182	230	283	665	968	218
Future Volume (veh/h)	182	230	283	665	968	218
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	1856	1841	1856	1870	1885	1885
Adj Flow Rate, veh/h	200	45	311	731	1064	104
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	4	3	2	1	1
Cap, veh/h	265	234	465	2266	1582	706
Arrive On Green	0.15	0.15	0.13	0.64	0.44	0.44
Sat Flow, veh/h	1767	1560	1767	3647	3676	1598
Grp Volume(v), veh/h	200	45	311	731	1064	104
Grp Sat Flow(s),veh/h/ln	1767	1560	1767	1777	1791	1598
Q Serve(g_s), s	5.5	1.3	4.2	4.7	11.9	2.0
Cycle Q Clear(g_c), s	5.5	1.3	4.2	4.7	11.9	2.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	265	234	465	2266	1582	706
V/C Ratio(X)	0.76	0.19	0.67	0.32	0.67	0.15
Avail Cap(c_a), veh/h	449	397	539	3283	2455	1095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	18.7	8.9	4.2	11.2	8.4
Incr Delay (d2), s/veh	4.4	0.4	2.6	0.1	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.8	2.3	1.9	6.9	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.9	19.1	11.5	4.2	11.7	8.5
LnGrp LOS	C	B	B	A	B	A
Approach Vol, veh/h	245			1042	1168	
Approach Delay, s/veh	23.8			6.4	11.4	
Approach LOS	C			A	B	

Timer - Assigned Phs	2			5	6	8
Phs Duration (G+Y+Rc), s	37.6			9.9	27.7	12.7
Change Period (Y+Rc), s	5.5			3.5	5.5	5.2
Max Green Setting (Gmax), s	46.5			8.5	34.5	12.8
Max Q Clear Time (g_c+I1), s	6.7			6.2	13.9	7.5
Green Ext Time (p_c), s	6.0			0.2	8.4	0.3

Intersection Summary		
HCM 6th Ctrl Delay		10.5
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	13	330	8	7	18	207	740	7	15	714	465
Future Volume (veh/h)	183	13	330	8	7	18	207	740	7	15	714	465
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1707	1885	1900	1900	1767	1870	1856	1900	1900	1885	1885
Adj Flow Rate, veh/h	210	15	76	9	8	5	238	851	7	17	821	240
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	13	1	0	0	9	2	3	0	0	1	1
Cap, veh/h	335	14	398	99	77	23	437	1639	13	359	1278	570
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.12	0.46	0.46	0.02	0.36	0.36
Sat Flow, veh/h	798	57	1598	0	307	90	1781	3584	29	1810	3582	1598
Grp Volume(v), veh/h	225	0	76	22	0	0	238	419	439	17	821	240
Grp Sat Flow(s),veh/h/ln	855	0	1598	398	0	0	1781	1763	1850	1810	1791	1598
Q Serve(g_s), s	0.0	0.0	1.9	0.0	0.0	0.0	3.9	8.7	8.7	0.3	9.8	5.8
Cycle Q Clear(g_c), s	12.8	0.0	1.9	12.8	0.0	0.0	3.9	8.7	8.7	0.3	9.8	5.8
Prop In Lane	0.93		1.00	0.41		0.23	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	349	0	398	198	0	0	437	806	846	359	1278	570
V/C Ratio(X)	0.65	0.00	0.19	0.11	0.00	0.00	0.54	0.52	0.52	0.05	0.64	0.42
Avail Cap(c_a), veh/h	349	0	398	198	0	0	662	1047	1099	769	2128	949
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	15.2	15.6	0.0	0.0	9.5	9.9	9.9	10.3	13.8	12.5
Incr Delay (d2), s/veh	4.1	0.0	0.2	0.2	0.0	0.0	1.1	0.5	0.5	0.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.0	0.0	1.2	0.3	0.0	0.0	2.2	5.0	5.2	0.2	6.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.7	0.0	15.4	15.9	0.0	0.0	10.5	10.4	10.4	10.3	14.3	13.0
LnGrp LOS	C	A	B	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		301			22			1096			1078	
Approach Delay, s/veh		21.6			15.9			10.4			14.0	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.4	29.0		18.0	9.5	23.8		18.0
Change Period (Y+Rc), s	3.5	5.5		* 5.2	3.5	5.5		* 5.2
Max Green Setting (Gmax), s	12.5	30.5		* 13	12.5	30.5		* 13
Max Q Clear Time (g_c+I1), s	2.3	10.7		14.8	5.9	11.8		14.8
Green Ext Time (p_c), s	0.0	5.5		0.0	0.4	6.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	1731	194	351	1465	22	55	84	308	69	148	72
Future Volume (veh/h)	53	1731	194	351	1465	22	55	84	308	69	148	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1856	1900	1900	1900	1870	1900	1900	1870
Adj Flow Rate, veh/h	57	1861	197	377	1575	14	59	90	331	74	159	53
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	2	2	2	3	0	0	0	2	0	0	2
Cap, veh/h	79	1486	155	289	2028	926	157	316	264	212	227	76
Arrive On Green	0.04	0.46	0.46	0.16	0.58	0.58	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1767	3249	338	1781	3526	1610	1188	1900	1585	981	1364	455
Grp Volume(v), veh/h	57	1003	1055	377	1575	14	59	90	331	74	0	212
Grp Sat Flow(s),veh/h/ln	1767	1777	1810	1781	1763	1610	1188	1900	1585	981	0	1818
Q Serve(g_s), s	2.5	36.6	36.6	13.0	27.4	0.3	3.9	3.3	13.3	5.7	0.0	8.8
Cycle Q Clear(g_c), s	2.5	36.6	36.6	13.0	27.4	0.3	12.7	3.3	13.3	9.0	0.0	8.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	79	813	828	289	2028	926	157	316	264	212	0	302
V/C Ratio(X)	0.72	1.23	1.27	1.30	0.78	0.02	0.38	0.28	1.26	0.35	0.00	0.70
Avail Cap(c_a), veh/h	133	813	828	289	2028	926	157	316	264	212	0	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.7	21.7	21.7	33.5	13.1	7.3	37.5	29.2	33.3	33.1	0.0	31.5
Incr Delay (d2), s/veh	7.2	115.6	133.0	159.0	2.0	0.0	0.6	0.2	142.4	0.4	0.0	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	58.0	65.4	28.3	15.0	0.2	2.1	2.7	24.1	2.4	0.0	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	137.3	154.7	192.5	15.1	7.3	38.0	29.4	175.7	33.5	0.0	37.5
LnGrp LOS	D	F	F	F	B	A	D	C	F	C	A	D
Approach Vol, veh/h		2115			1966			480			286	
Approach Delay, s/veh		143.5			49.0			131.4			36.5	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.6	52.4		19.0	18.0	43.0		19.0
Change Period (Y+Rc), s	5.0	6.4		5.7	5.0	6.4		5.7
Max Green Setting (Gmax), s	6.6	43.6		13.3	13.0	36.6		13.3
Max Q Clear Time (g_c+I1), s	4.5	29.4		15.3	15.0	38.6		11.0
Green Ext Time (p_c), s	0.0	10.5		0.0	0.0	0.0		0.2

Intersection Summary	
HCM 6th Ctrl Delay	97.7
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	2009	229	70	1510	275	176	434	53	153	379	14
Future Volume (veh/h)	89	2009	229	70	1510	275	176	434	53	153	379	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1841	1826	1737	1826	1811	1856	1841	1781	1826	1841	1737
Adj Flow Rate, veh/h	98	2208	237	77	1659	242	193	477	0	168	416	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	4	5	11	5	6	3	4	8	5	4	11
Cap, veh/h	162	1822	192	357	2280	845	235	412		314	509	
Arrive On Green	0.05	0.39	0.39	0.07	0.31	0.31	0.07	0.12	0.00	0.09	0.15	0.00
Sat Flow, veh/h	3319	4615	488	3209	4985	1535	3428	3497	1510	3374	3497	1472
Grp Volume(v), veh/h	98	1593	852	77	1659	242	193	477	0	168	416	0
Grp Sat Flow(s),veh/h/ln	1659	1675	1753	1605	1662	1535	1714	1749	1510	1687	1749	1472
Q Serve(g_s), s	2.7	37.5	37.5	2.1	28.2	2.5	5.3	11.2	0.0	4.5	11.0	0.0
Cycle Q Clear(g_c), s	2.7	37.5	37.5	2.1	28.2	2.5	5.3	11.2	0.0	4.5	11.0	0.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	1322	692	357	2280	845	235	412		314	509	
V/C Ratio(X)	0.61	1.20	1.23	0.22	0.73	0.29	0.82	1.16		0.54	0.82	
Avail Cap(c_a), veh/h	227	1322	692	357	2280	845	235	412		469	670	
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.47	0.47	0.47	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.3	28.8	28.8	40.1	27.7	3.7	43.7	41.9	0.0	41.1	39.4	0.0
Incr Delay (d2), s/veh	1.4	99.5	116.5	0.1	1.0	0.4	19.3	94.6	0.0	0.8	4.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	46.7	53.6	1.5	15.5	2.1	5.0	16.2	0.0	3.3	8.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	128.2	145.2	40.1	28.7	4.2	63.0	136.5	0.0	41.9	44.3	0.0
LnGrp LOS	D	F	F	D	C	A	E	F		D	D	
Approach Vol, veh/h		2543			1978			670			584	
Approach Delay, s/veh		130.7			26.1			115.3			43.6	
Approach LOS		F			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.4	44.0	15.6	18.0	11.1	50.2	13.0	20.6
Change Period (Y+Rc), s	* 6.8	* 6.5	* 6.8	* 6.8	* 6.5	* 6.8	* 6.5	* 6.8
Max Green Setting (Gmax), s	* 6.5	* 38	* 13	* 11	* 6.5	* 37	* 6.5	* 18
Max Q Clear Time (g_c+I1), s	4.7	39.5	6.5	13.2	4.7	30.2	7.3	13.0
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	6.1	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	84.3
HCM 6th LOS	F

Notes

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

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	99	934	0	0	1626	44
Future Vol, veh/h	0	0	0	0	0	0	99	934	0	0	1626	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	150	-	-	-	-	100
Veh in Median Storage, #	-	3	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	92	98	92	92	92	98	98	92	92	98	98
Heavy Vehicles, %	0	2	0	2	2	2	2	5	2	2	2	0
Mvmt Flow	0	0	0	0	0	0	101	953	0	0	1659	45

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	-	-	477	1659	0	-	-	-	0	
Stage 1	-	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	-	
Critical Hdwy	-	-	6.94	5.34	-	-	-	-	-	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	
Follow-up Hdwy	-	-	3.32	3.12	-	-	-	-	-	
Pot Cap-1 Maneuver	0	0	534	186	-	0	0	-	-	
Stage 1	0	0	-	-	-	0	0	-	-	
Stage 2	0	0	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	-	0	534	186	-	-	-	-	-	
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-	
Stage 1	-	0	-	-	-	-	-	-	-	
Stage 2	-	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	0	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	186	-	-	-	-
HCM Lane V/C Ratio	0.543	-	-	-	-
HCM Control Delay (s)	45.2	-	0	-	-
HCM Lane LOS	E	-	A	-	-
HCM 95th %tile Q(veh)	2.8	-	-	-	-

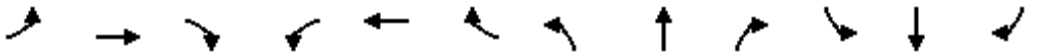
Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	389	0	989	538	1087
Future Vol, veh/h	24	389	0	989	538	1087
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	300	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	6	2	0	5	2	2
Mvmt Flow	24	397	0	1009	549	1109

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1054	275	-	0	-	0
Stage 1	549	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Critical Hdwy	6.37	7.14	-	-	-	-
Critical Hdwy Stg 1	6.72	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.71	3.92	-	-	-	-
Pot Cap-1 Maneuver	246	616	0	-	-	0
Stage 1	456	-	0	-	-	0
Stage 2	542	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	246	616	-	-	-	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	542	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	246	616	-
HCM Lane V/C Ratio	-	0.1	0.644	-
HCM Control Delay (s)	-	21.2	20.8	-
HCM Lane LOS	-	C	C	-
HCM 95th %tile Q(veh)	-	0.3	4.6	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	92	36	55	145	456	25	364	11	51	764	114
Future Volume (veh/h)	158	92	36	55	145	456	25	364	11	51	764	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1826	1870	1900	1826	1826	1722	1841	1826	1826	1870	1826
Adj Flow Rate, veh/h	168	98	11	59	154	257	27	387	10	54	813	64
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	5	2	0	5	5	12	4	5	5	2	5
Cap, veh/h	305	546	61	489	588	524	300	1706	44	513	1741	758
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	975	1612	181	1305	1735	1547	582	3483	90	964	3554	1547
Grp Volume(v), veh/h	168	0	109	59	154	257	27	194	203	54	813	64
Grp Sat Flow(s),veh/h/ln	975	0	1793	1305	1735	1547	582	1749	1825	964	1777	1547
Q Serve(g_s), s	11.6	0.0	3.0	2.3	4.5	9.2	2.3	4.5	4.5	2.4	10.6	1.5
Cycle Q Clear(g_c), s	20.8	0.0	3.0	5.3	4.5	9.2	12.8	4.5	4.5	6.9	10.6	1.5
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	305	0	607	489	588	524	300	857	894	513	1741	758
V/C Ratio(X)	0.55	0.00	0.18	0.12	0.26	0.49	0.09	0.23	0.23	0.11	0.47	0.08
Avail Cap(c_a), veh/h	420	0	820	643	793	707	300	857	894	513	1741	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	16.3	18.2	16.8	18.4	16.1	10.2	10.2	12.2	11.8	9.5
Incr Delay (d2), s/veh	1.6	0.0	0.1	0.1	0.2	0.7	0.6	0.6	0.6	0.4	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	0.0	2.1	1.2	3.1	5.7	0.6	3.0	3.2	1.0	7.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	0.0	16.4	18.3	17.0	19.1	16.7	10.9	10.8	12.6	12.7	9.7
LnGrp LOS	C	A	B	B	B	B	B	B	B	B	B	A
Approach Vol, veh/h		277			470			424			931	
Approach Delay, s/veh		23.5			18.3			11.2			12.5	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.3		29.7		40.3		29.7				
Change Period (Y+Rc), s		* 6		* 6		* 6		* 6				
Max Green Setting (Gmax), s		* 26		* 32		* 26		* 32				
Max Q Clear Time (g_c+I1), s		14.8		22.8		12.6		11.2				
Green Ext Time (p_c), s		1.9		0.9		5.2		2.7				

Intersection Summary		
HCM 6th Ctrl Delay		15.0
HCM 6th LOS		B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↱	↰		↱			
Traffic Volume (veh/h)	0	134	0	0	879	299	507	0	229	0	0	0
Future Volume (veh/h)	0	134	0	0	879	299	507	0	229	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1826	0	0	1885	1856	1841	0	1841			
Adj Flow Rate, veh/h	0	146	0	0	955	0	551	0	91			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	5	0	0	1	3	4	0	4			
Cap, veh/h	0	1685	0	0	1740		614	0	546			
Arrive On Green	0.00	0.49	0.00	0.00	0.49	0.00	0.35	0.00	0.35			
Sat Flow, veh/h	0	3652	0	0	3676	1572	1753	0	1560			
Grp Volume(v), veh/h	0	146	0	0	955	0	551	0	91			
Grp Sat Flow(s),veh/h/ln	0	1735	0	0	1791	1572	1753	0	1560			
Q Serve(g_s), s	0.0	1.6	0.0	0.0	13.1	0.0	20.9	0.0	2.8			
Cycle Q Clear(g_c), s	0.0	1.6	0.0	0.0	13.1	0.0	20.9	0.0	2.8			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1685	0	0	1740		614	0	546			
V/C Ratio(X)	0.00	0.09	0.00	0.00	0.55		0.90	0.00	0.17			
Avail Cap(c_a), veh/h	0	1685	0	0	1740		809	0	720			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	0.42	0.00	0.42			
Uniform Delay (d), s/veh	0.0	9.7	0.0	0.0	12.6	0.0	21.6	0.0	15.7			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	1.3	0.0	4.9	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	1.0	0.0	0.0	8.6	0.0	11.8	0.0	1.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.8	0.0	0.0	13.9	0.0	26.5	0.0	15.8			
LnGrp LOS	A	A	A	A	B		C	A	B			
Approach Vol, veh/h		146			955			642				
Approach Delay, s/veh		9.8			13.9			24.9				
Approach LOS		A			B			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	39.8	30.2	39.8
Change Period (Y+Rc), s	* 5.8	5.7	* 5.8
Max Green Setting (Gmax), s	* 26	32.3	* 26
Max Q Clear Time (g_c+I1), s	3.6	22.9	15.1
Green Ext Time (p_c), s	0.8	1.6	5.0

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

Notes

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	267	226	362	331	0	0	0	0	3	722	0
Future Volume (veh/h)	0	267	226	362	331	0	0	0	0	3	722	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1826	1870	1841	0				1900	1870	1900
Adj Flow Rate, veh/h	0	303	135	411	376	0				3	820	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88				0.88	0.88	0.88
Percent Heavy Veh, %	0	5	5	2	4	0				0	2	0
Cap, veh/h	0	370	161	418	731	0				3	830	718
Arrive On Green	0.00	0.16	0.16	0.16	0.40	0.00				0.45	0.45	0.00
Sat Flow, veh/h	0	2443	1024	1781	1841	0				7	1863	1610
Grp Volume(v), veh/h	0	222	216	411	376	0				823	0	0
Grp Sat Flow(s),veh/h/ln	0	1735	1642	1781	1841	0				1870	0	1610
Q Serve(g_s), s	0.0	8.6	9.0	11.3	10.8	0.0				30.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	8.6	9.0	11.3	10.8	0.0				30.5	0.0	0.0
Prop In Lane	0.00		0.62	1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h	0	273	258	418	731	0				834	0	718
V/C Ratio(X)	0.00	0.81	0.84	0.98	0.51	0.00				0.99	0.00	0.00
Avail Cap(c_a), veh/h	0	275	260	418	734	0				834	0	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.82	0.82	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	28.5	28.6	21.9	16.0	0.0				19.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	16.7	20.8	35.3	0.5	0.0				28.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.3	8.5	13.9	7.4	0.0				25.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	45.2	49.4	57.2	16.5	0.0				47.2	0.0	0.0
LnGrp LOS	A	D	D	E	B	A				D	A	A
Approach Vol, veh/h		438			787						823	
Approach Delay, s/veh		47.3			37.8						47.2	
Approach LOS		D			D						D	

Timer - Assigned Phs	2	3	4			8						
Phs Duration (G+Y+Rc), s	36.7	16.8	16.5			33.3						
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5						
Max Green Setting (Gmax), s	31.1	11.3	11.1			27.9						
Max Q Clear Time (g_c+I1), s	32.5	13.3	11.0			12.8						
Green Ext Time (p_c), s	0.0	0.0	0.0			2.0						

Intersection Summary												
HCM 6th Ctrl Delay		43.6										
HCM 6th LOS		D										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	269	0	0	440	0	253	697	458	0	0	0
Future Volume (veh/h)	0	269	0	0	440	0	253	697	458	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1856	0	0	1885	1885	1841	1826	1841			
Adj Flow Rate, veh/h	0	283	0	0	463	0	266	734	228			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	3	0	0	1	1	4	5	4			
Cap, veh/h	103	720	0	0	732	620	797	830	1248			
Arrive On Green	0.00	0.39	0.00	0.00	0.39	0.00	0.45	0.45	0.45			
Sat Flow, veh/h	944	1856	0	0	1885	1598	1753	1826	2745			
Grp Volume(v), veh/h	0	283	0	0	463	0	266	734	228			
Grp Sat Flow(s),veh/h/ln	944	1856	0	0	1885	1598	1753	1826	1373			
Q Serve(g_s), s	0.0	7.7	0.0	0.0	13.9	0.0	6.8	25.7	3.5			
Cycle Q Clear(g_c), s	0.0	7.7	0.0	0.0	13.9	0.0	6.8	25.7	3.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	103	720	0	0	732	620	797	830	1248			
V/C Ratio(X)	0.00	0.39	0.00	0.00	0.63	0.00	0.33	0.88	0.18			
Avail Cap(c_a), veh/h	103	720	0	0	732	620	889	926	1392			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.19	0.00	0.00	1.00	0.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	15.5	0.0	0.0	17.4	0.0	12.3	17.4	11.4			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	4.1	0.0	0.2	9.5	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	4.3	0.0	0.0	10.5	0.0	4.4	17.2	1.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.8	0.0	0.0	21.5	0.0	12.5	26.9	11.4			
LnGrp LOS	A	B	A	A	C	A	B	C	B			
Approach Vol, veh/h		283			463			1228				
Approach Delay, s/veh		15.8			21.5			20.9				
Approach LOS		B			C			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	32.7	37.3	32.7
Change Period (Y+Rc), s	5.5	5.5	5.5
Max Green Setting (Gmax), s	23.5	35.5	23.5
Max Q Clear Time (g_c+I1), s	9.7	27.7	15.9
Green Ext Time (p_c), s	1.3	4.2	1.7

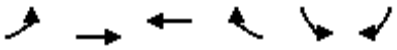
Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	403	158	378	266	263	1083
Future Volume (veh/h)	403	158	378	266	263	1083
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	1856	1811	1841	1752	1781	1870
Adj Flow Rate, veh/h	429	49	402	131	280	1152
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	6	4	10	8	2
Cap, veh/h	462	401	1404	596	575	2046
Arrive On Green	0.26	0.26	0.40	0.40	0.12	0.58
Sat Flow, veh/h	1767	1535	3589	1485	1697	3647
Grp Volume(v), veh/h	429	49	402	131	280	1152
Grp Sat Flow(s),veh/h/ln	1767	1535	1749	1485	1697	1777
Q Serve(g_s), s	16.6	1.7	5.4	4.1	6.2	14.2
Cycle Q Clear(g_c), s	16.6	1.7	5.4	4.1	6.2	14.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	462	401	1404	596	575	2046
V/C Ratio(X)	0.93	0.12	0.29	0.22	0.49	0.56
Avail Cap(c_a), veh/h	462	401	1404	596	619	2046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	19.7	14.2	13.8	9.1	9.3
Incr Delay (d2), s/veh	23.8	0.1	0.5	0.8	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.4	1.1	3.8	2.5	3.7	8.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.0	19.8	14.7	14.6	9.7	10.5
LnGrp LOS	D	B	B	B	A	B
Approach Vol, veh/h	478		533			1432
Approach Delay, s/veh	46.0		14.7			10.3
Approach LOS	D		B			B

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	46.0		12.2	33.8	24.0
Change Period (Y+Rc), s	5.7		3.8	5.7	5.7
Max Green Setting (Gmax), s	40.3		10.2	26.3	18.3
Max Q Clear Time (g_c+I1), s	16.2		8.2	7.4	18.6
Green Ext Time (p_c), s	9.4		0.2	3.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	292	213	324	368	616	241
Future Volume (veh/h)	292	213	324	368	616	241
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	1737	1826	1870	1796	1885	1870
Adj Flow Rate, veh/h	324	237	360	0	684	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	5	2	7	1	2
Cap, veh/h	505	1644	899		715	
Arrive On Green	0.16	0.47	0.25	0.00	0.40	0.00
Sat Flow, veh/h	1654	3561	3647	1522	1795	1585
Grp Volume(v), veh/h	324	237	360	0	684	0
Grp Sat Flow(s),veh/h/ln	1654	1735	1777	1522	1795	1585
Q Serve(g_s), s	12.4	3.5	7.6	0.0	33.3	0.0
Cycle Q Clear(g_c), s	12.4	3.5	7.6	0.0	33.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	505	1644	899		715	
V/C Ratio(X)	0.64	0.14	0.40		0.96	
Avail Cap(c_a), veh/h	507	1644	899		738	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	18.6	13.4	27.9	0.0	26.3	0.0
Incr Delay (d2), s/veh	2.4	0.2	1.3	0.0	22.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.2	2.4	6.0	0.0	24.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.0	13.5	29.3	0.0	49.0	0.0
LnGrp LOS	C	B	C		D	
Approach Vol, veh/h		561	360		684	
Approach Delay, s/veh		17.9	29.3		49.0	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		48.2		41.8	19.9	28.3
Change Period (Y+Rc), s		* 5.5		6.0	* 5.5	* 5.5
Max Green Setting (Gmax), s		* 42		37.0	* 15	* 22
Max Q Clear Time (g_c+I1), s		5.5		35.3	14.4	9.6
Green Ext Time (p_c), s		1.6		0.5	0.0	1.8

Intersection Summary		
HCM 6th Ctrl Delay		33.7
HCM 6th LOS		C

Notes

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

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

Intersection	
Int Delay, s/veh	57.7

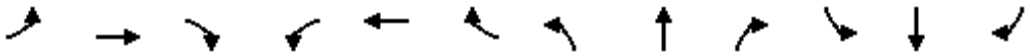
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	771	0	0	426	287	215	3	345	0	0	0
Future Vol, veh/h	74	771	0	0	426	287	215	3	345	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	270	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	20	2	0	0	3	3	10	0	3	0	0	0
Mvmt Flow	83	866	0	0	479	322	242	3	388	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	479	0	-	-	-	0	1272	1511	433
Stage 1	-	-	-	-	-	-	1032	1032	-
Stage 2	-	-	-	-	-	-	240	479	-
Critical Hdwy	4.5	-	-	-	-	-	7	6.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6	5.5	-
Follow-up Hdwy	2.4	-	-	-	-	-	3.6	4	3.33
Pot Cap-1 Maneuver	963	-	0	0	-	0	~ 149	121	568
Stage 1	-	-	0	0	-	0	287	313	-
Stage 2	-	-	0	0	-	0	754	558	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	963	-	-	-	-	-	~ 136	0	568
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 136	0	-
Stage 1	-	-	-	-	-	-	262	0	-
Stage 2	-	-	-	-	-	-	754	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.8	0	186.6
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	136	568	963	-	-
HCM Lane V/C Ratio	1.801	0.682	0.086	-	-
HCM Control Delay (s)	$ 444	23.9	9.1	-	-
HCM Lane LOS	F	C	A	-	-
HCM 95th %tile Q(veh)	18.6	5.2	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	743	271	88	371	42	179	111	72	72	306	169
Future Volume (veh/h)	101	743	271	88	371	42	179	111	72	72	306	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1900	1870	1856	1841	1811	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	115	844	273	100	422	40	203	126	24	82	348	73
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	0	2	3	4	6	0	4	0	0	0
Cap, veh/h	570	1392	450	236	1730	163	310	637	523	442	998	207
Arrive On Green	0.53	0.53	0.53	1.00	1.00	1.00	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	923	2620	846	504	3256	307	935	1900	1560	1257	2977	617
Grp Volume(v), veh/h	115	568	549	100	228	234	203	126	24	82	209	212
Grp Sat Flow(s),veh/h/ln	923	1763	1703	504	1763	1800	935	1900	1560	1257	1805	1789
Q Serve(g_s), s	6.0	20.0	20.1	11.9	0.0	0.0	18.8	4.2	0.9	4.5	7.9	8.0
Cycle Q Clear(g_c), s	6.0	20.0	20.1	32.0	0.0	0.0	26.8	4.2	0.9	8.7	7.9	8.0
Prop In Lane	1.00		0.50	1.00		0.17	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	570	937	905	236	937	957	310	637	523	442	605	600
V/C Ratio(X)	0.20	0.61	0.61	0.42	0.24	0.24	0.65	0.20	0.05	0.19	0.35	0.35
Avail Cap(c_a), veh/h	570	937	905	236	937	957	402	823	676	565	782	775
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	14.6	14.6	6.7	0.0	0.0	32.7	21.3	20.2	24.4	22.5	22.6
Incr Delay (d2), s/veh	0.2	1.1	1.2	5.2	0.6	0.6	2.4	0.2	0.0	0.2	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	12.2	11.9	2.1	0.3	0.3	7.8	3.4	0.6	2.4	6.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	15.7	15.8	11.9	0.6	0.6	35.1	21.5	20.2	24.6	22.8	22.9
LnGrp LOS	B	B	B	B	A	A	D	C	C	C	C	C
Approach Vol, veh/h		1232			562			353			503	
Approach Delay, s/veh		15.3			2.6			29.2			23.2	
Approach LOS		B			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.8		36.2		53.8		36.2				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		39.0		39.0		39.0		39.0				
Max Q Clear Time (g_c+I1), s		34.0		10.7		22.1		28.8				
Green Ext Time (p_c), s		1.7		2.9		7.8		1.3				

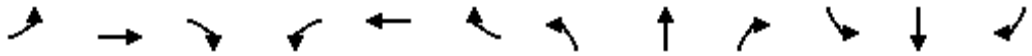
Intersection Summary												
HCM 6th Ctrl Delay			16.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	470	385	17	298	0	0	0	0	77	1539	171
Future Volume (veh/h)	0	470	385	17	298	0	0	0	0	77	1539	171
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1856	1870	1900	1856	0				1841	1885	1870
Adj Flow Rate, veh/h	0	522	405	19	331	0				86	1710	110
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	3	2	0	3	0				4	1	2
Cap, veh/h	0	546	423	48	739	0				97	2022	916
Arrive On Green	0.00	0.29	0.29	0.29	0.29	0.00				0.58	0.58	0.58
Sat Flow, veh/h	0	1982	1465	10	2643	0				168	3500	1585
Grp Volume(v), veh/h	0	487	440	166	184	0				963	833	110
Grp Sat Flow(s),veh/h/ln	0	1763	1592	965	1604	0				1877	1791	1585
Q Serve(g_s), s	0.0	24.4	24.4	1.5	8.3	0.0				40.1	33.0	2.8
Cycle Q Clear(g_c), s	0.0	24.4	24.4	26.0	8.3	0.0				40.1	33.0	2.8
Prop In Lane	0.00		0.92	0.11		0.00				0.09		1.00
Lane Grp Cap(c), veh/h	0	509	460	323	463	0				1084	1035	916
V/C Ratio(X)	0.00	0.96	0.96	0.51	0.40	0.00				0.89	0.80	0.12
Avail Cap(c_a), veh/h	0	509	460	323	463	0				1084	1035	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.80	0.80	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.4	31.4	25.9	25.7	0.0				16.5	15.0	8.6
Incr Delay (d2), s/veh	0.0	25.3	27.0	1.4	0.6	0.0				10.8	6.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	19.0	17.7	5.1	5.7	0.0				25.4	19.9	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	56.7	58.5	27.3	26.3	0.0				27.3	21.7	8.9
LnGrp LOS	A	E	E	C	C	A				C	C	A
Approach Vol, veh/h		927			350						1906	
Approach Delay, s/veh		57.5			26.7						23.8	
Approach LOS		E			C						C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	58.0	32.0	32.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	52.0	26.0	26.0
Max Q Clear Time (g_c+I1), s	42.1	28.0	26.4
Green Ext Time (p_c), s	8.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	2481	0	0	0	0	0	0	2600	0
Future Volume (vph)	0	0	0	2481	0	0	0	0	0	0	2600	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.6							6.0	
Lane Util. Factor				0.97							0.86	
Frt				1.00							1.00	
Flt Protected				0.95							1.00	
Satd. Flow (prot)				3467							6471	
Flt Permitted				0.95							1.00	
Satd. Flow (perm)				3467							6471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Adj. Flow (vph)	0	0	0	2584	0	0	0	0	0	0	2708	0
RTOR Reduction (vph)	0	0	0	15	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	2569	0	0	0	0	0	0	2708	0
Heavy Vehicles (%)	2%	2%	2%	1%	2%	0%	2%	0%	0%	0%	1%	2%
Turn Type				Prot							NA	
Protected Phases				3							2	
Permitted Phases												
Actuated Green, G (s)				56.4							41.0	
Effective Green, g (s)				56.4							41.0	
Actuated g/C Ratio				0.51							0.37	
Clearance Time (s)				6.6							6.0	
Vehicle Extension (s)				3.0							3.0	
Lane Grp Cap (vph)				1777							2411	
v/s Ratio Prot				c0.74							c0.42	
v/s Ratio Perm												
v/c Ratio				1.45							1.12	
Uniform Delay, d1				26.8							34.5	
Progression Factor				1.00							1.00	
Incremental Delay, d2				203.9							61.6	
Delay (s)				230.7							96.1	
Level of Service				F							F	
Approach Delay (s)		0.0			230.7			0.0			96.1	
Approach LOS		A			F			A			F	

Intersection Summary			
HCM 2000 Control Delay	161.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	9	1992	277	42	255	0	0	489	323
Future Volume (veh/h)	0	0	0	9	1992	277	42	255	0	0	489	323
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1885	1885	1900	1826	0	0	1781	1856
Adj Flow Rate, veh/h				10	2165	284	46	277	0	0	532	329
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	1	1	0	5	0	0	8	3
Cap, veh/h				11	2554	341	74	658	0	0	623	550
Arrive On Green				0.18	0.18	0.18	0.35	0.35	0.00	0.00	0.35	0.35
Sat Flow, veh/h				21	4721	630	82	1965	0	0	1781	1572
Grp Volume(v), veh/h				908	752	799	125	198	0	0	532	329
Grp Sat Flow(s),veh/h/ln				1884	1716	1772	386	1578	0	0	1781	1572
Q Serve(g_s), s				51.8	46.3	47.9	6.8	10.3	0.0	0.0	30.5	18.9
Cycle Q Clear(g_c), s				51.8	46.3	47.9	37.3	10.3	0.0	0.0	30.5	18.9
Prop In Lane				0.01		0.36	0.37		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1019	928	959	180	552	0	0	623	550
V/C Ratio(X)				0.89	0.81	0.83	0.69	0.36	0.00	0.00	0.85	0.60
Avail Cap(c_a), veh/h				1028	936	966	180	552	0	0	623	550
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.14	0.14	0.14	0.96	0.96	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				42.0	39.8	40.4	35.8	26.6	0.0	0.0	33.1	29.4
Incr Delay (d2), s/veh				1.6	0.8	0.9	19.1	1.7	0.0	0.0	13.9	4.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				29.7	24.3	25.9	7.7	7.4	0.0	0.0	21.7	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				43.6	40.5	41.3	54.9	28.3	0.0	0.0	47.1	34.1
LnGrp LOS				D	D	D	D	C	A	A	D	C
Approach Vol, veh/h					2459			323			861	
Approach Delay, s/veh					41.9			38.6			42.1	
Approach LOS					D			D			D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	44.5	65.5	44.5
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	38.0	60.0	38.0
Max Q Clear Time (g_c+I1), s	32.5	53.8	39.3
Green Ext Time (p_c), s	2.3	5.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	22	212	103	0	1763	0	0	3085	2109
Future Volume (veh/h)	0	0	0	22	212	103	0	1763	0	0	3085	2109
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1811	1663	0	1856	0	0	1885	1885
Adj Flow Rate, veh/h				23	219	0	0	1818	0	0	2857	2258
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				0	6	16	0	3	0	0	1	1
Cap, veh/h				74	758		0	3662	0	0	2725	2310
Arrive On Green				0.16	0.16	0.00	0.00	1.00	0.00	0.00	0.72	0.72
Sat Flow, veh/h				453	4795	0	0	5400	0	0	3770	3195
Grp Volume(v), veh/h				91	151	0	0	1818	0	0	2857	2258
Grp Sat Flow(s),veh/h/ln				1788	1648	0	0	1689	0	0	1885	1598
Q Serve(g_s), s				4.9	4.4	0.0	0.0	0.0	0.0	0.0	79.5	73.5
Cycle Q Clear(g_c), s				4.9	4.4	0.0	0.0	0.0	0.0	0.0	79.5	73.5
Prop In Lane				0.25		0.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				292	539		0	3662	0	0	2725	2310
V/C Ratio(X)				0.31	0.28		0.00	0.50	0.00	0.00	1.05	0.98
Avail Cap(c_a), veh/h				397	731		0	3662	0	0	2725	2310
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00	0.00	0.80	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				40.5	40.3	0.0	0.0	0.0	0.0	0.0	15.2	14.4
Incr Delay (d2), s/veh				0.6	0.3	0.0	0.0	0.4	0.0	0.0	31.6	14.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.0	3.3	0.0	0.0	0.2	0.0	0.0	51.9	34.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				41.1	40.6	0.0	0.0	0.4	0.0	0.0	46.8	28.6
LnGrp LOS				D	D		A	A	A	A	F	C
Approach Vol, veh/h					242			1818			5115	
Approach Delay, s/veh					40.8			0.4			38.8	
Approach LOS					D			A			D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	85.4	24.6	85.4
Change Period (Y+Rc), s	* 5.9	6.6	* 5.9
Max Green Setting (Gmax), s	* 73	24.4	* 73
Max Q Clear Time (g_c+I1), s	81.5	6.9	2.0
Green Ext Time (p_c), s	0.0	1.3	26.2

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1142	36	0	0	0	0	266	0	139	409	0
Future Volume (veh/h)	50	1142	36	0	0	0	0	266	0	139	409	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1574				0	1826	1900	1870	1752	0
Adj Flow Rate, veh/h	56	1283	37				0	299	0	156	460	0
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	22				0	5	0	2	10	0
Cap, veh/h	60	1458	43				0	591	0	272	567	0
Arrive On Green	0.29	0.29	0.29				0.00	0.32	0.00	0.32	0.32	0.00
Sat Flow, veh/h	207	5048	150				0	1826	0	1080	1752	0
Grp Volume(v), veh/h	503	419	454				0	299	0	156	460	0
Grp Sat Flow(s),veh/h/ln	1860	1702	1843				0	1826	0	1080	1752	0
Q Serve(g_s), s	29.0	25.5	25.5				0.0	14.6	0.0	15.0	26.5	0.0
Cycle Q Clear(g_c), s	29.0	25.5	25.5				0.0	14.6	0.0	29.6	26.5	0.0
Prop In Lane	0.11		0.08				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	537	492	532				0	591	0	272	567	0
V/C Ratio(X)	0.94	0.85	0.85				0.00	0.51	0.00	0.57	0.81	0.00
Avail Cap(c_a), veh/h	541	495	536				0	1096	0	571	1051	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.49	0.00	0.28	0.28	0.00
Uniform Delay (d), s/veh	38.1	36.9	36.9				0.0	30.1	0.0	42.0	34.1	0.0
Incr Delay (d2), s/veh	24.0	13.4	12.5				0.0	1.5	0.0	0.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	23.3	18.1	19.1				0.0	9.6	0.0	5.8	14.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	50.3	49.4				0.0	31.6	0.0	42.6	34.9	0.0
LnGrp LOS	E	D	D				A	C	A	D	C	A
Approach Vol, veh/h		1376						299			616	
Approach Delay, s/veh		54.3						31.6			36.9	
Approach LOS		D						C			D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	41.6	37.8	41.6
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	66.0	32.0	66.0
Max Q Clear Time (g_c+I1), s	31.6	31.0	16.6
Green Ext Time (p_c), s	4.0	0.8	2.0

Intersection Summary	
HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	904	375	3	0	0	0	0	846	108	415	2667	0
Future Volume (veh/h)	904	375	3	0	0	0	0	846	108	415	2667	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1900				0	1841	1900	1885	1885	0
Adj Flow Rate, veh/h	972	403	3				0	910	100	446	2868	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	0				0	4	0	1	1	0
Cap, veh/h	1030	532	4				0	2758	302	403	3088	0
Arrive On Green	0.29	0.29	0.29				0.00	1.00	1.00	1.00	1.00	0.00
Sat Flow, veh/h	3563	1839	14				0	4762	503	562	5316	0
Grp Volume(v), veh/h	972	0	406				0	662	348	446	2868	0
Grp Sat Flow(s),veh/h/ln	1781	0	1853				0	1675	1750	562	1716	0
Q Serve(g_s), s	29.3	0.0	21.9				0.0	0.0	0.0	66.0	0.0	0.0
Cycle Q Clear(g_c), s	29.3	0.0	21.9				0.0	0.0	0.0	66.0	0.0	0.0
Prop In Lane	1.00		0.01				0.00		0.29	1.00		0.00
Lane Grp Cap(c), veh/h	1030	0	536				0	2010	1050	403	3088	0
V/C Ratio(X)	0.94	0.00	0.76				0.00	0.33	0.33	1.11	0.93	0.00
Avail Cap(c_a), veh/h	1036	0	539				0	2010	1050	403	3088	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	2.00	2.00	1.00
Upstream Filter(I)	0.67	0.00	0.67				0.00	1.00	1.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	38.2	0.0	35.6				0.0	0.0	0.0	5.4	0.0	0.0
Incr Delay (d2), s/veh	12.0	0.0	4.2				0.0	0.4	0.8	51.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	19.4	0.0	14.8				0.0	0.2	0.4	8.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.3	0.0	39.8				0.0	0.4	0.8	57.3	0.6	0.0
LnGrp LOS	D	A	D				A	A	A	F	A	A
Approach Vol, veh/h		1378						1010			3314	
Approach Delay, s/veh		47.2						0.6			8.2	
Approach LOS		D						A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	72.0	37.8	72.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	66.0	32.0	66.0
Max Q Clear Time (g_c+I1), s	68.0	31.3	2.0
Green Ext Time (p_c), s	0.0	0.5	8.8

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

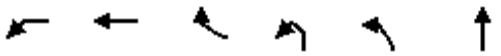
Notes

User approved volume balancing among the lanes for turning movement.



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	285	0	3076	0	0	0
Future Volume (vph)	285	0	3076	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			
Lane Util. Factor	1.00		0.91			
Frt	1.00		1.00			
Flt Protected	0.95		1.00			
Satd. Flow (prot)	1626		5136			
Flt Permitted	0.95		1.00			
Satd. Flow (perm)	1626		5136			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	300	0	3238	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	300	0	3238	0	0	0
Heavy Vehicles (%)	11%	0%	1%	0%	0%	0%
Turn Type	Prot		NA			Perm
Protected Phases	1	6	2			
Permitted Phases						6
Actuated Green, G (s)	25.1		72.9			
Effective Green, g (s)	25.1		72.9			
Actuated g/C Ratio	0.23		0.66			
Clearance Time (s)	6.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	371		3403			
v/s Ratio Prot	c0.18		c0.63			
v/s Ratio Perm						
v/c Ratio	0.81		0.95			
Uniform Delay, d1	40.2		16.9			
Progression Factor	1.00		0.67			
Incremental Delay, d2	12.2		4.3			
Delay (s)	52.4		15.6			
Level of Service	D		B			
Approach Delay (s)		52.4	15.6		0.0	
Approach LOS		D	B		A	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBT	WBR	NBL2	NBL	NBT
Lane Configurations						
Traffic Volume (vph)	193	66	83	404	63	892
Future Volume (vph)	193	66	83	404	63	892
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.0	5.8
Lane Util. Factor	0.97	0.95			1.00	0.95
Frt	1.00	0.92			1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3433	3310			1709	3471
Flt Permitted	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3433	3310			1709	3471
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	201	69	86	421	66	929
RTOR Reduction (vph)	0	72	0	0	118	0
Lane Group Flow (vph)	201	83	0	0	369	929
Heavy Vehicles (%)	2%	0%	0%	6%	3%	4%
Turn Type	Split	NA		Prot	Prot	NA
Protected Phases	4	4		5	5	2
Permitted Phases						
Actuated Green, G (s)	15.0	15.0			64.7	63.9
Effective Green, g (s)	15.0	15.0			64.7	63.9
Actuated g/C Ratio	0.17	0.17			0.72	0.71
Clearance Time (s)	5.3	5.3			5.0	5.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	572	551			1228	2464
v/s Ratio Prot	c0.06	0.03			0.22	c0.27
v/s Ratio Perm						
v/c Ratio	0.35	0.15			0.30	0.38
Uniform Delay, d1	33.2	32.1			4.5	5.2
Progression Factor	0.66	0.57			1.00	1.00
Incremental Delay, d2	0.4	0.1			0.1	0.4
Delay (s)	22.2	18.3			4.7	5.6
Level of Service	C	B			A	A
Approach Delay (s)		20.5				5.3
Approach LOS		C				A

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	75	171	165	105	387	0	0	624	55
Future Volume (veh/h)	0	0	0	75	171	165	105	387	0	0	624	55
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1856	1841	1826	1856	0	0	1885	1900
Adj Flow Rate, veh/h				79	180	22	111	407	0	0	657	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	3	4	5	3	0	0	1	0
Cap, veh/h				201	391	173	558	2664	0	0	2173	175
Arrive On Green				0.11	0.11	0.11	0.08	1.00	0.00	0.00	0.65	0.65
Sat Flow, veh/h				1810	3526	1560	1739	3618	0	0	3451	271
Grp Volume(v), veh/h				79	180	22	111	407	0	0	350	360
Grp Sat Flow(s),veh/h/ln				1810	1763	1560	1739	1763	0	0	1791	1836
Q Serve(g_s), s				3.7	4.3	1.1	1.8	0.0	0.0	0.0	7.7	7.7
Cycle Q Clear(g_c), s				3.7	4.3	1.1	1.8	0.0	0.0	0.0	7.7	7.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.15
Lane Grp Cap(c), veh/h				201	391	173	558	2664	0	0	1159	1189
V/C Ratio(X)				0.39	0.46	0.13	0.20	0.15	0.00	0.00	0.30	0.30
Avail Cap(c_a), veh/h				603	1175	520	620	2664	0	0	1159	1189
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.89	0.89	0.89	0.88	0.88	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.2	37.5	36.1	4.4	0.0	0.0	0.0	7.0	7.0
Incr Delay (d2), s/veh				1.1	0.8	0.3	0.2	0.1	0.0	0.0	0.7	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.0	3.4	0.8	0.9	0.1	0.0	0.0	5.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.3	38.2	36.4	4.6	0.1	0.0	0.0	7.6	7.6
LnGrp LOS				D	D	D	A	A	A	A	A	A
Approach Vol, veh/h					281			518			710	
Approach Delay, s/veh					38.1			1.1			7.6	
Approach LOS					D			A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.8	64.3		16.0		74.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	7.8	35.0		30.0		48.0
Max Q Clear Time (g_c+I1), s	3.8	9.7		6.3		2.0
Green Ext Time (p_c), s	0.1	4.7		1.4		3.0

Intersection Summary		
HCM 6th Ctrl Delay		11.0
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	94	248	0	0	0	0	0	1653	237
Future Volume (veh/h)	0	0	0	94	248	0	0	0	0	0	1653	237
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	
Adj Sat Flow, veh/h/ln				1633	1856	0				0	1885	1900
Adj Flow Rate, veh/h				98	258	0				0	1722	241
Peak Hour Factor				0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %				18	3	0				0	1	0
Cap, veh/h				259	618	0				0	2265	310
Arrive On Green				0.17	0.17	0.00				0.00	0.72	0.72
Sat Flow, veh/h				1555	3711	0				0	3260	433
Grp Volume(v), veh/h				98	258	0				0	956	1007
Grp Sat Flow(s),veh/h/ln				1555	1856	0				0	1791	1807
Q Serve(g_s), s				5.0	5.6	0.0				0.0	29.3	32.2
Cycle Q Clear(g_c), s				5.0	5.6	0.0				0.0	29.3	32.2
Prop In Lane				1.00		0.00				0.00		0.24
Lane Grp Cap(c), veh/h				259	618	0				0	1282	1293
V/C Ratio(X)				0.38	0.42	0.00				0.00	0.75	0.78
Avail Cap(c_a), veh/h				774	1847	0				0	1282	1293
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				33.4	33.6	0.0				0.0	7.8	8.2
Incr Delay (d2), s/veh				0.9	0.4	0.0				0.0	4.0	4.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.5	4.6	0.0				0.0	15.3	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				34.3	34.0	0.0				0.0	11.8	12.9
LnGrp LOS				C	C	A				A	B	B
Approach Vol, veh/h					356						1963	
Approach Delay, s/veh					34.1						12.4	
Approach LOS					C						B	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	69.8	20.2
Change Period (Y+Rc), s	5.4	* 5.2
Max Green Setting (Gmax), s	34.6	* 45
Max Q Clear Time (g_c+I1), s	34.2	7.6
Green Ext Time (p_c), s	0.4	2.1

Intersection Summary	
HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	1451	0	0	0	0	0	1227	64	0	0	0
Future Volume (veh/h)	113	1451	0	0	0	0	0	1227	64	0	0	0
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				
Adj Sat Flow, veh/h/ln	1900	1885	0				0	1841	1856			
Adj Flow Rate, veh/h	126	1612	0				0	1363	62			
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90			
Percent Heavy Veh, %	0	1	0				0	4	3			
Cap, veh/h	882	1838	0				0	2399	109			
Arrive On Green	0.49	0.49	0.00				0.00	0.38	0.38			
Sat Flow, veh/h	1810	3770	0				0	6512	284			
Grp Volume(v), veh/h	126	1612	0				0	1034	391			
Grp Sat Flow(s),veh/h/ln	1810	1885	0				0	1583	1790			
Q Serve(g_s), s	3.5	34.4	0.0				0.0	15.4	15.5			
Cycle Q Clear(g_c), s	3.5	34.4	0.0				0.0	15.4	15.5			
Prop In Lane	1.00		0.00				0.00		0.16			
Lane Grp Cap(c), veh/h	882	1838	0				0	1822	686			
V/C Ratio(X)	0.14	0.88	0.00				0.00	0.57	0.57			
Avail Cap(c_a), veh/h	929	1935	0				0	1822	686			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	12.7	20.6	0.0				0.0	21.9	21.9			
Incr Delay (d2), s/veh	0.1	4.7	0.0				0.0	1.3	3.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	2.5	21.6	0.0				0.0	9.7	11.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	25.4	0.0				0.0	23.1	25.3			
LnGrp LOS	B	C	A				A	C	C			
Approach Vol, veh/h		1738						1425				
Approach Delay, s/veh		24.5						23.7				
Approach LOS		C						C				

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	40.3	49.7
Change Period (Y+Rc), s	* 5.8	* 5.8
Max Green Setting (Gmax), s	* 32	* 46
Max Q Clear Time (g_c+I1), s	17.5	36.4
Green Ext Time (p_c), s	8.4	7.4

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	903	605	0	0	0	0	384	86	89	600	0
Future Volume (veh/h)	60	903	605	0	0	0	0	384	86	89	600	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1885				0	1826	1870	1900	1885	0
Adj Flow Rate, veh/h	64	961	483				0	409	67	95	638	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	1				0	5	2	0	1	0
Cap, veh/h	102	1638	525				0	1271	207	475	1928	0
Arrive On Green	0.33	0.33	0.33				0.00	0.43	0.43	0.09	1.00	0.00
Sat Flow, veh/h	312	4989	1598				0	3079	486	1810	3676	0
Grp Volume(v), veh/h	384	641	483				0	236	240	95	638	0
Grp Sat Flow(s),veh/h/ln	1870	1716	1598				0	1735	1738	1810	1791	0
Q Serve(g_s), s	15.6	13.9	26.2				0.0	8.2	8.3	2.5	0.0	0.0
Cycle Q Clear(g_c), s	15.6	13.9	26.2				0.0	8.2	8.3	2.5	0.0	0.0
Prop In Lane	0.17		1.00				0.00		0.28	1.00		0.00
Lane Grp Cap(c), veh/h	614	1127	525				0	738	740	475	1928	0
V/C Ratio(X)	0.63	0.57	0.92				0.00	0.32	0.32	0.20	0.33	0.00
Avail Cap(c_a), veh/h	623	1144	533				0	738	740	532	1928	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.29	0.29	0.29				0.00	1.00	1.00	0.95	0.95	0.00
Uniform Delay (d), s/veh	25.5	25.0	29.1				0.0	17.2	17.2	12.2	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.2	8.1				0.0	1.1	1.2	0.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.1	7.6	13.7				0.0	6.1	6.2	1.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	25.2	37.2				0.0	18.3	18.4	12.4	0.4	0.0
LnGrp LOS	C	C	D				A	B	B	B	A	A
Approach Vol, veh/h		1508						476			733	
Approach Delay, s/veh		29.2						18.4			2.0	
Approach LOS		C						B			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	10.2	44.3	35.6	54.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.8	35.0	30.0	48.0
Max Q Clear Time (g_c+I1), s	4.5	10.3	28.2	2.0
Green Ext Time (p_c), s	0.0	3.0	1.4	5.1

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	196	798	0	0	0	0	0	0	179	1318	0
Future Volume (veh/h)	0	196	798	0	0	0	0	0	0	179	1318	0
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	
Adj Sat Flow, veh/h/ln	0	1870	1885							1752	1885	0
Adj Flow Rate, veh/h	0	231	878							211	1551	0
Peak Hour Factor	0.85	0.85	0.85							0.85	0.85	0.85
Percent Heavy Veh, %	0	2	1							10	1	0
Cap, veh/h	0	1175	1004							922	2843	0
Arrive On Green	0.00	0.10	0.10							0.18	0.18	0.00
Sat Flow, veh/h	0	3741	3195							1668	5316	0
Grp Volume(v), veh/h	0	231	878							211	1551	0
Grp Sat Flow(s),veh/h/ln	0	1870	1598							1668	1716	0
Q Serve(g_s), s	0.0	5.1	24.4							9.7	24.6	0.0
Cycle Q Clear(g_c), s	0.0	5.1	24.4							9.7	24.6	0.0
Prop In Lane	0.00		1.00							1.00		0.00
Lane Grp Cap(c), veh/h	0	1175	1004							922	2843	0
V/C Ratio(X)	0.00	0.20	0.87							0.23	0.55	0.00
Avail Cap(c_a), veh/h	0	1247	1065							922	2843	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	0.90	0.90							0.55	0.55	0.00
Uniform Delay (d), s/veh	0.0	29.9	38.6							20.4	26.5	0.0
Incr Delay (d2), s/veh	0.0	0.1	7.2							0.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	4.2	16.6							6.7	15.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	30.0	45.8							20.8	27.0	0.0
LnGrp LOS	A	C	D							C	C	A
Approach Vol, veh/h		1109									1762	
Approach Delay, s/veh		42.5									26.2	
Approach LOS		D									C	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	55.7	34.3
Change Period (Y+Rc), s	6.0	6.0
Max Green Setting (Gmax), s	48.0	30.0
Max Q Clear Time (g_c+I1), s	26.6	26.4
Green Ext Time (p_c), s	12.8	1.9

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	199	0	0	0	0	0	904	227	0	0	0
Future Volume (veh/h)	171	199	0	0	0	0	0	904	227	0	0	0
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				
Adj Sat Flow, veh/h/ln	1870	1737	0				0	1841	1841			
Adj Flow Rate, veh/h	178	207	0				0	942	175			
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96			
Percent Heavy Veh, %	2	11	0				0	4	4			
Cap, veh/h	576	550	0				0	3939	1113			
Arrive On Green	0.05	0.05	0.00				0.00	0.71	0.71			
Sat Flow, veh/h	3456	3387	0				0	5522	1560			
Grp Volume(v), veh/h	178	207	0				0	942	175			
Grp Sat Flow(s),veh/h/ln	1728	1650	0				0	1841	1560			
Q Serve(g_s), s	4.5	5.4	0.0				0.0	5.3	3.3			
Cycle Q Clear(g_c), s	4.5	5.4	0.0				0.0	5.3	3.3			
Prop In Lane	1.00		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	576	550	0				0	3939	1113			
V/C Ratio(X)	0.31	0.38	0.00				0.00	0.24	0.16			
Avail Cap(c_a), veh/h	1524	1456	0				0	3939	1113			
HCM Platoon Ratio	0.33	0.33	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	37.5	38.0	0.0				0.0	4.5	4.2			
Incr Delay (d2), s/veh	0.3	0.4	0.0				0.0	0.1	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.5	4.1	0.0				0.0	3.0	1.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	38.4	0.0				0.0	4.6	4.5			
LnGrp LOS	D	D	A				A	A	A			
Approach Vol, veh/h		385						1117				
Approach Delay, s/veh		38.1						4.6				
Approach LOS		D						A				

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	69.7	20.3
Change Period (Y+Rc), s	5.5	* 5.3
Max Green Setting (Gmax), s	39.5	* 40
Max Q Clear Time (g_c+I1), s	7.3	7.4
Green Ext Time (p_c), s	8.7	2.0

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	24	680	0	0	0	0	0	243	1086
Future Volume (veh/h)	0	0	0	24	680	0	0	0	0	0	243	1086
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	
Adj Sat Flow, veh/h/ln				1263	1856	0				0	1811	1885
Adj Flow Rate, veh/h				27	764	0				0	273	1162
Peak Hour Factor				0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %				43	3	0				0	6	1
Cap, veh/h				41	1226	0				0	1062	936
Arrive On Green				0.24	0.24	0.00				0.00	0.59	0.59
Sat Flow, veh/h				168	5223	0				0	1811	1598
Grp Volume(v), veh/h				297	494	0				0	273	1162
Grp Sat Flow(s),veh/h/ln				1847	1689	0				0	1811	1598
Q Serve(g_s), s				10.2	9.1	0.0				0.0	5.1	41.0
Cycle Q Clear(g_c), s				10.2	9.1	0.0				0.0	5.1	41.0
Prop In Lane				0.09		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				448	819	0				0	1062	936
V/C Ratio(X)				0.66	0.60	0.00				0.00	0.26	1.24
Avail Cap(c_a), veh/h				765	1399	0				0	1062	936
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.83	0.83	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				23.9	23.5	0.0				0.0	7.1	14.5
Incr Delay (d2), s/veh				1.4	0.6	0.0				0.0	0.6	117.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				7.5	6.3	0.0				0.0	3.3	62.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.3	24.1	0.0				0.0	7.6	132.0
LnGrp LOS				C	C	A				A	A	F
Approach Vol, veh/h					791						1435	
Approach Delay, s/veh					24.6						108.4	
Approach LOS					C						F	

Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				23.0		47.0						
Change Period (Y+Rc), s				6.0		6.0						
Max Green Setting (Gmax), s				29.0		29.0						
Max Q Clear Time (g_c+I1), s				12.2		43.0						
Green Ext Time (p_c), s				4.8		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	78.6	
HCM 6th LOS	E	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	630	373	75	404	0	0	0	0
Future Volume (veh/h)	0	0	0	0	630	373	75	404	0	0	0	0
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				
Adj Sat Flow, veh/h/ln				0	1856	1841	1737	1781	0			
Adj Flow Rate, veh/h				0	692	98	82	444	0			
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %				0	3	4	11	8	0			
Cap, veh/h				0	1041	320	599	3553	0			
Arrive On Green				0.00	0.21	0.21	0.66	0.66	0.00			
Sat Flow, veh/h				0	5233	1560	914	5668	0			
Grp Volume(v), veh/h				0	692	98	156	370	0			
Grp Sat Flow(s),veh/h/ln				0	1689	1560	1736	1532	0			
Q Serve(g_s), s				0.0	11.3	4.8	3.1	2.7	0.0			
Cycle Q Clear(g_c), s				0.0	11.3	4.8	3.1	2.7	0.0			
Prop In Lane				0.00		1.00	0.53		0.00			
Lane Grp Cap(c), veh/h				0	1041	320	1138	3014	0			
V/C Ratio(X)				0.00	0.66	0.31	0.14	0.12	0.00			
Avail Cap(c_a), veh/h				0	1914	589	1138	3014	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	32.9	30.3	5.9	5.8	0.0			
Incr Delay (d2), s/veh				0.0	0.7	0.5	0.3	0.1	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	8.1	3.3	1.9	1.4	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	33.6	30.8	6.1	5.9	0.0			
LnGrp LOS				A	C	C	A	A	A			
Approach Vol, veh/h					790			526				
Approach Delay, s/veh					33.3			6.0				
Approach LOS					C			A				

Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						65.5		24.5				
Change Period (Y+Rc), s						6.5		6.0				
Max Green Setting (Gmax), s						43.5		34.0				
Max Q Clear Time (g_c+I1), s						5.1		13.3				
Green Ext Time (p_c), s						3.9		5.2				

Intersection Summary		
HCM 6th Ctrl Delay	22.4	
HCM 6th LOS	C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	217	109	313	1822	24	98	285	54	3	311	44
Future Volume (veh/h)	8	217	109	313	1822	24	98	285	54	3	311	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	231	83	333	1938	26	104	303	47	3	331	44
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	1771	619	313	1874	27	130	762	117	21	398	53
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	221	2562	895	415	2711	39	1008	3088	474	4	1612	213
Grp Volume(v), veh/h	9	157	157	1179	0	1118	104	173	177	378	0	0
Grp Sat Flow(s),veh/h/ln	221	1763	1694	1471	0	1695	1008	1777	1785	1829	0	0
Q Serve(g_s), s	6.9	5.4	5.7	118.7	0.0	107.7	9.1	14.6	14.9	3.1	0.0	0.0
Cycle Q Clear(g_c), s	114.6	5.4	5.7	124.4	0.0	107.7	44.4	14.6	14.9	35.3	0.0	0.0
Prop In Lane	1.00		0.53	0.28		0.02	1.00		0.27	0.01		0.12
Lane Grp Cap(c), veh/h	61	1218	1171	1042	0	1171	130	438	440	471	0	0
V/C Ratio(X)	0.15	0.13	0.13	1.13	0.00	0.95	0.80	0.39	0.40	0.80	0.00	0.00
Avail Cap(c_a), veh/h	61	1218	1171	1042	0	1171	130	438	440	471	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	77.2	9.4	9.5	32.1	0.0	25.2	77.8	56.6	56.7	64.4	0.0	0.0
Incr Delay (d2), s/veh	5.1	0.2	0.2	71.4	0.0	16.5	29.0	0.6	0.6	9.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	4.0	4.1	88.6	0.0	57.8	9.9	11.0	11.2	24.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.3	9.6	9.7	103.5	0.0	41.7	106.8	57.2	57.3	74.0	0.0	0.0
LnGrp LOS	F	A	A	F	A	D	F	E	E	E	A	A
Approach Vol, veh/h		323			2297			454			378	
Approach Delay, s/veh		11.7			73.4			68.6			74.0	
Approach LOS		B			E			E			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	130.0	50.0	130.0	50.0
Change Period (Y+Rc), s	5.6	5.6	5.6	5.6
Max Green Setting (Gmax), s	124.4	44.4	124.4	44.4
Max Q Clear Time (g_c+I1), s	116.6	37.3	126.4	46.4
Green Ext Time (p_c), s	1.2	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	67.1
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	905	23	147	2730	122	0	184	28	91	163	93
Future Volume (veh/h)	0	905	23	147	2730	122	0	184	28	91	163	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	984	22	160	2967	128	0	200	23	99	177	68
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	3	3	3	3	0	2	2	2	2	2
Cap, veh/h	0	3039	68	360	2970	126	0	210	24	168	457	387
Arrive On Green	0.00	0.60	0.60	1.00	1.00	1.00	0.00	0.13	0.13	0.04	0.24	0.24
Sat Flow, veh/h	0	5265	114	556	4983	212	0	1647	189	1781	1870	1585
Grp Volume(v), veh/h	0	652	354	160	1997	1098	0	0	223	99	177	68
Grp Sat Flow(s),veh/h/ln	0	1689	1835	556	1689	1817	0	0	1836	1781	1870	1585
Q Serve(g_s), s	0.0	8.7	8.7	7.8	0.0	53.6	0.0	0.0	10.9	4.0	7.1	3.0
Cycle Q Clear(g_c), s	0.0	8.7	8.7	16.0	0.0	53.6	0.0	0.0	10.9	4.0	7.1	3.0
Prop In Lane	0.00		0.06	1.00		0.12	0.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	0	2013	1094	360	2013	1083	0	0	235	168	457	387
V/C Ratio(X)	0.00	0.32	0.32	0.44	0.99	1.01	0.00	0.00	0.95	0.59	0.39	0.18
Avail Cap(c_a), veh/h	0	2075	1128	370	2075	1117	0	0	235	168	457	387
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.79	0.79	0.79	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	9.1	9.1	1.2	0.0	0.0	0.0	0.0	39.0	32.6	28.4	26.8
Incr Delay (d2), s/veh	0.0	0.4	0.8	0.7	15.6	27.3	0.0	0.0	45.0	5.4	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.5	6.1	0.1	7.4	12.5	0.0	0.0	12.3	3.7	5.8	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.5	9.9	1.9	15.6	27.3	0.0	0.0	83.9	38.0	28.9	27.1
LnGrp LOS	A	A	A	A	B	F	A	A	F	D	C	C
Approach Vol, veh/h		1006			3255			223			344	
Approach Delay, s/veh		9.7			18.9			83.9			31.2	
Approach LOS		A			B			F			C	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	60.7	10.5	18.0	60.7	28.5
Change Period (Y+Rc), s	* 6.2	6.5	6.5	* 6.2	6.5
Max Green Setting (Gmax), s	* 55	4.0	11.5	* 55	22.0
Max Q Clear Time (g_c+I1), s	55.6	6.0	12.9	10.7	9.1
Green Ext Time (p_c), s	0.0	0.0	0.0	8.4	0.9

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	616	794	1163	2725	0	0	0	0	0	0	0
Future Volume (veh/h)	0	616	794	1163	2725	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1796	1856	1811	1870	0				1900	1900	1900
Adj Flow Rate, veh/h	0	630	494	1251	2930	0				0	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	7	3	6	2	0				0	0	0
Cap, veh/h	0	2171	1901	907	4788	0				0	4	2
Arrive On Green	0.00	1.00	1.00	0.54	1.00	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	3593	3145	3346	5274	0				0	3705	1610
Grp Volume(v), veh/h	0	630	494	1251	2930	0				0	0	0
Grp Sat Flow(s),veh/h/ln	0	1796	1572	1673	1702	0				0	1805	1610
Q Serve(g_s), s	0.0	0.0	0.0	24.4	0.0	0.0				0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	24.4	0.0	0.0				0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h	0	2171	1901	907	4788	0				0	4	2
V/C Ratio(X)	0.00	0.29	0.26	1.38	0.61	0.00				0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2171	1901	907	4788	0				0	477	213
HCM Platoon Ratio	1.00	1.67	1.67	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.95	0.95	0.36	0.36	0.00				0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	20.6	0.0	0.0				0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	173.1	0.2	0.0				0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.2	0.1	39.0	0.2	0.0				0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.3	0.3	193.7	0.2	0.0				0.0	0.0	0.0
LnGrp LOS	A	A	A	F	A	A				A	A	A
Approach Vol, veh/h		1124			4181						0	
Approach Delay, s/veh		0.3			58.1						0.0	
Approach LOS		A			E							

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	30.0	60.0		0.0		90.0
Change Period (Y+Rc), s	5.6	5.6		6.1		5.6
Max Green Setting (Gmax), s	24.4	36.4		11.9		66.4
Max Q Clear Time (g_c+I1), s	26.4	2.0		0.0		2.0
Green Ext Time (p_c), s	0.0	7.6		0.0		53.9

Intersection Summary	
HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	635	0	0	2612	17	1153	110	956	0	0	0
Future Volume (veh/h)	0	635	0	0	2612	17	1153	110	956	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1811	0	0	1841	1752	1870	1826	1841			
Adj Flow Rate, veh/h	0	722	0	0	2968	10	1310	125	768			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88			
Percent Heavy Veh, %	0	6	0	0	4	10	2	5	4			
Cap, veh/h	0	2676	0	0	3427	803	1680	574	981			
Arrive On Green	0.00	0.18	0.00	0.00	0.54	0.54	0.31	0.31	0.31			
Sat Flow, veh/h	0	5270	0	0	6590	1485	5344	1826	3120			
Grp Volume(v), veh/h	0	722	0	0	2968	10	1310	125	768			
Grp Sat Flow(s),veh/h/ln	0	1648	0	0	1583	1485	1781	1826	1560			
Q Serve(g_s), s	0.0	11.3	0.0	0.0	36.4	0.3	20.0	4.5	20.1			
Cycle Q Clear(g_c), s	0.0	11.3	0.0	0.0	36.4	0.3	20.0	4.5	20.1			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2676	0	0	3427	803	1680	574	981			
V/C Ratio(X)	0.00	0.27	0.00	0.00	0.87	0.01	0.78	0.22	0.78			
Avail Cap(c_a), veh/h	0	2676	0	0	3427	803	1847	631	1078			
HCM Platoon Ratio	1.00	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.79	0.00	0.00	0.09	0.09	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	21.6	0.0	0.0	17.8	9.5	28.0	22.7	28.1			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.3	0.0	2.0	0.2	3.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	8.3	0.0	0.0	13.8	0.2	13.4	3.5	12.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.8	0.0	0.0	18.1	9.5	30.0	22.9	31.6			
LnGrp LOS	A	C	A	A	B	A	C	C	C			
Approach Vol, veh/h		722			2978			2203				
Approach Delay, s/veh		21.8			18.1			30.2				
Approach LOS		C			B			C				

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		54.8				54.8		35.2				
Change Period (Y+Rc), s		6.1				6.1		6.9				
Max Green Setting (Gmax), s		45.9				45.9		31.1				
Max Q Clear Time (g_c+I1), s		38.4				13.3		22.1				
Green Ext Time (p_c), s		7.3				5.7		6.1				

Intersection Summary												
HCM 6th Ctrl Delay			23.1									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	935	677	0	2197	14	856	49	27	0	0	0
Future Volume (veh/h)	0	935	677	0	2197	14	856	49	27	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1826	1841	0	1841	1707	1841	1841	1796			
Adj Flow Rate, veh/h	0	1075	388	0	2525	15	1050	0	0			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	0	5	4	0	4	13	4	4	7			
Cap, veh/h	0	1786	803	0	2653	16	1195	627	0			
Arrive On Green	0.00	1.00	1.00	0.00	0.51	0.51	0.34	0.00	0.00			
Sat Flow, veh/h	0	3561	1560	0	5320	31	3506	1841	0			
Grp Volume(v), veh/h	0	1075	388	0	1640	900	1050	0	0			
Grp Sat Flow(s),veh/h/ln	0	1735	1560	0	1675	1835	1753	1841	0			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	41.9	42.0	25.4	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	41.9	42.0	25.4	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		0.02	1.00		0.00			
Lane Grp Cap(c), veh/h	0	1786	803	0	1724	945	1195	627	0			
V/C Ratio(X)	0.00	0.60	0.48	0.00	0.95	0.95	0.88	0.00	0.00			
Avail Cap(c_a), veh/h	0	1786	803	0	1724	945	1461	767	0			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.81	0.81	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	20.8	20.8	27.9	0.0	0.0			
Incr Delay (d2), s/veh	0.0	1.2	1.7	0.0	12.1	18.8	5.5	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	0.5	0.7	0.0	24.7	28.8	16.6	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.2	1.7	0.0	32.9	39.6	33.5	0.0	0.0			
LnGrp LOS	A	A	A	A	C	D	C	A	A			
Approach Vol, veh/h		1463			2540			1050				
Approach Delay, s/veh		1.3			35.3			33.5				
Approach LOS		A			D			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	52.8	37.2	52.8
Change Period (Y+Rc), s	6.5	6.5	6.5
Max Green Setting (Gmax), s	39.5	37.5	39.5
Max Q Clear Time (g_c+I1), s	2.0	27.4	44.0
Green Ext Time (p_c), s	12.3	3.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	132	8	5	287	0	3	0	2	248	27	353
Future Volume (veh/h)	0	132	8	5	287	0	3	0	2	248	27	353
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1900	1900	1841	0	1900	1900	1900	1826	1900	1900
Adj Flow Rate, veh/h	0	140	7	5	305	0	3	0	0	285	0	64
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	3	0	0	4	0	0	0	0	5	0	0
Cap, veh/h	0	513	25	40	511	0	90	0	0	522	0	242
Arrive On Green	0.00	0.15	0.15	0.15	0.15	0.00	0.05	0.00	0.00	0.15	0.00	0.15
Sat Flow, veh/h	0	3511	170	18	3489	0	1809	0	0	3478	0	1610
Grp Volume(v), veh/h	0	72	75	166	144	0	3	0	0	285	0	64
Grp Sat Flow(s),veh/h/ln	0	1763	1825	1832	1591	0	1810	0	0	1739	0	1610
Q Serve(g_s), s	0.0	3.6	3.7	0.0	8.4	0.0	0.2	0.0	0.0	7.6	0.0	3.5
Cycle Q Clear(g_c), s	0.0	3.6	3.7	8.4	8.4	0.0	0.2	0.0	0.0	7.6	0.0	3.5
Prop In Lane	0.00		0.09	0.03		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	264	274	312	239	0	90	0	0	522	0	242
V/C Ratio(X)	0.00	0.27	0.27	0.53	0.60	0.00	0.03	0.00	0.00	0.55	0.00	0.26
Avail Cap(c_a), veh/h	0	529	547	584	477	0	262	0	0	1339	0	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	37.7	37.7	39.7	39.7	0.0	45.2	0.0	0.0	39.4	0.0	37.6
Incr Delay (d2), s/veh	0.0	0.5	0.5	6.4	10.7	0.0	0.1	0.0	0.0	0.9	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.9	3.0	7.8	7.2	0.0	0.1	0.0	0.0	5.9	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	38.2	38.2	46.1	50.5	0.0	45.3	0.0	0.0	40.2	0.0	38.2
LnGrp LOS	A	D	D	D	D	A	D	A	A	D	A	D
Approach Vol, veh/h		147			310			3			349	
Approach Delay, s/veh		38.2			48.1			45.3			39.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	21.0	10.5	21.0	20.5
Change Period (Y+Rc), s	6.0	5.5	6.0	5.5
Max Green Setting (Gmax), s	30.0	14.5	30.0	38.5
Max Q Clear Time (g_c+I1), s	5.7	2.2	10.4	9.6
Green Ext Time (p_c), s	0.7	0.0	1.7	1.2

Intersection Summary	
HCM 6th Ctrl Delay	42.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

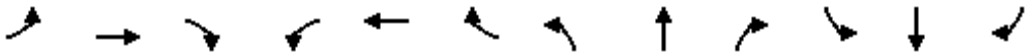
Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	538	119	0	0	141	342	0	0	0	0	0	0
Future Vol, veh/h	538	119	0	0	141	342	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	200	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	4	7	0	0	10	7	0	0	0	0	0	0
Mvmt Flow	591	131	0	0	155	376	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	155	0	-	-	-	0	1391	1468	66
Stage 1	-	-	-	-	-	-	1313	1313	-
Stage 2	-	-	-	-	-	-	78	155	-
Critical Hdwy	4.18	-	-	-	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.24	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1408	-	0	0	-	-	136	129	991
Stage 1	-	-	0	0	-	-	220	230	-
Stage 2	-	-	0	0	-	-	942	773	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1408	-	-	-	-	-	79	0	991
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	0	-
Stage 1	-	-	-	-	-	-	128	0	-
Stage 2	-	-	-	-	-	-	942	0	-

Approach	EB	WB	NB
HCM Control Delay, s	7.7	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	-	1408	-	-	-
HCM Lane V/C Ratio	-	0.42	-	-	-
HCM Control Delay (s)	0	9.4	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	-	2.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	0	0	342	442	533	99	668	0	0	467	224
Future Volume (veh/h)	8	0	0	342	442	533	99	668	0	0	467	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1870	1900	1856	1752	1856	0	0	1767	1870
Adj Flow Rate, veh/h	8	0	0	356	460	420	103	696	0	0	486	136
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	3	10	3	0	0	9	2
Cap, veh/h	0	0	0	258	342	332	240	1539	0	0	1490	414
Arrive On Green	0.00	0.00	0.00	0.26	0.26	0.26	0.57	0.57	0.00	0.00	0.57	0.57
Sat Flow, veh/h		0		975	1295	1255	305	2764	0	0	2682	721
Grp Volume(v), veh/h		0.0		676	0	560	382	417	0	0	313	309
Grp Sat Flow(s),veh/h/ln				1851	0	1674	1380	1604	0	0	1678	1637
Q Serve(g_s), s				18.5	0.0	18.5	4.1	10.5	0.0	0.0	6.8	6.9
Cycle Q Clear(g_c), s				18.5	0.0	18.5	11.0	10.5	0.0	0.0	6.8	6.9
Prop In Lane				0.53		0.75	0.27		0.00	0.00		0.44
Lane Grp Cap(c), veh/h				489	0	442	858	921	0	0	964	940
V/C Ratio(X)				1.38	0.00	1.27	0.45	0.45	0.00	0.00	0.33	0.33
Avail Cap(c_a), veh/h				489	0	442	858	921	0	0	964	940
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.8	0.0	25.8	8.4	8.6	0.0	0.0	7.8	7.8
Incr Delay (d2), s/veh				184.1	0.0	136.6	1.7	1.6	0.0	0.0	0.9	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				49.6	0.0	35.9	5.4	6.2	0.0	0.0	4.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				209.9	0.0	162.4	10.0	10.2	0.0	0.0	8.7	8.8
LnGrp LOS				F	A	F	B	B	A	A	A	A
Approach Vol, veh/h					1236			799			622	
Approach Delay, s/veh					188.3			10.1			8.7	
Approach LOS					F			B			A	

Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	46.0				46.0		24.0					
Change Period (Y+Rc), s	* 5.8				* 5.8		5.5					
Max Green Setting (Gmax), s	* 27				* 26		18.5					
Max Q Clear Time (g_c+I1), s	13.0				8.9		20.5					
Green Ext Time (p_c), s	4.6				3.7		0.0					

Intersection Summary		
HCM 6th Ctrl Delay	92.7	
HCM 6th LOS	F	

Notes

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

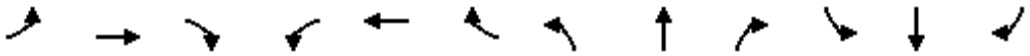
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑	↱	↰	↑↑					↱
Traffic Vol, veh/h	0	384	127	136	668	0	0	0	0	0
Future Vol, veh/h	0	384	127	136	668	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	None	-	-
Storage Length	-	-	80	220	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	5	7	1	2	0	0	0	0	0
Mvmt Flow	0	431	143	153	751	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	-	0	0	431	0	0	-	376
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.12	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.21	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	1132	-	0	0	627
Stage 1	0	-	-	-	-	0	0	-
Stage 2	0	-	-	-	-	0	0	-
Platoon blocked, %		-	-		-			
Mov Cap-1 Maneuver	-	-	-	1132	-	-	-	627
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay, s	0	1.5	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SELn1
Capacity (veh/h)	-	-	1132	-	-
HCM Lane V/C Ratio	-	-	0.135	-	-
HCM Control Delay (s)	-	-	8.7	-	0
HCM Lane LOS	-	-	A	-	A
HCM 95th %tile Q(veh)	-	-	0.5	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	376	0	0	0	0	299	138	34	0	0	0
Future Volume (veh/h)	8	376	0	0	0	0	299	138	34	0	0	0
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				
Adj Sat Flow, veh/h/ln	1900	1811	0				1885	1900	1826			
Adj Flow Rate, veh/h	8	384	0				305	141	23			
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98			
Percent Heavy Veh, %	0	6	0				1	0	5			
Cap, veh/h	11	560	0				838	387	1031			
Arrive On Green	0.16	0.16	0.00				0.67	0.67	0.67			
Sat Flow, veh/h	69	3550	0				1256	581	1547			
Grp Volume(v), veh/h	210	182	0				446	0	23			
Grp Sat Flow(s),veh/h/ln	1808	1721	0				1837	0	1547			
Q Serve(g_s), s	7.7	6.9	0.0				7.5	0.0	0.4			
Cycle Q Clear(g_c), s	7.7	6.9	0.0				7.5	0.0	0.4			
Prop In Lane	0.04		0.00				0.68		1.00			
Lane Grp Cap(c), veh/h	293	279	0				1225	0	1031			
V/C Ratio(X)	0.72	0.65	0.00				0.36	0.00	0.02			
Avail Cap(c_a), veh/h	516	492	0				1225	0	1031			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.8	27.5	0.0				5.1	0.0	3.9			
Incr Delay (d2), s/veh	3.3	2.6	0.0				0.8	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	6.2	5.3	0.0				4.3	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	30.1	0.0				6.0	0.0	4.0			
LnGrp LOS	C	C	A				A	A	A			
Approach Vol, veh/h		392						469				
Approach Delay, s/veh		30.6						5.9				
Approach LOS		C						A				

Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		52.7		17.3								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		38.0		20.0								
Max Q Clear Time (g_c+I1), s		9.5		9.7								
Green Ext Time (p_c), s		3.1		1.6								

Intersection Summary												
HCM 6th Ctrl Delay			17.1									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	635	0	1130	150	759	0	0	1156	325
Future Volume (veh/h)	0	0	0	635	0	1130	150	759	0	0	1156	325
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1722	1900	1811	1292	1796	0	0	1796	1796
Adj Flow Rate, veh/h				676	0	1153	160	807	0	0	1230	78
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				12	0	6	41	7	0	0	7	7
Cap, veh/h				1605	0	751	130	1325	0	0	763	340
Arrive On Green				0.49	0.00	0.49	0.03	0.13	0.00	0.00	0.22	0.22
Sat Flow, veh/h				3280	0	1535	1231	3503	0	0	3503	1522
Grp Volume(v), veh/h				676	0	1153	160	807	0	0	1230	78
Grp Sat Flow(s),veh/h/ln				1640	0	1535	1231	1706	0	0	1706	1522
Q Serve(g_s), s				11.3	0.0	41.6	9.0	19.0	0.0	0.0	19.0	3.6
Cycle Q Clear(g_c), s				11.3	0.0	41.6	9.0	19.0	0.0	0.0	19.0	3.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1605	0	751	130	1325	0	0	763	340
V/C Ratio(X)				0.42	0.00	1.53	1.23	0.61	0.00	0.00	1.61	0.23
Avail Cap(c_a), veh/h				1605	0	751	130	1325	0	0	763	340
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.49	0.49	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				14.0	0.0	21.7	41.0	31.0	0.0	0.0	33.0	27.0
Incr Delay (d2), s/veh				0.2	0.0	247.4	131.0	1.0	0.0	0.0	281.6	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				7.1	0.0	120.4	11.7	12.2	0.0	0.0	58.3	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				14.1	0.0	269.1	172.0	32.0	0.0	0.0	314.6	28.6
LnGrp LOS				B	A	F	F	C	A	A	F	C
Approach Vol, veh/h					1829			967			1308	
Approach Delay, s/veh					174.9			55.2			297.6	
Approach LOS					F			E			F	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	38.0	47.0	14.0	24.0
Change Period (Y+Rc), s	5.0	* 5.4	5.0	5.0
Max Green Setting (Gmax), s	33.0	* 42	9.0	19.0
Max Q Clear Time (g_c+I1), s	21.0	43.6	11.0	21.0
Green Ext Time (p_c), s	4.4	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	185.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	417	0	184	0	0	0	0	514	694	827	945	0
Future Volume (veh/h)	417	0	184	0	0	0	0	514	694	827	945	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1826	1900	1515				0	1618	1515	1796	1752	0
Adj Flow Rate, veh/h	444	0	64				0	547	0	880	1005	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	0	26				0	19	26	7	10	0
Cap, veh/h	430	0	398				0	904		523	2154	0
Arrive On Green	0.25	0.00	0.25				0.00	0.20	0.00	0.10	0.21	0.00
Sat Flow, veh/h	1739	0	1610				0	3156	1284	1711	3416	0
Grp Volume(v), veh/h	444	0	64				0	547	0	880	1005	0
Grp Sat Flow(s),veh/h/ln	1739	0	1610				0	1537	1284	1711	1664	0
Q Serve(g_s), s	21.0	0.0	2.6				0.0	13.8	0.0	26.0	22.4	0.0
Cycle Q Clear(g_c), s	21.0	0.0	2.6				0.0	13.8	0.0	26.0	22.4	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	430	0	398				0	904		523	2154	0
V/C Ratio(X)	1.03	0.00	0.16				0.00	0.60		1.68	0.47	0.00
Avail Cap(c_a), veh/h	430	0	398				0	904		523	2193	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.67	0.67	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.63	0.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	32.0	0.0	25.1				0.0	29.6	0.0	38.2	20.6	0.0
Incr Delay (d2), s/veh	52.3	0.0	0.2				0.0	1.9	0.0	307.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	21.4	0.0	1.8				0.0	8.6	0.0	79.4	11.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.3	0.0	25.3				0.0	31.5	0.0	345.7	20.7	0.0
LnGrp LOS	F	A	C				A	C		F	C	A
Approach Vol, veh/h		508						547			1885	
Approach Delay, s/veh		76.9						31.5			172.4	
Approach LOS		E						C			F	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	30.0	30.0	25.0	60.0
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5
Max Green Setting (Gmax), s	26.0	25.0	21.0	* 56
Max Q Clear Time (g_c+I1), s	28.0	15.8	23.0	24.4
Green Ext Time (p_c), s	0.0	2.5	0.0	8.8

Intersection Summary	
HCM 6th Ctrl Delay	129.7
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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	477	170	376	637	248	153	199	426	528	301	140
Future Volume (veh/h)	92	477	170	376	637	248	153	199	426	528	301	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1648	1396	1663	1693	1796	1574	1737	1322	1722	1781	1559
Adj Flow Rate, veh/h	97	502	136	396	671	84	161	209	230	556	317	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	17	34	16	14	7	22	11	39	12	8	23
Cap, veh/h	189	564	152	265	462	415	452	410	366	518	1192	465
Arrive On Green	0.06	0.23	0.23	0.10	0.27	0.27	0.10	0.25	0.25	0.07	0.12	0.12
Sat Flow, veh/h	1781	2438	657	1584	1693	1522	1499	1650	1472	1640	3385	1321
Grp Volume(v), veh/h	97	321	317	396	671	84	161	209	230	556	317	43
Grp Sat Flow(s),veh/h/ln	1781	1566	1530	1584	1693	1522	1499	1650	1472	1640	1692	1321
Q Serve(g_s), s	3.5	16.9	17.1	8.5	23.2	3.6	6.6	9.3	11.8	17.5	7.3	2.5
Cycle Q Clear(g_c), s	3.5	16.9	17.1	8.5	23.2	3.6	6.6	9.3	11.8	17.5	7.3	2.5
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	362	354	265	462	415	452	410	366	518	1192	465
V/C Ratio(X)	0.51	0.89	0.89	1.50	1.45	0.20	0.36	0.51	0.63	1.07	0.27	0.09
Avail Cap(c_a), veh/h	263	378	369	265	462	415	607	410	366	518	1192	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	24.9	31.6	31.7	26.9	30.9	23.8	20.0	27.5	28.4	22.7	27.5	25.4
Incr Delay (d2), s/veh	2.2	21.2	22.8	242.4	215.7	0.2	0.5	4.5	7.9	58.2	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	13.0	13.1	30.7	56.3	2.3	4.1	7.3	8.5	23.2	5.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	52.8	54.4	269.3	246.6	24.0	20.5	31.9	36.4	80.9	28.0	25.8
LnGrp LOS	C	D	D	F	F	C	C	C	D	F	C	C
Approach Vol, veh/h		735			1151			600			916	
Approach Delay, s/veh		50.1			238.2			30.6			60.0	
Approach LOS		D			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	35.6	12.0	25.2	21.0	26.8	8.5	28.7
Change Period (Y+Rc), s	3.5	5.7	3.5	5.5	3.5	5.7	3.5	5.5
Max Green Setting (Gmax), s	7.5	20.3	8.5	20.5	17.5	20.3	8.5	20.5
Max Q Clear Time (g_c+I1), s	8.6	9.3	10.5	19.1	19.5	13.8	5.5	25.2
Green Ext Time (p_c), s	0.3	1.6	0.0	0.6	0.0	1.5	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	112.9
HCM 6th LOS	F



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	111	526	403	78	503	979
Future Volume (vph)	111	526	403	78	503	979
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	6.0
Lane Util. Factor	0.95			0.95	0.97	1.00
Frt	0.88			1.00	1.00	0.85
Flt Protected	1.00			0.96	0.95	1.00
Satd. Flow (prot)	2806			3173	3183	1495
Flt Permitted	1.00			0.57	0.95	1.00
Satd. Flow (perm)	2806			1901	3183	1495
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	117	554	424	82	529	1031
RTOR Reduction (vph)	348	0	0	0	0	554
Lane Group Flow (vph)	323	0	0	506	529	477
Heavy Vehicles (%)	2%	15%	10%	5%	10%	8%
Turn Type	NA		pm+pt	NA	Prot	Prot
Protected Phases	2		1	6	4	4
Permitted Phases			6			
Actuated Green, G (s)	29.7			40.0	28.0	28.0
Effective Green, g (s)	29.7			40.0	28.0	28.0
Actuated g/C Ratio	0.37			0.50	0.35	0.35
Clearance Time (s)	6.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1041			1037	1114	523
v/s Ratio Prot	0.12			c0.03	0.17	c0.32
v/s Ratio Perm				c0.21		
v/c Ratio	0.31			1.44dl	0.47	0.91
Uniform Delay, d1	17.9			13.2	20.3	24.8
Progression Factor	1.00			1.00	1.14	3.50
Incremental Delay, d2	0.8			0.4	0.2	16.4
Delay (s)	18.6			13.6	23.3	103.2
Level of Service	B			B	C	F
Approach Delay (s)	18.6			13.6	76.1	
Approach LOS	B			B	E	

Intersection Summary			
HCM 2000 Control Delay	50.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	90.7%	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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	385	894	483	962	696	180
Future Volume (veh/h)	385	894	483	962	696	180
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	1767	1796	1500	1796	1693	1530
Adj Flow Rate, veh/h	418	0	525	1046	757	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	9	7	27	7	14	25
Cap, veh/h	468		395	1977	1695	
Arrive On Green	0.28	0.00	0.05	0.19	0.37	0.00
Sat Flow, veh/h	1682	1522	2771	3503	4773	1296
Grp Volume(v), veh/h	418	0	525	1046	757	0
Grp Sat Flow(s),veh/h/ln	1682	1522	1386	1706	1540	1296
Q Serve(g_s), s	19.1	0.0	11.4	22.1	9.9	0.0
Cycle Q Clear(g_c), s	19.1	0.0	11.4	22.1	9.9	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	468		395	1977	1695	
V/C Ratio(X)	0.89		1.33	0.53	0.45	
Avail Cap(c_a), veh/h	715		395	1977	1695	
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.7	0.0	38.1	22.5	19.2	0.0
Incr Delay (d2), s/veh	9.4	0.0	164.8	1.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	0.0	21.3	15.3	6.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.1	0.0	202.9	23.5	20.0	0.0
LnGrp LOS	D		F	C	C	
Approach Vol, veh/h	418			1571	757	
Approach Delay, s/veh	37.1			83.5	20.0	
Approach LOS	D			F	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.7		28.3	17.0	34.7
Change Period (Y+Rc), s		5.4		6.0	5.6	5.4
Max Green Setting (Gmax), s		34.6		34.0	11.4	17.6
Max Q Clear Time (g_c+I1), s		24.1		21.1	13.4	11.9
Green Ext Time (p_c), s		5.0		1.2	0.0	2.3

Intersection Summary		
HCM 6th Ctrl Delay	58.9	
HCM 6th LOS	E	

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	454	0	654	2	0	0	439	943	9	9	1173	429
Future Volume (veh/h)	454	0	654	2	0	0	439	943	9	9	1173	429
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1900	1826	1900	1900	1900	1441	1618	1604	1900	1752	1678
Adj Flow Rate, veh/h	516	0	0	2	0	0	499	1072	9	10	1333	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	7	0	5	0	0	0	31	19	20	0	10	15
Cap, veh/h	620	0		113	0	0	536	1664	14	227	1232	
Arrive On Green	0.18	0.00	0.00	0.06	0.00	0.00	0.20	0.53	0.53	0.52	0.52	0.00
Sat Flow, veh/h	3421	0	1547	1809	0	0	2662	3125	26	530	4782	1422
Grp Volume(v), veh/h	516	0	0	2	0	0	499	527	554	10	1333	0
Grp Sat Flow(s),veh/h/ln	1711	0	1547	1810	0	0	1331	1537	1614	530	1594	1422
Q Serve(g_s), s	11.6	0.0	0.0	0.1	0.0	0.0	14.7	19.5	19.5	0.8	20.6	0.0
Cycle Q Clear(g_c), s	11.6	0.0	0.0	0.1	0.0	0.0	14.7	19.5	19.5	0.8	20.6	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	620	0		113	0	0	536	819	859	227	1232	
V/C Ratio(X)	0.83	0.00		0.02	0.00	0.00	0.93	0.64	0.64	0.04	1.08	
Avail Cap(c_a), veh/h	770	0		113	0	0	536	819	859	227	1232	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.6	0.0	0.0	35.2	0.0	0.0	31.4	13.3	13.3	14.6	19.4	0.0
Incr Delay (d2), s/veh	6.4	0.0	0.0	0.1	0.0	0.0	23.3	3.9	3.7	0.4	50.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.0	0.0	0.0	0.1	0.0	0.0	10.4	11.2	11.6	0.2	16.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	0.0	0.0	35.3	0.0	0.0	54.7	17.2	17.0	14.9	70.3	0.0
LnGrp LOS	D	A		D	A	A	D	B	B	B	F	
Approach Vol, veh/h		516			2			1580			1343	
Approach Delay, s/veh		38.0			35.3			29.0			69.9	
Approach LOS		D			D			C			E	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	48.5	20.5	22.0	26.5	11.0
Change Period (Y+Rc), s	5.9	6.0	5.9	5.9	6.0
Max Green Setting (Gmax), s	39.1	18.0	16.1	17.1	5.0
Max Q Clear Time (g_c+I1), s	21.5	13.6	16.7	22.6	2.1
Green Ext Time (p_c), s	7.0	0.9	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	41	38	49	154	0	0	0	0	88	856	24
Future Volume (veh/h)	0	41	38	49	154	0	0	0	0	88	856	24
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1648	1292	1441	1856	0				1870	1796	1900
Adj Flow Rate, veh/h	0	48	4	57	179	0				102	995	26
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	17	41	31	3	0				2	7	0
Cap, veh/h	0	281	23	150	338	0				352	3669	99
Arrive On Green	0.00	0.10	0.10	0.19	0.19	0.00				0.79	0.79	0.79
Sat Flow, veh/h	0	3012	241	1042	3618	0				443	4616	124
Grp Volume(v), veh/h	0	25	27	57	179	0				409	342	372
Grp Sat Flow(s),veh/h/ln	0	1566	1605	1042	1763	0				1774	1635	1774
Q Serve(g_s), s	0.0	1.6	1.7	5.7	5.0	0.0				6.8	6.0	6.0
Cycle Q Clear(g_c), s	0.0	1.6	1.7	7.3	5.0	0.0				6.8	6.0	6.0
Prop In Lane	0.00		0.15	1.00		0.00				0.25		0.07
Lane Grp Cap(c), veh/h	0	150	154	150	338	0				1410	1299	1410
V/C Ratio(X)	0.00	0.17	0.17	0.38	0.53	0.00				0.29	0.26	0.26
Avail Cap(c_a), veh/h	0	384	394	305	865	0				1410	1299	1410
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.67	0.67	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	45.7	45.7	43.9	42.2	0.0				3.0	2.9	2.9
Incr Delay (d2), s/veh	0.0	0.5	0.5	1.1	0.9	0.0				0.5	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	1.2	1.2	2.5	3.8	0.0				3.6	3.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.2	46.2	45.0	43.1	0.0				3.5	3.4	3.4
LnGrp LOS	A	D	D	D	D	A				A	A	A
Approach Vol, veh/h		52			236						1123	
Approach Delay, s/veh		46.2			43.5						3.4	
Approach LOS		D			D						A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	93.4	16.6	16.6
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	71.0	27.0	27.0
Max Q Clear Time (g_c+I1), s	8.8	3.7	9.3
Green Ext Time (p_c), s	9.3	0.2	1.2

Intersection Summary	
HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	111	0	0	78	221	96	3482	66	0	0	0
Future Volume (veh/h)	27	111	0	0	78	221	96	3482	66	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1722	1841	0	0	1663	1841	1781	1870	1796			
Adj Flow Rate, veh/h	29	118	0	0	83	234	102	3704	68			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	12	4	0	0	16	4	8	2	7			
Cap, veh/h	78	371	0	0	314	280	118	4589	86			
Arrive On Green	0.13	0.13	0.00	0.00	0.20	0.20	0.23	0.23	0.23			
Sat Flow, veh/h	138	1947	0	0	1663	1409	170	6633	124			
Grp Volume(v), veh/h	55	92	0	0	83	234	1115	1745	1014			
Grp Sat Flow(s),veh/h/ln	409	1591	0	0	1580	1409	1862	1609	1848			
Q Serve(g_s), s	2.0	5.8	0.0	0.0	4.9	17.5	63.3	56.1	56.9			
Cycle Q Clear(g_c), s	19.6	5.8	0.0	0.0	4.9	17.5	63.3	56.1	56.9			
Prop In Lane	0.53		0.00	0.00		1.00	0.09		0.07			
Lane Grp Cap(c), veh/h	132	317	0	0	314	280	1288	2226	1279			
V/C Ratio(X)	0.42	0.29	0.00	0.00	0.26	0.83	0.87	0.78	0.79			
Avail Cap(c_a), veh/h	193	391	0	0	388	346	1288	2226	1279			
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00	0.33	0.33	0.33			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	0.09	0.09	0.09			
Uniform Delay (d), s/veh	45.7	40.7	0.0	0.0	37.2	42.3	37.5	34.7	35.0			
Incr Delay (d2), s/veh	2.0	0.5	0.0	0.0	0.4	13.5	0.8	0.3	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	2.9	4.2	0.0	0.0	3.5	11.5	34.5	26.5	30.8			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	41.2	0.0	0.0	37.7	55.8	38.3	35.0	35.5			
LnGrp LOS	D	D	A	A	D	E	D	C	D			
Approach Vol, veh/h		147			317			3874				
Approach Delay, s/veh		43.6			51.1			36.1				
Approach LOS		D			D			D				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		82.1		27.9				27.9				
Change Period (Y+Rc), s		6.0		6.0				6.0				
Max Green Setting (Gmax), s		71.0		27.0				27.0				
Max Q Clear Time (g_c+I1), s		65.3		21.6				19.5				
Green Ext Time (p_c), s		5.6		0.3				1.1				
Intersection Summary												
HCM 6th Ctrl Delay			37.4									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	169	2	25	166	0	0	0	0	107	171	58
Future Volume (veh/h)	0	169	2	25	166	0	0	0	0	107	171	58
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1781	418	1900	1841	0				1856	1767	1470
Adj Flow Rate, veh/h	0	197	1	29	193	0				124	199	10
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	8	100	0	4	0				3	9	29
Cap, veh/h	0	2428	12	927	2459	0				252	479	178
Arrive On Green	0.00	0.70	0.70	1.00	1.00	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	3542	18	1203	3589	0				1767	3357	1246
Grp Volume(v), veh/h	0	96	102	29	193	0				124	199	10
Grp Sat Flow(s),veh/h/ln	0	1692	1778	1203	1749	0				1767	1678	1246
Q Serve(g_s), s	0.0	1.3	1.3	0.0	0.0	0.0				4.5	3.8	0.5
Cycle Q Clear(g_c), s	0.0	1.3	1.3	1.3	0.0	0.0				4.5	3.8	0.5
Prop In Lane	0.00		0.01	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1190	1250	927	2459	0				252	479	178
V/C Ratio(X)	0.00	0.08	0.08	0.03	0.08	0.00				0.49	0.42	0.06
Avail Cap(c_a), veh/h	0	1190	1250	927	2459	0				649	1232	457
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.94	0.94	0.99	0.99	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	3.3	3.3	0.0	0.0	0.0				27.7	27.3	25.9
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.1	0.1	0.0				1.5	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.6	0.6	0.0	0.0	0.0				3.5	2.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	3.4	3.4	0.1	0.1	0.0				29.2	27.9	26.1
LnGrp LOS	A	A	A	A	A	A				C	C	C
Approach Vol, veh/h		198			222						333	
Approach Delay, s/veh		3.4			0.1						28.3	
Approach LOS		A			A						C	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	54.7	15.3	54.7
Change Period (Y+Rc), s	5.5	* 5.3	5.5
Max Green Setting (Gmax), s	33.5	* 26	33.5
Max Q Clear Time (g_c+I1), s	3.3	6.5	3.3
Green Ext Time (p_c), s	1.4	1.5	1.1

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	188	0	0	166	132	3	583	77	0	0	0
Future Volume (veh/h)	86	188	0	0	166	132	3	583	77	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1544	1900	0	0	1856	1648	1900	1856	1870			
Adj Flow Rate, veh/h	99	216	0	0	191	109	3	670	20			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	24	0	0	0	3	17	0	3	2			
Cap, veh/h	586	1368	0	0	1413	771	4	1062	323			
Arrive On Green	1.00	1.00	0.00	0.00	0.64	0.64	0.20	0.20	0.20			
Sat Flow, veh/h	781	2217	0	0	2295	1200	22	5210	1585			
Grp Volume(v), veh/h	155	160	0	0	151	149	253	420	20			
Grp Sat Flow(s),veh/h/ln	1269	1643	0	0	1763	1639	1854	1689	1585			
Q Serve(g_s), s	0.3	0.0	0.0	0.0	2.4	2.5	8.8	7.9	0.7			
Cycle Q Clear(g_c), s	2.8	0.0	0.0	0.0	2.4	2.5	8.8	7.9	0.7			
Prop In Lane	0.64		0.00	0.00		0.73	0.01		1.00			
Lane Grp Cap(c), veh/h	899	1054	0	0	1132	1052	378	688	323			
V/C Ratio(X)	0.17	0.15	0.00	0.00	0.13	0.14	0.67	0.61	0.06			
Avail Cap(c_a), veh/h	899	1054	0	0	1132	1052	601	1095	514			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	0.68	0.68	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	4.9	4.9	25.7	25.3	22.5			
Incr Delay (d2), s/veh	0.4	0.3	0.0	0.0	0.2	0.2	2.1	0.9	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.2	0.2	0.0	0.0	1.3	1.3	7.0	5.6	0.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.4	0.3	0.0	0.0	5.1	5.1	27.8	26.2	22.6			
LnGrp LOS	A	A	A	A	A	A	C	C	C			
Approach Vol, veh/h		315			300			693				
Approach Delay, s/veh		0.4			5.1			26.7				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		50.4				50.4		19.6				
Change Period (Y+Rc), s		5.5				5.5		5.3				
Max Green Setting (Gmax), s		36.5				36.5		22.7				
Max Q Clear Time (g_c+I1), s		4.5				4.8		10.8				
Green Ext Time (p_c), s		1.9				2.1		3.4				
Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	265	31	52	271	337	24	307	52	30	16	17
Future Volume (veh/h)	38	265	31	52	271	337	24	307	52	30	16	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1870	1737	1707	1811	1885	1693	1870	1752	1900	1737	1900
Adj Flow Rate, veh/h	44	308	22	60	315	76	28	357	51	35	19	13
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	2	11	13	6	1	14	2	10	0	11	0
Cap, veh/h	85	534	40	111	492	336	154	1885	264	631	574	393
Arrive On Green	0.21	0.21	0.21	0.35	0.35	0.35	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	169	2540	192	267	2341	1598	166	2871	403	839	875	598
Grp Volume(v), veh/h	183	0	191	162	213	76	230	0	206	35	0	32
Grp Sat Flow(s),veh/h/ln	1234	0	1667	1042	1566	1598	1811	0	1630	839	0	1473
Q Serve(g_s), s	3.6	0.0	9.2	5.2	10.3	3.0	0.0	0.0	4.5	1.4	0.0	0.7
Cycle Q Clear(g_c), s	13.9	0.0	9.2	14.4	10.3	3.0	4.3	0.0	4.5	5.9	0.0	0.7
Prop In Lane	0.24		0.12	0.37		1.00	0.12		0.25	1.00		0.41
Lane Grp Cap(c), veh/h	309	0	351	274	329	336	1233	0	1070	631	0	967
V/C Ratio(X)	0.59	0.00	0.55	0.59	0.65	0.23	0.19	0.00	0.19	0.06	0.00	0.03
Avail Cap(c_a), veh/h	653	0	723	587	678	692	1233	0	1070	631	0	967
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.00	0.99	0.65	0.65	0.65	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.7	0.0	31.7	27.7	26.4	24.0	6.1	0.0	6.1	7.2	0.0	5.4
Incr Delay (d2), s/veh	1.8	0.0	1.3	1.3	1.4	0.2	0.3	0.0	0.4	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.0	0.0	6.8	5.1	5.9	2.0	2.9	0.0	2.6	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.0	33.0	29.0	27.8	24.3	6.4	0.0	6.5	7.3	0.0	5.4
LnGrp LOS	C	A	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		374			451			436			67	
Approach Delay, s/veh		33.7			27.6			6.4			6.4	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	65.1	24.9	65.1	24.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	39.0	39.0	39.0	39.0
Max Q Clear Time (g_c+I1), s	6.5	15.9	7.9	16.4
Green Ext Time (p_c), s	2.8	2.3	0.4	2.6

Intersection Summary	
HCM 6th Ctrl Delay	21.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	265	83	183	293	53	412	978	697	22	183	28
Future Volume (veh/h)	16	265	83	183	293	53	412	978	697	22	183	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1870	1796	1870	1900	1856	1885	1885	1900	1811	1811
Adj Flow Rate, veh/h	17	279	45	193	308	49	434	1029	407	23	193	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	7	2	0	3	1	1	0	6	6
Cap, veh/h	35	396	63	338	354	56	678	1888	800	234	1404	101
Arrive On Green	0.02	0.13	0.13	0.10	0.23	0.23	0.08	0.50	0.50	0.02	0.43	0.43
Sat Flow, veh/h	1810	3070	489	3319	1575	251	1767	3770	1598	1810	3255	234
Grp Volume(v), veh/h	17	160	164	193	0	357	434	1029	407	23	101	106
Grp Sat Flow(s),veh/h/ln	1810	1777	1782	1659	0	1825	1767	1885	1598	1810	1721	1769
Q Serve(g_s), s	0.8	7.8	7.9	5.0	0.0	17.0	7.0	16.9	8.1	0.6	3.2	3.3
Cycle Q Clear(g_c), s	0.8	7.8	7.9	5.0	0.0	17.0	7.0	16.9	8.1	0.6	3.2	3.3
Prop In Lane	1.00		0.27	1.00		0.14	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	35	229	230	338	0	411	678	1888	800	234	742	763
V/C Ratio(X)	0.49	0.70	0.71	0.57	0.00	0.87	0.64	0.55	0.51	0.10	0.14	0.14
Avail Cap(c_a), veh/h	141	529	531	338	0	544	678	1888	800	359	742	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.88	0.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	37.5	37.6	38.5	0.0	33.6	15.9	15.4	4.1	14.4	15.5	15.5
Incr Delay (d2), s/veh	7.9	2.9	3.2	2.0	0.0	10.1	2.0	1.1	2.3	0.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	6.2	6.3	3.8	0.0	12.9	6.1	11.5	8.6	0.5	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	40.5	40.7	40.6	0.0	43.7	17.9	16.6	6.4	14.6	15.9	15.9
LnGrp LOS	D	D	D	D	A	D	B	B	A	B	B	B
Approach Vol, veh/h		341			550			1870			230	
Approach Delay, s/veh		41.2			42.6			14.7			15.7	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	51.1	15.4	17.8	12.0	44.8	6.7	26.5
Change Period (Y+Rc), s	4.0	6.0	* 6.2	* 6.2	5.0	6.0	5.0	* 6.2
Max Green Setting (Gmax), s	8.0	27.0	* 7	* 27	7.0	27.0	7.0	* 27
Max Q Clear Time (g_c+I1), s	2.8	18.9	7.0	9.9	9.0	5.3	2.8	19.0
Green Ext Time (p_c), s	0.0	5.1	0.0	1.7	0.0	1.1	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	22.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	675	291	38	423	0	0	0	0	97	517	105
Future Volume (veh/h)	0	675	291	38	423	0	0	0	0	97	517	105
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1870	1900	1856	0				1900	1885	1811
Adj Flow Rate, veh/h	0	718	246	40	450	0				103	550	112
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	1	2	0	3	0				0	1	6
Cap, veh/h	0	915	313	71	863	0				926	2201	440
Arrive On Green	0.00	0.35	0.35	0.35	0.35	0.00				0.51	0.51	0.51
Sat Flow, veh/h	0	2712	897	69	2554	0				1810	4303	859
Grp Volume(v), veh/h	0	491	473	232	258	0				103	436	226
Grp Sat Flow(s),veh/h/ln	0	1791	1724	935	1604	0				1810	1716	1731
Q Serve(g_s), s	0.0	22.1	22.1	2.7	11.2	0.0				2.7	6.4	6.6
Cycle Q Clear(g_c), s	0.0	22.1	22.1	24.8	11.2	0.0				2.7	6.4	6.6
Prop In Lane	0.00		0.52	0.17		0.00				1.00		0.50
Lane Grp Cap(c), veh/h	0	626	602	374	561	0				926	1755	885
V/C Ratio(X)	0.00	0.78	0.78	0.62	0.46	0.00				0.11	0.25	0.25
Avail Cap(c_a), veh/h	0	1035	996	680	927	0				926	1755	885
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.79	0.79	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	26.2	26.2	22.9	22.7	0.0				11.4	12.3	12.3
Incr Delay (d2), s/veh	0.0	1.8	1.8	1.7	0.6	0.0				0.2	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	13.8	13.4	6.7	7.6	0.0				1.9	4.3	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	28.0	28.1	24.6	23.3	0.0				11.6	12.6	13.0
LnGrp LOS	A	C	C	C	C	A				B	B	B
Approach Vol, veh/h		964			490						765	
Approach Delay, s/veh		28.0			23.9						12.6	
Approach LOS		C			C						B	

Timer - Assigned Phs	2	4		8
Phs Duration (G+Y+Rc), s	52.5	37.5		37.5
Change Period (Y+Rc), s	6.5	6.0		6.0
Max Green Setting (Gmax), s	25.5	52.0		52.0
Max Q Clear Time (g_c+I1), s	8.6	24.1		26.8
Green Ext Time (p_c), s	4.3	7.3		3.4

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	533	280	0	0	0	0	0	705	169
Future Volume (veh/h)	0	0	0	533	280	0	0	0	0	0	705	169
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	
Adj Sat Flow, veh/h/ln				1737	1707	0				0	1767	1752
Adj Flow Rate, veh/h				567	298	0				0	750	0
Peak Hour Factor				0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %				11	13	0				0	9	10
Cap, veh/h				1611	831	0				0	1051	
Arrive On Green				0.16	0.16	0.00				0.00	0.10	0.00
Sat Flow, veh/h				3309	1707	0				0	3445	1485
Grp Volume(v), veh/h				567	298	0				0	750	0
Grp Sat Flow(s),veh/h/ln				1654	1707	0				0	1678	1485
Q Serve(g_s), s				8.4	8.5	0.0				0.0	11.9	0.0
Cycle Q Clear(g_c), s				8.4	8.5	0.0				0.0	11.9	0.0
Prop In Lane				1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				1611	831	0				0	1051	
V/C Ratio(X)				0.35	0.36	0.00				0.00	0.71	
Avail Cap(c_a), veh/h				1611	831	0				0	1373	
HCM Platoon Ratio				0.33	0.33	1.00				1.00	0.33	0.33
Upstream Filter(I)				0.83	0.83	0.00				0.00	0.96	0.00
Uniform Delay (d), s/veh				15.4	15.4	0.0				0.0	22.3	0.0
Incr Delay (d2), s/veh				0.5	1.0	0.0				0.0	1.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.9	6.5	0.0				0.0	9.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.9	16.4	0.0				0.0	23.4	0.0
LnGrp LOS				B	B	A				A	C	
Approach Vol, veh/h					865						750	
Approach Delay, s/veh					16.1						23.4	
Approach LOS					B						C	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	32.3	22.7
Change Period (Y+Rc), s	5.5	5.5
Max Green Setting (Gmax), s	21.5	22.5
Max Q Clear Time (g_c+I1), s	10.5	13.9
Green Ext Time (p_c), s	3.1	3.3

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	411	1163	295	1989	0	0	0	0
Future Volume (veh/h)	0	0	0	0	411	1163	295	1989	0	0	0	0
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				
Adj Sat Flow, veh/h/ln				0	1767	1885	1707	1856	0			
Adj Flow Rate, veh/h				0	437	1205	314	2116	0			
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %				0	9	1	13	3	0			
Cap, veh/h				0	691	1099	665	2072	0			
Arrive On Green				0.00	0.39	0.39	0.41	0.41	0.00			
Sat Flow, veh/h				0	1767	2812	1626	5233	0			
Grp Volume(v), veh/h				0	437	1205	314	2116	0			
Grp Sat Flow(s),veh/h/ln				0	1767	1406	1626	1689	0			
Q Serve(g_s), s				0.0	11.0	21.5	7.8	22.5	0.0			
Cycle Q Clear(g_c), s				0.0	11.0	21.5	7.8	22.5	0.0			
Prop In Lane				0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h				0	691	1099	665	2072	0			
V/C Ratio(X)				0.00	0.63	1.10	0.47	1.02	0.00			
Avail Cap(c_a), veh/h				0	691	1099	665	2072	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.56	0.56	0.00			
Uniform Delay (d), s/veh				0.0	13.6	16.8	11.9	16.3	0.0			
Incr Delay (d2), s/veh				0.0	4.4	57.4	0.3	20.4	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	8.1	22.1	4.4	15.4	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	17.9	74.2	12.2	36.7	0.0			
LnGrp LOS				A	B	F	B	F	A			
Approach Vol, veh/h					1642			2430				
Approach Delay, s/veh					59.2			33.5				
Approach LOS					E			C				
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						27.0		28.0				
Change Period (Y+Rc), s						5.5		5.5				
Max Green Setting (Gmax), s						21.5		22.5				
Max Q Clear Time (g_c+I1), s						23.5		24.5				
Green Ext Time (p_c), s						0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			43.9									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱							↰	↑↑	
Traffic Volume (veh/h)	0	580	237	0	0	0	0	0	0	266	829	0
Future Volume (veh/h)	0	580	237	0	0	0	0	0	0	266	829	0
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	
Adj Sat Flow, veh/h/ln	0	1841	1648							1767	1722	0
Adj Flow Rate, veh/h	0	674	0							309	964	0
Peak Hour Factor	0.86	0.86	0.86							0.86	0.86	0.86
Percent Heavy Veh, %	0	4	17							9	12	0
Cap, veh/h	0	2123								635	1235	0
Arrive On Green	0.00	0.42	0.00							0.12	0.12	0.00
Sat Flow, veh/h	0	5191	1397							1682	3358	0
Grp Volume(v), veh/h	0	674	0							309	964	0
Grp Sat Flow(s),veh/h/ln	0	1675	1397							1682	1636	0
Q Serve(g_s), s	0.0	4.9	0.0							9.4	15.7	0.0
Cycle Q Clear(g_c), s	0.0	4.9	0.0							9.4	15.7	0.0
Prop In Lane	0.00		1.00							1.00		0.00
Lane Grp Cap(c), veh/h	0	2123								635	1235	0
V/C Ratio(X)	0.00	0.32								0.49	0.78	0.00
Avail Cap(c_a), veh/h	0	2123								688	1339	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	0.00							0.80	0.80	0.00
Uniform Delay (d), s/veh	0.0	10.6	0.0							19.1	21.9	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0							0.5	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.9	0.0							6.9	10.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.0	0.0							19.6	24.1	0.0
LnGrp LOS	A	B								B	C	A
Approach Vol, veh/h		674									1273	
Approach Delay, s/veh		11.0									23.0	
Approach LOS		B									C	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	28.7	26.3
Change Period (Y+Rc), s	5.5	5.5
Max Green Setting (Gmax), s	21.5	22.5
Max Q Clear Time (g_c+I1), s	6.9	17.7
Green Ext Time (p_c), s	4.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

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



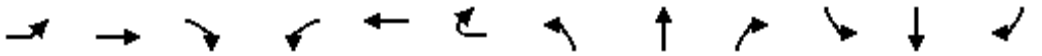
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	599	315	0	0	0	0	0	1724	461	0	0	0
Future Volume (veh/h)	599	315	0	0	0	0	0	1724	461	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1856	1826	0				0	1841	1574			
Adj Flow Rate, veh/h	673	354	0				0	1937	0			
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89			
Percent Heavy Veh, %	3	5	0				0	4	22			
Cap, veh/h	1341	714	0				0	2055				
Arrive On Green	0.13	0.13	0.00				0.00	0.41	0.00			
Sat Flow, veh/h	3428	1826	0				0	5191	1334			
Grp Volume(v), veh/h	673	354	0				0	1937	0			
Grp Sat Flow(s),veh/h/ln	1714	1826	0				0	1675	1334			
Q Serve(g_s), s	10.1	9.9	0.0				0.0	20.4	0.0			
Cycle Q Clear(g_c), s	10.1	9.9	0.0				0.0	20.4	0.0			
Prop In Lane	1.00		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	1341	714	0				0	2055				
V/C Ratio(X)	0.50	0.50	0.00				0.00	0.94				
Avail Cap(c_a), veh/h	1341	714	0				0	2056				
HCM Platoon Ratio	0.33	0.33	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.94	0.94	0.00				0.00	0.30	0.00			
Uniform Delay (d), s/veh	19.0	18.9	0.0				0.0	15.6	0.0			
Incr Delay (d2), s/veh	1.3	2.3	0.0				0.0	3.5	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	7.9	8.5	0.0				0.0	9.5	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	21.2	0.0				0.0	19.1	0.0			
LnGrp LOS	C	C	A				A	B				
Approach Vol, veh/h		1027						1937				
Approach Delay, s/veh		20.6						19.1				
Approach LOS		C						B				

Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						27.0		28.0				
Change Period (Y+Rc), s						5.5		5.5				
Max Green Setting (Gmax), s						21.5		22.5				
Max Q Clear Time (g_c+I1), s						12.1		22.4				
Green Ext Time (p_c), s						3.5		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	130	58	80	469	434	174	1468	186	223	487	364
Future Volume (vph)	160	130	58	80	469	434	174	1468	186	223	487	364
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.5	5.0	5.0	6.5	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1337	3034	1252	1656	3505	1509	1719	3374	1404	1703	3112	1553
Flt Permitted	0.24	1.00	1.00	0.66	1.00	1.00	0.41	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	335	3034	1252	1153	3505	1509	740	3374	1404	155	3112	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	176	143	64	88	515	477	191	1613	204	245	535	400
RTOR Reduction (vph)	0	0	51	0	0	232	0	0	138	0	0	306
Lane Group Flow (vph)	176	143	13	88	515	245	191	1613	66	245	535	94
Heavy Vehicles (%)	35%	19%	29%	9%	3%	7%	5%	7%	15%	6%	16%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Over	pm+pt	NA	custom
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)	33.2	22.2	22.2	30.0	20.6	20.6	54.3	45.5	9.4	56.1	46.4	11.0
Effective Green, g (s)	33.2	22.2	22.2	30.0	20.6	20.6	54.3	45.5	9.4	56.1	46.4	11.0
Actuated g/C Ratio	0.30	0.20	0.20	0.27	0.19	0.19	0.49	0.41	0.09	0.51	0.42	0.10
Clearance Time (s)	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.5	5.0	5.0	6.5	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	201	612	252	357	656	282	443	1395	119	215	1312	155
v/s Ratio Prot	c0.09	0.05		0.02	0.15		0.03	0.48	0.05	c0.10	0.17	0.06
v/s Ratio Perm	c0.18		0.01	0.05		0.16	0.18			c0.48		
v/c Ratio	0.88	0.23	0.05	0.25	0.79	0.87	0.43	1.16	0.55	1.14	0.41	0.61
Uniform Delay, d1	32.2	36.8	35.4	30.7	42.6	43.4	16.0	32.2	48.3	31.7	22.2	47.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.05	1.00	1.77
Incremental Delay, d2	31.8	0.2	0.1	0.4	6.1	23.3	0.7	78.8	5.5	96.3	0.7	5.0
Delay (s)	64.0	37.0	35.5	31.1	48.7	66.7	16.7	111.1	53.8	129.5	23.0	88.7
Level of Service	E	D	D	C	D	E	B	F	D	F	C	F
Approach Delay (s)		49.1			55.2			96.3			67.4	
Approach LOS		D			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	75.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	23.2
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	54	24	2	5	136	1614	24	1	1718	19
Future Volume (veh/h)	10	0	54	24	2	5	136	1614	24	1	1718	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1515	1900	1900	1530	1781	1841	1826	1900	1856	1900
Adj Flow Rate, veh/h	11	0	5	26	2	0	145	1717	25	1	1828	11
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	26	0	0	25	8	4	5	0	3	0
Cap, veh/h	210	0	133	189	12	0	164	2591	38	2	2252	1029
Arrive On Green	0.08	0.00	0.08	0.08	0.08	0.00	0.10	0.73	0.73	0.00	0.64	0.64
Sat Flow, veh/h	1437	0	1610	1308	142	0	1697	3529	51	1810	3526	1610
Grp Volume(v), veh/h	11	0	5	28	0	0	145	849	893	1	1828	11
Grp Sat Flow(s),veh/h/ln	1437	0	1610	1450	0	0	1697	1749	1831	1810	1763	1610
Q Serve(g_s), s	0.0	0.0	0.2	1.3	0.0	0.0	7.2	21.3	21.5	0.0	33.1	0.2
Cycle Q Clear(g_c), s	0.5	0.0	0.2	1.6	0.0	0.0	7.2	21.3	21.5	0.0	33.1	0.2
Prop In Lane	1.00		1.00	0.93		0.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	210	0	133	201	0	0	164	1284	1345	2	2252	1029
V/C Ratio(X)	0.05	0.00	0.04	0.14	0.00	0.00	0.89	0.66	0.66	0.47	0.81	0.01
Avail Cap(c_a), veh/h	421	0	369	416	0	0	164	1284	1345	175	2252	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.31	0.31	0.31	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	0.0	35.9	36.5	0.0	0.0	37.9	5.8	5.9	42.4	11.5	5.6
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.3	0.0	0.0	16.5	0.8	0.8	110.6	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	0.0	0.2	1.0	0.0	0.0	5.4	8.1	8.4	0.2	17.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	36.0	36.8	0.0	0.0	54.4	6.7	6.7	153.0	14.8	5.6
LnGrp LOS	D	A	D	D	A	A	D	A	A	F	B	A
Approach Vol, veh/h		16			28			1887			1840	
Approach Delay, s/veh		36.1			36.8			10.3			14.8	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	67.6		12.5	13.0	59.5		12.5
Change Period (Y+Rc), s	* 4.8	5.2		5.5	* 4.8	5.2		5.5
Max Green Setting (Gmax), s	* 8.2	41.8		19.5	* 8.2	41.8		19.5
Max Q Clear Time (g_c+I1), s	2.6	23.5		3.6	9.2	35.1		2.5
Green Ext Time (p_c), s	0.0	12.5		0.1	0.0	5.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Notes

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



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Traffic Volume (veh/h)	343	0	460	0	1288	322	0	537	641	0	0
Future Volume (veh/h)	343	0	460	0	1288	322	0	537	641	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1811	1811	1796	0	1767	1781	0	1826	1796		
Adj Flow Rate, veh/h	399	399	0	0	1498	0	0	624	0		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86		
Percent Heavy Veh, %	6	6	7	0	9	8	0	5	7		
Cap, veh/h	444	444		0	2064		0	2134			
Arrive On Green	0.26	0.26	0.00	0.00	0.62	0.00	0.00	0.62	0.00		
Sat Flow, veh/h	1725	1725	1522	0	3445	1510	0	3561	1522		
Grp Volume(v), veh/h	399	399	0	0	1498	0	0	624	0		
Grp Sat Flow(s),veh/h/ln	1725	1725	1522	0	1678	1510	0	1735	1522		
Q Serve(g_s), s	20.1	20.1	0.0	0.0	27.9	0.0	0.0	7.6	0.0		
Cycle Q Clear(g_c), s	20.1	20.1	0.0	0.0	27.9	0.0	0.0	7.6	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	444	444		0	2065		0	2134			
V/C Ratio(X)	0.90	0.90		0.00	0.73		0.00	0.29			
Avail Cap(c_a), veh/h	652	652		0	2065		0	2134			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.25	0.00		
Uniform Delay (d), s/veh	32.3	32.3	0.0	0.0	12.0	0.0	0.0	8.1	0.0		
Incr Delay (d2), s/veh	11.4	11.4	0.0	0.0	2.3	0.0	0.0	0.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	14.6	14.6	0.0	0.0	14.9	0.0	0.0	3.9	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	43.7	43.7	0.0	0.0	14.3	0.0	0.0	8.2	0.0		
LnGrp LOS	D	D		A	B		A	A			
Approach Vol, veh/h	399	399			1498			624			
Approach Delay, s/veh	43.7	43.7			14.3			8.2			
Approach LOS	D	D			B			A			

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	60.9	60.9	29.1
Change Period (Y+Rc), s	5.5	5.5	6.0
Max Green Setting (Gmax), s	44.5	44.5	34.0
Max Q Clear Time (g_c+I1), s	29.9	9.6	22.1
Green Ext Time (p_c), s	9.4	4.9	1.0

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

Notes

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

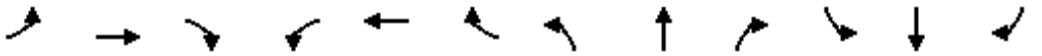
Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	485	0	0	980	0	627	247	233	646	0
Future Vol, veh/h	0	0	485	0	0	980	0	627	247	233	646	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	0	-	-	0	-	-	300	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	9	0	0	11	0	5	7	6	6	0
Mvmt Flow	0	0	557	0	0	1126	0	721	284	268	743	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	-	-	372	-	0	0	721	0	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.08	-	-	-	4.22	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.39	-	-	-	2.26	-	-
Pot Cap-1 Maneuver	0	0	606	0	-	-	851	-	0
Stage 1	0	0	-	0	-	-	-	-	0
Stage 2	0	0	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	606	-	-	-	851	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.7	0	3
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	606	851	-
HCM Lane V/C Ratio	-	-	0.92	0.315	-
HCM Control Delay (s)	-	-	45.7	11.2	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	11.7	1.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	13	30	11	12	84	28	647	6	158	696	294
Future Volume (veh/h)	107	13	30	11	12	84	28	647	6	158	696	294
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1633	1767	1544	1737	1752	1589	1648	1856	1900	1678	1841	1781
Adj Flow Rate, veh/h	119	14	14	12	13	16	31	719	6	176	773	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	18	9	24	11	10	21	17	3	0	15	4	8
Cap, veh/h	237	26	18	310	105	129	108	2251	18	489	2383	
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.68	0.68	0.68	0.68	0.68	0.00
Sat Flow, veh/h	979	176	122	1284	714	879	77	3304	27	654	3497	1510
Grp Volume(v), veh/h	147	0	0	12	0	29	384	0	372	176	773	0
Grp Sat Flow(s),veh/h/ln	1277	0	0	1284	0	1594	1725	0	1684	654	1749	1510
Q Serve(g_s), s	6.8	0.0	0.0	0.0	0.0	1.1	0.0	0.0	6.3	10.5	6.3	0.0
Cycle Q Clear(g_c), s	7.9	0.0	0.0	0.5	0.0	1.1	5.8	0.0	6.3	16.9	6.3	0.0
Prop In Lane	0.81		0.10	1.00		0.55	0.08		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	281	0	0	310	0	235	1231	0	1147	489	2383	
V/C Ratio(X)	0.52	0.00	0.00	0.04	0.00	0.12	0.31	0.00	0.32	0.36	0.32	
Avail Cap(c_a), veh/h	585	0	0	598	0	592	1231	0	1147	489	2383	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.1	0.0	0.0	25.7	0.0	25.9	4.5	0.0	4.6	8.0	4.6	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.1	0.0	0.2	0.7	0.0	0.8	2.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	0.0	0.0	0.3	0.0	0.8	3.3	0.0	3.3	2.7	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	0.0	0.0	25.7	0.0	26.2	5.1	0.0	5.3	10.1	4.9	0.0
LnGrp LOS	C	A	A	C	A	C	A	A	A	B	A	
Approach Vol, veh/h		147			41			756			949	
Approach Delay, s/veh		30.6			26.0			5.2			5.9	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.7		16.3		53.7		16.3				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		32.0		26.0		32.0		26.0				
Max Q Clear Time (g_c+I1), s		8.3		9.9		18.9		3.1				
Green Ext Time (p_c), s		5.2		0.7		5.7		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			8.0									
HCM 6th LOS			A									

Notes

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



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Traffic Volume (veh/h)	349	0	461	0	1383	569	0	717	814	0	0
Future Volume (veh/h)	349	0	461	0	1383	569	0	717	814	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1856	1856	1841	0	1811	1826	0	1826	1796		
Adj Flow Rate, veh/h	367	367	0	0	1456	0	0	755	0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	3	3	4	0	6	5	0	5	7		
Cap, veh/h	467	467		0	3716		0	3747			
Arrive On Green	0.14	0.14	0.00	0.00	1.00	0.00	0.00	0.75	0.00		
Sat Flow, veh/h	3428	3428	1560	0	5107	1547	0	5149	1522		
Grp Volume(v), veh/h	367	367	0	0	1456	0	0	755	0		
Grp Sat Flow(s),veh/h/ln	1714	1714	1560	0	1648	1547	0	1662	1522		
Q Serve(g_s), s	10.4	10.4	0.0	0.0	0.0	0.0	0.0	4.4	0.0		
Cycle Q Clear(g_c), s	10.4	10.4	0.0	0.0	0.0	0.0	0.0	4.4	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	467	467		0	3716		0	3747			
V/C Ratio(X)	0.79	0.79		0.00	0.39		0.00	0.20			
Avail Cap(c_a), veh/h	1731	1731		0	3716		0	3747			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	41.8	41.8	0.0	0.0	0.0	0.0	0.0	3.6	0.0		
Incr Delay (d2), s/veh	3.0	3.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	7.8	7.8	0.0	0.0	0.2	0.0	0.0	2.0	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	44.7	44.7	0.0	0.0	0.3	0.0	0.0	3.8	0.0		
LnGrp LOS	D	D		A	A		A	A			
Approach Vol, veh/h	367	367			1456			755			
Approach Delay, s/veh	44.7	44.7			0.3			3.8			
Approach LOS	D	D			A			A			

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	80.9	80.9	19.1
Change Period (Y+Rc), s	* 5.7	* 5.7	5.5
Max Green Setting (Gmax), s	* 38	* 38	50.5
Max Q Clear Time (g_c+I1), s	2.0	6.4	12.4
Green Ext Time (p_c), s	13.4	5.5	1.3

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Notes

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

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



Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (veh/h)	730	0	499	0	1226	505	0	783	289	0	0
Future Volume (veh/h)	730	0	499	0	1226	505	0	783	289	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1752	1752	1841	0	1856	1856	0	1856	1767		
Adj Flow Rate, veh/h	793	793	0	0	1333	0	0	851	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	10	10	4	0	3	3	0	3	9		
Cap, veh/h	916	916		0	2091		0	3004			
Arrive On Green	0.28	0.28	0.00	0.00	0.59	0.00	0.00	1.00	0.00		
Sat Flow, veh/h	3237	3237	1560	0	3618	1572	0	5233	1497		
Grp Volume(v), veh/h	793	793	0	0	1333	0	0	851	0		
Grp Sat Flow(s),veh/h/ln	1618	1618	1560	0	1763	1572	0	1689	1497		
Q Serve(g_s), s	23.3	23.3	0.0	0.0	24.7	0.0	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	23.3	23.3	0.0	0.0	24.7	0.0	0.0	0.0	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	916	916		0	2091		0	3004			
V/C Ratio(X)	0.87	0.87		0.00	0.64		0.00	0.28			
Avail Cap(c_a), veh/h	1612	1612		0	2091		0	3004			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	34.1	34.1	0.0	0.0	13.3	0.0	0.0	0.0	0.0		
Incr Delay (d2), s/veh	2.6	2.6	0.0	0.0	1.5	0.0	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	13.8	13.8	0.0	0.0	13.9	0.0	0.0	0.1	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	36.7	36.7	0.0	0.0	14.8	0.0	0.0	0.2	0.0		
LnGrp LOS	D	D		A	B		A	A			
Approach Vol, veh/h	793	793			1333			851			
Approach Delay, s/veh	36.7	36.7			14.8			0.2			
Approach LOS	D	D			B			A			

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	65.5	34.5	65.5
Change Period (Y+Rc), s	6.2	6.2	6.2
Max Green Setting (Gmax), s	37.8	49.8	37.8
Max Q Clear Time (g_c+I1), s	26.7	25.3	2.0
Green Ext Time (p_c), s	6.6	3.0	6.5

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	402	51	581	60	23	19	545	1751	106	9	581	326
Future Volume (veh/h)	402	51	581	60	23	19	545	1751	106	9	581	326
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1693	1870	1203	1381	1589	1811	1826	1767	1648	1722	1707
Adj Flow Rate, veh/h	447	57	0	67	26	1	606	1946	110	10	646	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	7	14	2	47	35	21	6	5	9	17	12	13
Cap, veh/h	402	343		164	222	114	632	2206	124	130	1319	
Arrive On Green	0.18	0.20	0.00	0.06	0.08	0.08	0.25	0.61	0.61	0.01	0.28	0.00
Sat Flow, veh/h	1711	1693	1585	1146	2624	1346	3346	4828	272	1570	4701	1447
Grp Volume(v), veh/h	447	57	0	67	26	1	606	1338	718	10	646	0
Grp Sat Flow(s),veh/h/ln	1711	1693	1585	1146	1312	1346	1673	1662	1777	1570	1567	1447
Q Serve(g_s), s	14.6	2.2	0.0	4.6	0.7	0.0	14.3	27.2	27.5	0.4	9.2	0.0
Cycle Q Clear(g_c), s	14.6	2.2	0.0	4.6	0.7	0.0	14.3	27.2	27.5	0.4	9.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	402	343		164	222	114	632	1518	812	130	1319	
V/C Ratio(X)	1.11	0.17		0.41	0.12	0.01	0.96	0.88	0.89	0.08	0.49	
Avail Cap(c_a), veh/h	402	351		185	282	145	632	1518	812	348	1319	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.1	26.3	0.0	37.1	33.9	24.0	29.7	13.9	13.9	21.3	24.0	0.0
Incr Delay (d2), s/veh	78.6	0.2	0.0	1.6	0.2	0.0	26.0	7.7	13.5	0.2	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	22.8	1.5	0.0	2.3	0.4	0.0	11.5	11.9	14.3	0.2	6.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.7	26.5	0.0	38.7	34.1	24.0	55.7	21.5	27.4	21.6	25.3	0.0
LnGrp LOS	F	C		D	C	C	E	C	C	C	C	
Approach Vol, veh/h		504			94			2662			656	
Approach Delay, s/veh		100.3			37.3			30.9			25.2	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	41.9	10.5	21.6	20.0	27.8	20.0	12.2
Change Period (Y+Rc), s	* 4.9	* 5.4	* 5.4	* 5.4	* 4.9	* 5.4	* 5.4	* 5.4
Max Green Setting (Gmax), s	* 1.8	* 24	* 6.6	* 17	* 15	* 21	* 15	* 8.6
Max Q Clear Time (g_c+I1), s	2.4	29.5	6.6	4.2	16.3	11.2	16.6	2.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	2.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

Notes

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

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	451	463	339	2038	1105	129
Future Volume (veh/h)	451	463	339	2038	1105	129
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	1767	1796	1841	1841	1811	1381
Adj Flow Rate, veh/h	496	0	373	2240	1214	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	9	7	4	4	6	35
Cap, veh/h	594		468	3401	2970	
Arrive On Green	0.18	0.00	0.28	1.00	0.95	0.00
Sat Flow, veh/h	3264	2679	3401	5191	6484	1171
Grp Volume(v), veh/h	496	0	373	2240	1214	0
Grp Sat Flow(s),veh/h/ln	1632	1340	1700	1675	1558	1171
Q Serve(g_s), s	11.7	0.0	8.1	0.0	1.2	0.0
Cycle Q Clear(g_c), s	11.7	0.0	8.1	0.0	1.2	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	594		468	3401	2970	
V/C Ratio(X)	0.84		0.80	0.66	0.41	
Avail Cap(c_a), veh/h	743		808	3401	2970	
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	1.00	0.00
Uniform Delay (d), s/veh	31.6	0.0	27.9	0.0	1.0	0.0
Incr Delay (d2), s/veh	6.8	0.0	0.3	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	0.0	3.5	0.1	0.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.3	0.0	28.2	0.1	1.4	0.0
LnGrp LOS	D		C	A	A	
Approach Vol, veh/h	496			2613	1214	
Approach Delay, s/veh	38.3			4.1	1.4	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.7		20.3	16.0	43.6
Change Period (Y+Rc), s		5.5		* 5.8	5.0	5.5
Max Green Setting (Gmax), s		50.5		* 18	19.0	26.5
Max Q Clear Time (g_c+I1), s		2.0		13.7	10.1	3.2
Green Ext Time (p_c), s		28.2		0.8	0.9	8.6

Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Notes

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	216	274	126	181	313	360	178	1750	162	255	1013	297
Future Volume (veh/h)	216	274	126	181	313	360	178	1750	162	255	1013	297
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1870	1856	1856	1856	1870	1826	1841	1841	1811	1856
Adj Flow Rate, veh/h	237	301	64	199	344	308	196	1923	158	280	1113	249
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	5	4	2	3	3	3	2	5	4	4	6	3
Cap, veh/h	207	432	90	210	529	405	284	1951	160	366	1764	748
Arrive On Green	0.12	0.15	0.15	0.12	0.15	0.15	0.08	0.33	0.33	0.14	0.47	0.47
Sat Flow, veh/h	1739	2878	603	1767	3526	1572	3456	5959	490	3401	4944	1572
Grp Volume(v), veh/h	237	181	184	199	344	308	196	1520	561	280	1113	249
Grp Sat Flow(s),veh/h/ln	1739	1749	1732	1767	1763	1572	1728	1570	1738	1700	1648	1572
Q Serve(g_s), s	9.5	7.9	8.1	8.9	7.4	12.0	4.4	25.6	25.6	6.3	13.5	6.9
Cycle Q Clear(g_c), s	9.5	7.9	8.1	8.9	7.4	12.0	4.4	25.6	25.6	6.3	13.5	6.9
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	207	262	260	210	529	405	284	1542	569	366	1764	748
V/C Ratio(X)	1.15	0.69	0.71	0.95	0.65	0.76	0.69	0.99	0.99	0.76	0.63	0.33
Avail Cap(c_a), veh/h	207	262	260	210	529	405	462	1542	569	485	1764	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	35.3	32.2	32.3	35.0	32.0	27.4	35.7	26.7	26.7	33.3	17.1	10.5
Incr Delay (d2), s/veh	108.1	7.5	8.5	47.5	2.8	8.2	3.0	19.8	34.5	4.5	1.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	6.8	7.0	10.7	5.9	10.2	3.5	17.5	21.9	4.9	7.7	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	143.4	39.7	40.8	82.5	34.8	35.6	38.7	46.5	61.2	37.8	18.6	11.5
LnGrp LOS	F	D	D	F	C	D	D	D	E	D	B	B
Approach Vol, veh/h		602			851			2277			1642	
Approach Delay, s/veh		80.9			46.3			49.5			20.8	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	35.1	14.0	18.0	15.2	32.8	14.0	18.0
Change Period (Y+Rc), s	* 6.3	* 6.6	4.5	6.0	* 6.6	* 6.6	4.5	6.0
Max Green Setting (Gmax), s	* 11	* 24	9.5	12.0	* 11	* 24	9.5	12.0
Max Q Clear Time (g_c+I1), s	6.4	15.5	10.9	10.1	8.3	27.6	11.5	14.0
Green Ext Time (p_c), s	0.2	5.4	0.0	0.4	0.3	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	450	0	1106	405	700	0	0	1234	192
Future Volume (veh/h)	0	0	0	450	0	1106	405	700	0	0	1234	192
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1885	1856	1885	0	0	1870	1900
Adj Flow Rate, veh/h				459	0	880	413	714	0	0	1259	67
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	1	3	1	0	0	2	0
Cap, veh/h				1149	0	935	367	1992	0	0	1916	604
Arrive On Green				0.33	0.00	0.33	0.13	0.56	0.00	0.00	0.38	0.38
Sat Flow, veh/h				3456	0	2812	1767	3676	0	0	5274	1610
Grp Volume(v), veh/h				459	0	880	413	714	0	0	1259	67
Grp Sat Flow(s),veh/h/ln				1728	0	1406	1767	1791	0	0	1702	1610
Q Serve(g_s), s				10.7	0.0	31.9	13.6	11.6	0.0	0.0	21.5	2.8
Cycle Q Clear(g_c), s				10.7	0.0	31.9	13.6	11.6	0.0	0.0	21.5	2.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1149	0	935	367	1992	0	0	1916	604
V/C Ratio(X)				0.40	0.00	0.94	1.12	0.36	0.00	0.00	0.66	0.11
Avail Cap(c_a), veh/h				1168	0	951	367	1992	0	0	1916	604
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.33	0.33	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				27.0	0.0	34.1	22.6	12.9	0.0	0.0	27.2	21.4
Incr Delay (d2), s/veh				0.2	0.0	16.7	67.8	0.2	0.0	0.0	1.8	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				7.9	0.0	18.6	16.5	6.5	0.0	0.0	13.7	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.2	0.0	50.8	90.4	13.1	0.0	0.0	29.0	21.8
LnGrp LOS				C	A	D	F	B	A	A	C	C
Approach Vol, veh/h					1339			1127			1326	
Approach Delay, s/veh					42.7			41.4			28.6	
Approach LOS					D			D			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	64.6		19.0	45.6		40.4
Change Period (Y+Rc), s	* 6.2		* 5.4	* 6.2		5.5
Max Green Setting (Gmax), s	* 58		* 14	* 39		35.5
Max Q Clear Time (g_c+I1), s	13.6		15.6	23.5		33.9
Green Ext Time (p_c), s	5.9		0.0	8.1		1.0

Intersection Summary	
HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	0	481	0	0	0	0	1306	438	567	800	0
Future Volume (veh/h)	135	0	481	0	0	0	0	1306	438	567	800	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	0	1856				0	1870	1885	1870	1885	0
Adj Flow Rate, veh/h	142	0	371				0	1375	0	597	842	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	3				0	2	1	2	1	0
Cap, veh/h	465	0	407				0	1757		526	2256	0
Arrive On Green	0.26	0.00	0.26				0.00	0.34	0.00	0.23	0.63	0.00
Sat Flow, veh/h	1795	0	1572				0	5274	1598	1781	3676	0
Grp Volume(v), veh/h	142	0	371				0	1375	0	597	842	0
Grp Sat Flow(s),veh/h/ln	1795	0	1572				0	1702	1598	1781	1791	0
Q Serve(g_s), s	6.7	0.0	24.0				0.0	25.4	0.0	24.6	11.9	0.0
Cycle Q Clear(g_c), s	6.7	0.0	24.0				0.0	25.4	0.0	24.6	11.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	465	0	407				0	1757		526	2256	0
V/C Ratio(X)	0.31	0.00	0.91				0.00	0.78		1.13	0.37	0.00
Avail Cap(c_a), veh/h	573	0	502				0	1757		526	2256	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.74	0.74	0.00
Uniform Delay (d), s/veh	31.3	0.0	37.7				0.0	30.9	0.0	28.5	9.4	0.0
Incr Delay (d2), s/veh	0.4	0.0	18.4				0.0	3.6	0.0	77.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	0.0	16.7				0.0	16.1	0.0	33.9	7.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	0.0	56.2				0.0	34.5	0.0	105.7	9.8	0.0
LnGrp LOS	C	A	E				A	C		F	A	A
Approach Vol, veh/h		513						1375			1439	
Approach Delay, s/veh		49.4						34.5			49.6	
Approach LOS		D						C			D	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	30.0	42.3				72.3		32.7				
Change Period (Y+Rc), s	* 5.4	* 6.2				* 6.2		5.5				
Max Green Setting (Gmax), s	* 25	* 30				* 60		33.5				
Max Q Clear Time (g_c+I1), s	26.6	27.4				13.9		26.0				
Green Ext Time (p_c), s	0.0	1.9				7.3		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	43.3
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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	2506	59	255	2658	27	60	52	338	73	37	175
Future Volume (veh/h)	114	2506	59	255	2658	27	60	52	338	73	37	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1856	1900	1885	1856	1722	1856	1856	1885	1841	1767	1841
Adj Flow Rate, veh/h	116	2557	23	260	2712	15	57	59	30	74	38	17
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	3	0	1	3	12	3	3	1	4	9	4
Cap, veh/h	254	2266	720	291	2364	681	93	97	84	93	48	128
Arrive On Green	0.05	0.15	0.15	0.16	0.47	0.47	0.05	0.05	0.05	0.08	0.08	0.08
Sat Flow, veh/h	1795	5066	1610	1795	5066	1459	1767	1856	1598	1130	580	1560
Grp Volume(v), veh/h	116	2557	23	260	2712	15	57	59	30	112	0	17
Grp Sat Flow(s),veh/h/ln	1795	1689	1610	1795	1689	1459	1767	1856	1598	1710	0	1560
Q Serve(g_s), s	6.6	47.0	1.3	14.9	49.0	0.6	3.3	3.3	1.9	6.8	0.0	1.1
Cycle Q Clear(g_c), s	6.6	47.0	1.3	14.9	49.0	0.6	3.3	3.3	1.9	6.8	0.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.66		1.00
Lane Grp Cap(c), veh/h	254	2266	720	291	2364	681	93	97	84	141	0	128
V/C Ratio(X)	0.46	1.13	0.03	0.89	1.15	0.02	0.62	0.61	0.36	0.80	0.00	0.13
Avail Cap(c_a), veh/h	254	2266	720	309	2364	681	210	221	190	171	0	156
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.1	44.7	25.3	43.1	28.0	15.1	48.7	48.7	48.0	47.3	0.0	44.7
Incr Delay (d2), s/veh	0.1	58.4	0.0	25.6	71.7	0.1	6.5	6.0	2.6	19.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	40.2	0.8	13.4	48.6	0.4	2.9	3.0	1.5	6.5	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	103.1	25.3	68.7	99.7	15.1	55.2	54.7	50.6	66.4	0.0	45.2
LnGrp LOS	D	F	C	E	F	B	E	D	D	E	A	D
Approach Vol, veh/h		2696			2987			146			129	
Approach Delay, s/veh		100.0			96.6			54.1			63.6	
Approach LOS		F			F			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.9	54.0		15.1	21.9	56.0		12.0
Change Period (Y+Rc), s	6.9	* 7		6.5	* 7	* 7		6.5
Max Green Setting (Gmax), s	18.1	* 37		10.5	* 6.5	* 49		12.5
Max Q Clear Time (g_c+I1), s	16.9	49.0		8.8	8.6	51.0		5.3
Green Ext Time (p_c), s	0.1	0.0		0.1	0.0	0.0		0.3

Intersection Summary		
HCM 6th Ctrl Delay	96.4	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	521	308	324	991	796	263
Future Volume (veh/h)	521	308	324	991	796	263
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	1885	1900	1885	1885
Adj Flow Rate, veh/h	548	97	341	1043	838	90
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	1	0	1	1
Cap, veh/h	559	497	449	1866	1102	491
Arrive On Green	0.31	0.31	0.15	0.52	0.31	0.31
Sat Flow, veh/h	1781	1585	1795	3705	3676	1598
Grp Volume(v), veh/h	548	97	341	1043	838	90
Grp Sat Flow(s),veh/h/ln	1781	1585	1795	1805	1791	1598
Q Serve(g_s), s	19.3	2.8	7.5	12.4	13.4	2.6
Cycle Q Clear(g_c), s	19.3	2.8	7.5	12.4	13.4	2.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	559	497	449	1866	1102	491
V/C Ratio(X)	0.98	0.20	0.76	0.56	0.76	0.18
Avail Cap(c_a), veh/h	559	497	499	2259	1390	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	15.8	13.1	10.4	19.8	16.0
Incr Delay (d2), s/veh	33.1	0.2	6.0	0.3	1.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	1.7	5.9	7.5	9.2	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.6	16.0	19.2	10.6	21.7	16.2
LnGrp LOS	D	B	B	B	C	B
Approach Vol, veh/h	645			1384	928	
Approach Delay, s/veh	48.8			12.7	21.2	
Approach LOS	D			B	C	

Timer - Assigned Phs	2			5	6	8
Phs Duration (G+Y+Rc), s	38.1			13.2	24.9	25.0
Change Period (Y+Rc), s	5.5			3.5	5.5	5.2
Max Green Setting (Gmax), s	39.5			11.5	24.5	19.8
Max Q Clear Time (g_c+I1), s	14.4			9.5	15.4	21.3
Green Ext Time (p_c), s	8.4			0.2	4.1	0.0

Intersection Summary		
HCM 6th Ctrl Delay		23.2
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	337	9	312	10	14	27	221	974	0	16	779	311
Future Volume (veh/h)	337	9	312	10	14	27	221	974	0	16	779	311
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1900	1870	1648	1900	1900	1885	1900	1900	1900	1885	1885
Adj Flow Rate, veh/h	347	9	80	10	14	7	228	1004	0	16	803	157
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	2	17	0	0	1	0	0	0	1	1
Cap, veh/h	345	6	460	87	104	30	419	1565	0	283	1209	539
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.11	0.43	0.00	0.02	0.34	0.34
Sat Flow, veh/h	741	19	1585	0	358	105	1795	3705	0	1810	3582	1598
Grp Volume(v), veh/h	356	0	80	31	0	0	228	1004	0	16	803	157
Grp Sat Flow(s),veh/h/ln	760	0	1585	463	0	0	1795	1805	0	1810	1791	1598
Q Serve(g_s), s	0.0	0.0	2.1	0.0	0.0	0.0	4.1	11.9	0.0	0.3	10.4	3.9
Cycle Q Clear(g_c), s	15.8	0.0	2.1	15.8	0.0	0.0	4.1	11.9	0.0	0.3	10.4	3.9
Prop In Lane	0.97		1.00	0.32		0.23	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	351	0	460	222	0	0	419	1565	0	283	1209	539
V/C Ratio(X)	1.01	0.00	0.17	0.14	0.00	0.00	0.54	0.64	0.00	0.06	0.66	0.29
Avail Cap(c_a), veh/h	351	0	460	222	0	0	531	2022	0	570	2006	895
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	14.5	15.2	0.0	0.0	10.6	12.1	0.0	11.9	15.4	13.3
Incr Delay (d2), s/veh	51.7	0.0	0.2	0.3	0.0	0.0	1.1	0.4	0.0	0.1	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	0.0	1.2	0.5	0.0	0.0	2.5	7.3	0.0	0.2	6.8	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	0.0	14.6	15.5	0.0	0.0	11.7	12.6	0.0	12.0	16.0	13.6
LnGrp LOS	F	A	B	B	A	A	B	B	A	B	B	B
Approach Vol, veh/h		436			31			1232			976	
Approach Delay, s/veh		63.1			15.5			12.4			15.6	
Approach LOS		E			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.4	29.1		21.0	9.6	23.9		21.0
Change Period (Y+Rc), s	3.5	5.5		* 5.2	3.5	5.5		* 5.2
Max Green Setting (Gmax), s	9.5	30.5		* 16	9.5	30.5		* 16
Max Q Clear Time (g_c+I1), s	2.3	13.9		17.8	6.1	12.4		17.8
Green Ext Time (p_c), s	0.0	6.7		0.0	0.2	6.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	2354	62	322	1751	72	44	215	550	34	3	14
Future Volume (veh/h)	34	2354	62	322	1751	72	44	215	550	34	3	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1885	1870	1870	1900	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	35	2402	61	329	1787	39	45	219	561	35	3	3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	1	2	2	0	1	1	0	0	0
Cap, veh/h	61	1678	42	180	1906	850	396	408	345	170	188	188
Arrive On Green	0.03	0.47	0.47	0.10	0.54	0.54	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3570	90	1795	3554	1585	1432	1885	1598	703	872	872
Grp Volume(v), veh/h	35	1200	1263	329	1787	39	45	219	561	35	0	6
Grp Sat Flow(s),veh/h/ln	1810	1791	1869	1795	1777	1585	1432	1885	1598	703	0	1743
Q Serve(g_s), s	1.5	37.6	37.6	8.0	37.5	0.9	2.0	8.2	17.3	3.7	0.0	0.2
Cycle Q Clear(g_c), s	1.5	37.6	37.6	8.0	37.5	0.9	2.3	8.2	17.3	12.0	0.0	0.2
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	61	842	878	180	1906	850	396	408	345	170	0	377
V/C Ratio(X)	0.57	1.43	1.44	1.83	0.94	0.05	0.11	0.54	1.62	0.21	0.00	0.02
Avail Cap(c_a), veh/h	113	842	878	180	1906	850	396	408	345	170	0	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.1	21.2	21.2	36.0	17.3	8.8	25.5	27.8	31.4	33.1	0.0	24.7
Incr Delay (d2), s/veh	3.1	198.4	203.6	395.5	9.6	0.0	0.0	0.8	293.7	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	91.5	97.3	37.0	22.5	0.5	1.2	6.6	54.3	1.1	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.2	219.6	224.8	431.5	26.9	8.8	25.6	28.6	325.0	33.3	0.0	24.7
LnGrp LOS	D	F	F	F	C	A	C	C	F	C	A	C
Approach Vol, veh/h		2498			2155			825			41	
Approach Delay, s/veh		219.7			88.4			230.0			32.1	
Approach LOS		F			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	44.0		23.0	7.7	49.3		23.0				
Change Period (Y+Rc), s	5.0	6.4		5.7	5.0	6.4		5.7				
Max Green Setting (Gmax), s	8.0	37.6		17.3	5.0	40.6		17.3				
Max Q Clear Time (g_c+I1), s	10.0	39.6		19.3	3.5	39.5		14.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	1.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	168.6	
HCM 6th LOS	F	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	1880	450	217	2135	461	382	758	122	426	812	113
Future Volume (veh/h)	152	1880	450	217	2135	461	382	758	122	426	812	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1870	1885	1841	1885	1885	1885	1900	1870	1870	1900
Adj Flow Rate, veh/h	158	1958	428	226	2224	426	398	790	0	444	846	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	5	2	1	4	1	1	1	0	2	2	0
Cap, veh/h	220	1470	312	441	2114	888	448	621		467	650	
Arrive On Green	0.06	0.36	0.36	0.17	0.56	0.56	0.13	0.17	0.00	0.14	0.18	0.00
Sat Flow, veh/h	3483	4117	875	3483	5025	1598	3483	3582	1610	3456	3554	1610
Grp Volume(v), veh/h	158	1570	816	226	2224	426	398	790	0	444	846	0
Grp Sat Flow(s),veh/h/ln	1742	1662	1668	1742	1675	1598	1742	1791	1610	1728	1777	1610
Q Serve(g_s), s	4.7	37.5	37.5	6.2	44.2	4.1	11.8	18.2	0.0	13.4	19.2	0.0
Cycle Q Clear(g_c), s	4.7	37.5	37.5	6.2	44.2	4.1	11.8	18.2	0.0	13.4	19.2	0.0
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	1187	596	441	2114	888	448	621		467	650	
V/C Ratio(X)	0.72	1.32	1.37	0.51	1.05	0.48	0.89	1.27		0.95	1.30	
Avail Cap(c_a), veh/h	249	1187	596	441	2114	888	448	621		467	650	
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.3	33.8	33.8	40.7	23.1	3.7	45.0	43.4	0.0	45.0	42.9	0.0
Incr Delay (d2), s/veh	6.5	151.1	177.1	0.0	24.8	0.2	18.6	134.9	0.0	29.1	146.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	58.9	66.0	3.4	22.4	2.3	10.3	30.0	0.0	12.1	33.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	184.8	210.8	40.7	47.9	3.8	63.6	178.3	0.0	74.2	189.8	0.0
LnGrp LOS	D	F	F	D	F	A	E	F		E	F	
Approach Vol, veh/h		2544			2876			1188			1290	
Approach Delay, s/veh		185.1			40.8			139.9			150.0	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.1	44.0	21.0	25.0	13.1	51.0	20.0	26.0
Change Period (Y+Rc), s	* 6.8	* 6.5	* 6.8	* 6.8	* 6.5	* 6.8	* 6.5	* 6.8
Max Green Setting (Gmax), s	* 8.5	* 38	* 14	* 18	* 7.5	* 38	* 14	* 19
Max Q Clear Time (g_c+I1), s	18.2	39.5	15.4	20.2	6.7	46.2	13.8	21.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	120.0
HCM 6th LOS	F

Notes

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

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

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	209	1728	0	0	1547	47
Future Vol, veh/h	0	0	0	0	0	0	209	1728	0	0	1547	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	150	-	-	-	-	100
Veh in Median Storage, #	-	3	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	92	98	92	92	92	98	98	92	92	98	98
Heavy Vehicles, %	0	2	0	2	2	2	2	0	2	2	2	0
Mvmt Flow	0	0	0	0	0	0	213	1763	0	0	1579	48

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	-	-	882	1579	0	-	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	5.34	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.12	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	289	~ 204	-	0	0	-	-
Stage 1	0	0	-	-	-	0	0	-	-
Stage 2	0	0	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	-	0	289	~ 204	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	13.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	~ 204	-	-	-	-
HCM Lane V/C Ratio	1.045	-	-	-	-
HCM Control Delay (s)	124.6	-	0	-	-
HCM Lane LOS	F	-	A	-	-
HCM 95th %tile Q(veh)	9.5	-	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

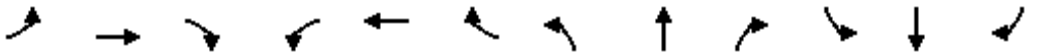
Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	375	0	1906	696	862
Future Vol, veh/h	36	375	0	1906	696	862
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	300	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	4	3	0	0	1	3
Mvmt Flow	37	383	0	1945	710	880

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1683	355	-	0	-	0
Stage 1	710	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Critical Hdwy	6.33	7.16	-	-	-	-
Critical Hdwy Stg 1	6.68	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.69	3.93	-	-	-	-
Pot Cap-1 Maneuver	106	545	0	-	-	0
Stage 1	368	-	0	-	-	0
Stage 2	315	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	106	545	-	-	-	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	368	-	-	-	-	-
Stage 2	315	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.4	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	106	545	-
HCM Lane V/C Ratio	-	0.347	0.702	-
HCM Control Delay (s)	-	56	25.7	-
HCM Lane LOS	-	F	D	-
HCM 95th %tile Q(veh)	-	1.4	5.6	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	124	25	71	199	721	36	1051	27	54	868	158
Future Volume (veh/h)	114	124	25	71	199	721	36	1051	27	54	868	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1856	1900	1767	1900	1870	1870	1870	1900
Adj Flow Rate, veh/h	120	131	13	75	209	741	38	1106	26	57	914	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	0	3	0	9	0	2	2	2	0
Cap, veh/h	103	741	74	603	781	696	196	1391	33	159	1371	621
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	590	1674	166	1264	1763	1572	539	3605	85	497	3554	1610
Grp Volume(v), veh/h	120	0	144	75	209	741	38	554	578	57	914	73
Grp Sat Flow(s),veh/h/ln	590	0	1840	1264	1763	1572	539	1805	1885	497	1777	1610
Q Serve(g_s), s	0.0	0.0	3.3	2.7	5.2	31.0	4.4	19.0	19.0	8.0	14.9	2.0
Cycle Q Clear(g_c), s	31.0	0.0	3.3	6.0	5.2	31.0	19.3	19.0	19.0	27.0	14.9	2.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	103	0	815	603	781	696	196	696	727	159	1371	621
V/C Ratio(X)	1.17	0.00	0.18	0.12	0.27	1.06	0.19	0.80	0.80	0.36	0.67	0.12
Avail Cap(c_a), veh/h	103	0	815	603	781	696	196	696	727	159	1371	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	11.8	13.6	12.3	19.5	25.8	19.1	19.1	31.0	17.8	13.8
Incr Delay (d2), s/veh	140.4	0.0	0.1	0.1	0.2	52.4	2.2	9.1	8.8	6.2	2.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.3	0.0	2.3	1.3	3.5	28.7	1.2	13.9	14.3	2.2	10.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.4	0.0	11.9	13.7	12.5	71.9	27.9	28.2	27.8	37.2	20.4	14.2
LnGrp LOS	F	A	B	B	B	F	C	C	C	D	C	B
Approach Vol, veh/h		264			1025			1170			1044	
Approach Delay, s/veh		86.2			55.6			28.0			20.9	
Approach LOS		F			E			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.0		37.0		33.0		37.0				
Change Period (Y+Rc), s		* 6		* 6		* 6		* 6				
Max Green Setting (Gmax), s		* 27		* 31		* 27		* 31				
Max Q Clear Time (g_c+I1), s		21.3		33.0		29.0		33.0				
Green Ext Time (p_c), s		3.5		0.0		0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		38.3
HCM 6th LOS		D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↱	↰		↱			
Traffic Volume (veh/h)	0	185	0	0	609	533	736	0	384	0	0	0
Future Volume (veh/h)	0	185	0	0	609	533	736	0	384	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	0	0	1870	1900	1885	0	1885			
Adj Flow Rate, veh/h	0	197	0	0	648	0	783	0	203			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	2	0	0	2	0	1	0	1			
Cap, veh/h	0	1286	0	0	1286		851	0	757			
Arrive On Green	0.00	0.36	0.00	0.00	0.36	0.00	0.47	0.00	0.47			
Sat Flow, veh/h	0	3741	0	0	3647	1610	1795	0	1598			
Grp Volume(v), veh/h	0	197	0	0	648	0	783	0	203			
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	1610	1795	0	1598			
Q Serve(g_s), s	0.0	2.6	0.0	0.0	10.0	0.0	28.5	0.0	5.4			
Cycle Q Clear(g_c), s	0.0	2.6	0.0	0.0	10.0	0.0	28.5	0.0	5.4			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1286	0	0	1286		851	0	757			
V/C Ratio(X)	0.00	0.15	0.00	0.00	0.50		0.92	0.00	0.27			
Avail Cap(c_a), veh/h	0	1286	0	0	1286		1008	0	897			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	0.09	0.00	0.09			
Uniform Delay (d), s/veh	0.0	15.1	0.0	0.0	17.4	0.0	17.2	0.0	11.1			
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	1.4	0.0	1.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	1.9	0.0	0.0	7.2	0.0	12.1	0.0	2.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	15.3	0.0	0.0	18.8	0.0	18.6	0.0	11.1			
LnGrp LOS	A	B	A	A	B		B	A	B			
Approach Vol, veh/h		197			648			986				
Approach Delay, s/veh		15.3			18.8			17.0				
Approach LOS		B			B			B				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	31.1	38.9	31.1
Change Period (Y+Rc), s	* 5.8	5.7	* 5.8
Max Green Setting (Gmax), s	* 19	39.3	* 19
Max Q Clear Time (g_c+I1), s	4.6	30.5	12.0
Green Ext Time (p_c), s	1.0	2.7	2.5

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Notes

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	369	231	165	508	0	0	0	0	6	323	0
Future Volume (veh/h)	0	369	231	165	508	0	0	0	0	6	323	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1841	1870	1870	0				1900	1870	1900
Adj Flow Rate, veh/h	0	393	96	176	540	0				6	344	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	4	2	2	0				0	2	0
Cap, veh/h	0	492	119	306	648	0				16	912	800
Arrive On Green	0.00	0.17	0.17	0.09	0.35	0.00				0.50	0.50	0.00
Sat Flow, veh/h	0	2931	686	1781	1870	0				32	1837	1610
Grp Volume(v), veh/h	0	245	244	176	540	0				350	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1747	1781	1870	0				1869	0	1610
Q Serve(g_s), s	0.0	9.2	9.4	5.4	18.6	0.0				8.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.2	9.4	5.4	18.6	0.0				8.1	0.0	0.0
Prop In Lane	0.00		0.39	1.00		0.00				0.02		1.00
Lane Grp Cap(c), veh/h	0	308	303	306	648	0				928	0	800
V/C Ratio(X)	0.00	0.79	0.81	0.57	0.83	0.00				0.38	0.00	0.00
Avail Cap(c_a), veh/h	0	353	347	306	695	0				928	0	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.84	0.84	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	27.7	27.8	20.4	21.0	0.0				10.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	10.5	11.7	2.2	7.0	0.0				0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.2	8.3	4.1	13.1	0.0				5.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	38.2	39.5	22.6	28.0	0.0				11.2	0.0	0.0
LnGrp LOS	A	D	D	C	C	A				B	A	A
Approach Vol, veh/h		489			716						350	
Approach Delay, s/veh		38.9			26.7						11.2	
Approach LOS		D			C						B	

Timer - Assigned Phs	2	3	4			8
Phs Duration (G+Y+Rc), s	40.3	12.1	17.6			29.7
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5
Max Green Setting (Gmax), s	33.0	6.6	13.9			26.0
Max Q Clear Time (g_c+I1), s	10.1	7.4	11.4			20.6
Green Ext Time (p_c), s	2.1	0.0	0.7			1.6

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	369	0	0	305	0	368	1091	767	0	0	0
Future Volume (veh/h)	4	369	0	0	305	0	368	1091	767	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1856	0	0	1870	1900	1885	1885	1885			
Adj Flow Rate, veh/h	4	388	0	0	321	0	387	1148	707			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	3	0	0	2	0	1	1	1			
Cap, veh/h	186	437	0	0	441	380	1090	1145	1707			
Arrive On Green	0.24	0.24	0.00	0.00	0.24	0.00	0.61	0.61	0.61			
Sat Flow, veh/h	1075	1856	0	0	1870	1610	1795	1885	2812			
Grp Volume(v), veh/h	4	388	0	0	321	0	387	1148	707			
Grp Sat Flow(s),veh/h/ln	1075	1856	0	0	1870	1610	1795	1885	1406			
Q Serve(g_s), s	0.2	14.1	0.0	0.0	11.1	0.0	7.6	42.5	9.2			
Cycle Q Clear(g_c), s	11.3	14.1	0.0	0.0	11.1	0.0	7.6	42.5	9.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	186	437	0	0	441	380	1090	1145	1707			
V/C Ratio(X)	0.02	0.89	0.00	0.00	0.73	0.00	0.36	1.00	0.41			
Avail Cap(c_a), veh/h	186	437	0	0	441	380	1090	1145	1707			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.45	0.45	0.00	0.00	1.00	0.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	29.9	25.8	0.0	0.0	24.7	0.0	6.9	13.8	7.2			
Incr Delay (d2), s/veh	0.1	11.8	0.0	0.0	10.1	0.0	0.2	27.3	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.1	10.3	0.0	0.0	9.8	0.0	4.3	30.4	4.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	37.7	0.0	0.0	34.8	0.0	7.1	41.1	7.4			
LnGrp LOS	C	D	A	A	C	A	A	F	A			
Approach Vol, veh/h		392			321			2242				
Approach Delay, s/veh		37.6			34.8			24.6				
Approach LOS		D			C			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	22.0	48.0	22.0
Change Period (Y+Rc), s	5.5	5.5	5.5
Max Green Setting (Gmax), s	16.5	42.5	16.5
Max Q Clear Time (g_c+I1), s	16.1	44.5	13.1
Green Ext Time (p_c), s	0.1	0.0	0.6

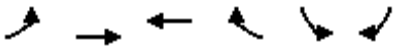
Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	280	192	649	393	345	977
Future Volume (veh/h)	280	192	649	393	345	977
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	1811	1752	1841	1841	1856	1811
Adj Flow Rate, veh/h	298	45	690	301	367	1039
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	10	4	4	3	6
Cap, veh/h	348	300	1567	699	514	2186
Arrive On Green	0.20	0.20	0.45	0.45	0.13	0.64
Sat Flow, veh/h	1725	1485	3589	1560	1767	3532
Grp Volume(v), veh/h	298	45	690	301	367	1039
Grp Sat Flow(s),veh/h/ln	1725	1485	1749	1560	1767	1721
Q Serve(g_s), s	11.7	1.7	9.5	9.2	7.2	11.0
Cycle Q Clear(g_c), s	11.7	1.7	9.5	9.2	7.2	11.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	348	300	1567	699	514	2186
V/C Ratio(X)	0.86	0.15	0.44	0.43	0.71	0.48
Avail Cap(c_a), veh/h	451	388	1567	699	536	2186
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	23.0	13.3	13.2	9.4	6.7
Incr Delay (d2), s/veh	11.5	0.2	0.9	1.9	4.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.4	1.1	6.4	5.9	5.0	6.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.4	23.2	14.2	15.1	13.7	7.4
LnGrp LOS	D	C	B	B	B	A
Approach Vol, veh/h	343		991			1406
Approach Delay, s/veh	36.4		14.5			9.1
Approach LOS	D		B			A

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	50.2		13.1	37.1	19.8
Change Period (Y+Rc), s	5.7		3.8	5.7	5.7
Max Green Setting (Gmax), s	40.3		10.2	26.3	18.3
Max Q Clear Time (g_c+I1), s	13.0		9.2	11.5	13.7
Green Ext Time (p_c), s	8.7		0.1	5.2	0.5

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	285	415	287	353	660	189
Future Volume (veh/h)	285	415	287	353	660	189
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	1811	1885	1767	1796	1885	1811
Adj Flow Rate, veh/h	310	451	312	0	717	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	1	9	7	1	6
Cap, veh/h	507	1638	864		745	
Arrive On Green	0.14	0.46	0.26	0.00	0.41	0.00
Sat Flow, veh/h	1725	3676	3445	1522	1795	1535
Grp Volume(v), veh/h	310	451	312	0	717	0
Grp Sat Flow(s),veh/h/ln	1725	1791	1678	1522	1795	1535
Q Serve(g_s), s	11.5	7.0	6.9	0.0	35.0	0.0
Cycle Q Clear(g_c), s	11.5	7.0	6.9	0.0	35.0	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	507	1638	864		745	
V/C Ratio(X)	0.61	0.28	0.36		0.96	
Avail Cap(c_a), veh/h	507	1638	864		758	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	19.2	15.2	27.4	0.0	25.6	0.0
Incr Delay (d2), s/veh	1.6	0.3	1.2	0.0	23.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	5.1	5.1	0.0	26.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.8	15.5	28.5	0.0	49.3	0.0
LnGrp LOS	C	B	C		D	
Approach Vol, veh/h		761	312		717	
Approach Delay, s/veh		17.6	28.5		49.3	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		46.7		43.3	18.0	28.7
Change Period (Y+Rc), s		* 5.5		6.0	* 5.5	* 5.5
Max Green Setting (Gmax), s		* 41		38.0	* 13	* 23
Max Q Clear Time (g_c+I1), s		9.0		37.0	13.5	8.9
Green Ext Time (p_c), s		3.3		0.3	0.0	1.6

Intersection Summary		
HCM 6th Ctrl Delay		32.2
HCM 6th LOS		C

Notes

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

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

Intersection	
Int Delay, s/veh	65.2

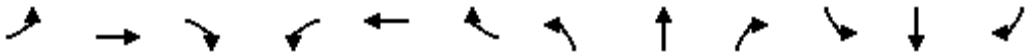
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	178	879	0	0	492	747	159	5	272	0	0	0
Future Vol, veh/h	178	879	0	0	492	747	159	5	272	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	270	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	1	0	0	3	0	22	0	3	0	0	0
Mvmt Flow	185	916	0	0	513	778	166	5	283	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	513	0	-	-	-	0	1543	1799	458
Stage 1	-	-	-	-	-	-	1286	1286	-
Stage 2	-	-	-	-	-	-	257	513	-
Critical Hdwy	4.14	-	-	-	-	-	7.24	6.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.24	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.24	5.5	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.72	4	3.33
Pot Cap-1 Maneuver	1049	-	0	0	-	0	~ 87	81	547
Stage 1	-	-	0	0	-	0	188	237	-
Stage 2	-	-	0	0	-	0	706	539	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1049	-	-	-	-	-	~ 72	0	547
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 72	0	-
Stage 1	-	-	-	-	-	-	~ 155	0	-
Stage 2	-	-	-	-	-	-	706	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.5	0	293.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	72	547	1049	-	-
HCM Lane V/C Ratio	2.373	0.518	0.177	-	-
HCM Control Delay (s)	$ 749.6	18.4	9.2	-	-
HCM Lane LOS	F	C	A	-	-
HCM 95th %tile Q(veh)	16.3	3	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	932	42	33	614	44	534	259	227	103	54	88
Future Volume (veh/h)	132	932	42	33	614	44	534	259	227	103	54	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1900	1900	1885	1900	1900	1885	1900	1885	1856	1796
Adj Flow Rate, veh/h	143	1013	42	36	667	41	580	282	211	112	59	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	0	0	1	0	0	1	0	1	3	7
Cap, veh/h	372	1507	62	189	1485	91	623	817	698	384	864	597
Arrive On Green	0.43	0.43	0.43	0.87	0.87	0.87	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	746	3477	144	543	3428	211	1311	1885	1610	911	1993	1377
Grp Volume(v), veh/h	143	518	537	36	348	360	580	282	211	112	51	53
Grp Sat Flow(s),veh/h/ln	746	1777	1844	543	1791	1847	1311	1885	1610	911	1763	1608
Q Serve(g_s), s	13.0	21.0	21.0	4.1	3.8	3.8	37.3	9.0	7.7	8.4	1.5	1.7
Cycle Q Clear(g_c), s	16.8	21.0	21.0	25.1	3.8	3.8	39.0	9.0	7.7	17.4	1.5	1.7
Prop In Lane	1.00		0.08	1.00		0.11	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	372	770	799	189	776	800	623	817	698	384	764	697
V/C Ratio(X)	0.38	0.67	0.67	0.19	0.45	0.45	0.93	0.35	0.30	0.29	0.07	0.08
Avail Cap(c_a), veh/h	372	770	799	189	776	800	623	817	698	384	764	697
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	20.4	20.4	12.3	3.7	3.7	27.6	17.0	16.6	22.8	14.9	14.9
Incr Delay (d2), s/veh	0.7	2.3	2.2	2.1	1.8	1.7	20.8	0.3	0.2	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	13.6	14.0	0.9	2.4	2.5	22.4	6.8	5.0	3.2	1.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	22.7	22.6	14.4	5.4	5.4	48.4	17.2	16.9	23.2	14.9	15.0
LnGrp LOS	C	C	C	B	A	A	D	B	B	C	B	B
Approach Vol, veh/h		1198			744			1073			216	
Approach Delay, s/veh		22.5			5.8			34.0			19.2	
Approach LOS		C			A			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		45.0		45.0		45.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		39.0		39.0		39.0		39.0				
Max Q Clear Time (g_c+I1), s		27.1		19.4		23.0		41.0				
Green Ext Time (p_c), s		3.8		1.1		7.4		0.0				

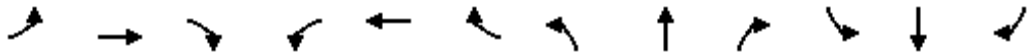
Intersection Summary												
HCM 6th Ctrl Delay			22.3									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	935	310	17	433	0	0	0	0	120	828	204
Future Volume (veh/h)	0	935	310	17	433	0	0	0	0	120	828	204
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1870	1767	1885	0				1900	1870	1856
Adj Flow Rate, veh/h	0	995	298	18	461	0				128	881	94
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	1	2	9	1	0				0	2	3
Cap, veh/h	0	907	270	43	883	0				234	1699	839
Arrive On Green	0.00	0.33	0.33	0.33	0.33	0.00				0.53	0.53	0.53
Sat Flow, veh/h	0	2814	810	0	2736	0				440	3186	1572
Grp Volume(v), veh/h	0	653	640	235	244	0				538	471	94
Grp Sat Flow(s),veh/h/ln	0	1791	1739	1021	1630	0				1848	1777	1572
Q Serve(g_s), s	0.0	30.0	30.0	0.0	10.6	0.0				17.3	15.1	2.7
Cycle Q Clear(g_c), s	0.0	30.0	30.0	30.0	10.6	0.0				17.3	15.1	2.7
Prop In Lane	0.00		0.47	0.08		0.00				0.24		1.00
Lane Grp Cap(c), veh/h	0	597	580	383	543	0				986	948	839
V/C Ratio(X)	0.00	1.09	1.10	0.61	0.45	0.00				0.55	0.50	0.11
Avail Cap(c_a), veh/h	0	597	580	383	543	0				986	948	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.72	0.72	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	30.0	30.0	23.9	23.5	0.0				13.8	13.3	10.4
Incr Delay (d2), s/veh	0.0	60.2	63.9	2.9	0.6	0.0				2.2	1.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	30.7	30.8	7.2	7.3	0.0				11.7	10.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	90.2	93.9	26.8	24.1	0.0				16.0	15.2	10.7
LnGrp LOS	A	F	F	C	C	A				B	B	B
Approach Vol, veh/h		1293			479						1103	
Approach Delay, s/veh		92.0			25.4						15.2	
Approach LOS		F			C						B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	54.0	36.0	36.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	48.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	19.3	32.0	32.0
Green Ext Time (p_c), s	8.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1642	0	0	0	0	0	0	1206	0
Future Volume (vph)	0	0	0	1642	0	0	0	0	0	0	1206	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.6							6.0	
Lane Util. Factor				0.97							0.86	
Frt				1.00							1.00	
Flt Protected				0.95							1.00	
Satd. Flow (prot)				3400							6408	
Flt Permitted				0.95							1.00	
Satd. Flow (perm)				3400							6408	
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.92	0.97	0.92	0.97	0.97	0.97	0.97	0.92
Adj. Flow (vph)	0	0	0	1693	0	0	0	0	0	0	1243	0
RTOR Reduction (vph)	0	0	0	20	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1673	0	0	0	0	0	0	1243	0
Heavy Vehicles (%)	2%	2%	2%	3%	2%	0%	2%	0%	0%	0%	2%	2%
Turn Type				Prot							NA	
Protected Phases				3							2	
Permitted Phases												
Actuated Green, G (s)				64.1							33.3	
Effective Green, g (s)				64.1							33.3	
Actuated g/C Ratio				0.58							0.30	
Clearance Time (s)				6.6							6.0	
Vehicle Extension (s)				3.0							3.0	
Lane Grp Cap (vph)				1981							1939	
v/s Ratio Prot				c0.49							c0.19	
v/s Ratio Perm												
v/c Ratio				0.84							0.64	
Uniform Delay, d1				18.9							33.2	
Progression Factor				1.00							1.00	
Incremental Delay, d2				3.5							1.6	
Delay (s)				22.4							34.8	
Level of Service				C							C	
Approach Delay (s)		0.0			22.4			0.0			34.8	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

702: Dr MLK Jr St & 11th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	12	1103	419	77	517	0	0	579	339
Future Volume (veh/h)	0	0	0	12	1103	419	77	517	0	0	579	339
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1870	1767	1900	1841	0	0	1856	1870
Adj Flow Rate, veh/h				13	1173	366	82	550	0	0	616	317
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	2	9	0	4	0	0	3	2
Cap, veh/h				18	1680	548	108	959	0	0	853	729
Arrive On Green				0.14	0.14	0.14	0.46	0.46	0.00	0.00	0.46	0.46
Sat Flow, veh/h				41	3898	1272	141	2169	0	0	1856	1585
Grp Volume(v), veh/h				590	489	472	271	361	0	0	616	317
Grp Sat Flow(s),veh/h/ln				1868	1702	1641	635	1591	0	0	1856	1585
Q Serve(g_s), s				33.3	30.0	30.0	18.4	17.4	0.0	0.0	29.5	14.9
Cycle Q Clear(g_c), s				33.3	30.0	30.0	47.9	17.4	0.0	0.0	29.5	14.9
Prop In Lane				0.02		0.78	0.30		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				805	734	707	335	732	0	0	853	729
V/C Ratio(X)				0.73	0.67	0.67	0.81	0.49	0.00	0.00	0.72	0.43
Avail Cap(c_a), veh/h				1019	928	895	335	732	0	0	853	729
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.59	0.59	0.59	0.62	0.62	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.1	39.7	39.7	33.0	20.7	0.0	0.0	24.0	20.1
Incr Delay (d2), s/veh				1.2	0.7	0.8	12.4	1.5	0.0	0.0	5.3	1.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				22.1	18.5	17.9	11.9	10.0	0.0	0.0	19.9	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.3	40.4	40.5	45.4	22.2	0.0	0.0	29.3	21.9
LnGrp LOS				D	D	D	D	C	A	A	C	C
Approach Vol, veh/h					1552			632			933	
Approach Delay, s/veh					41.2			32.2			26.8	
Approach LOS					D			C			C	

Timer - Assigned Phs	2		6		8			
Phs Duration (G+Y+Rc), s	56.6		56.6		53.4			
Change Period (Y+Rc), s	6.0		6.0		6.0			
Max Green Setting (Gmax), s	38.0		38.0		60.0			
Max Q Clear Time (g_c+I1), s	31.5		49.9		35.3			
Green Ext Time (p_c), s	2.9		0.0		12.1			

Intersection Summary		
HCM 6th Ctrl Delay	35.0	
HCM 6th LOS	D	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	45	321	440	0	3477	0	0	1449	1253
Future Volume (veh/h)	0	0	0	45	321	440	0	3477	0	0	1449	1253
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1870	1900	0	1885	0	0	1870	1826
Adj Flow Rate, veh/h				46	331	0	0	3585	0	0	1493	1161
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				0	2	0	0	1	0	0	2	5
Cap, veh/h				98	760		0	3720	0	0	2704	2237
Arrive On Green				0.16	0.16	0.00	0.00	0.96	0.00	0.00	0.72	0.72
Sat Flow, veh/h				599	4814	0	0	5486	0	0	3741	3095
Grp Volume(v), veh/h				141	236	0	0	3585	0	0	1493	1161
Grp Sat Flow(s),veh/h/ln				1840	1702	0	0	1716	0	0	1870	1547
Q Serve(g_s), s				7.7	6.8	0.0	0.0	40.4	0.0	0.0	20.3	18.3
Cycle Q Clear(g_c), s				7.7	6.8	0.0	0.0	40.4	0.0	0.0	20.3	18.3
Prop In Lane				0.33		0.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				301	557		0	3720	0	0	2704	2237
V/C Ratio(X)				0.47	0.42		0.00	0.96	0.00	0.00	0.55	0.52
Avail Cap(c_a), veh/h				442	817		0	3720	0	0	2704	2237
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00	0.00	0.16	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.7	41.3	0.0	0.0	1.4	0.0	0.0	7.0	6.8
Incr Delay (d2), s/veh				1.1	0.5	0.0	0.0	1.9	0.0	0.0	0.8	0.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.4	5.2	0.0	0.0	2.5	0.0	0.0	11.6	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.8	41.8	0.0	0.0	3.2	0.0	0.0	7.9	7.6
LnGrp LOS				D	D		A	A	A	A	A	A
Approach Vol, veh/h					377			3585			2654	
Approach Delay, s/veh					42.2			3.2			7.8	
Approach LOS					D			A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	85.4	24.6	85.4
Change Period (Y+Rc), s	* 5.9	6.6	* 5.9
Max Green Setting (Gmax), s	* 71	26.4	* 71
Max Q Clear Time (g_c+I1), s	22.3	9.7	42.4
Green Ext Time (p_c), s	30.8	2.1	28.2

Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	1843	59	0	0	0	0	457	2	129	383	0
Future Volume (veh/h)	129	1843	59	0	0	0	0	457	2	129	383	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1752				0	1856	1900	1885	1841	0
Adj Flow Rate, veh/h	137	1961	60				0	486	2	137	407	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	1	10				0	3	0	1	4	0
Cap, veh/h	155	2361	74				0	720	3	223	718	0
Arrive On Green	0.48	0.48	0.48				0.00	0.39	0.39	0.13	0.13	0.00
Sat Flow, veh/h	325	4960	156				0	1847	8	915	1841	0
Grp Volume(v), veh/h	788	657	713				0	0	488	137	407	0
Grp Sat Flow(s),veh/h/ln	1869	1716	1857				0	0	1854	915	1841	0
Q Serve(g_s), s	42.0	35.8	36.0				0.0	0.0	24.0	16.3	22.9	0.0
Cycle Q Clear(g_c), s	42.0	35.8	36.0				0.0	0.0	24.0	40.3	22.9	0.0
Prop In Lane	0.17		0.08				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	890	817	884				0	0	723	223	718	0
V/C Ratio(X)	0.89	0.80	0.81				0.00	0.00	0.68	0.61	0.57	0.00
Avail Cap(c_a), veh/h	917	842	912				0	0	742	232	736	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	0.49	0.51	0.51	0.00
Uniform Delay (d), s/veh	26.1	24.5	24.5				0.0	0.0	27.8	58.7	39.2	0.0
Incr Delay (d2), s/veh	10.2	5.6	5.3				0.0	0.0	2.5	2.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.8	21.6	23.2				0.0	0.0	14.7	6.6	15.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	30.1	29.8				0.0	0.0	30.3	61.0	39.7	0.0
LnGrp LOS	D	C	C				A	A	C	E	D	A
Approach Vol, veh/h		2158						488			544	
Approach Delay, s/veh		32.3						30.3			45.1	
Approach LOS		C						C			D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	48.9	58.4	48.9
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	44.0	54.0	44.0
Max Q Clear Time (g_c+I1), s	42.3	44.0	26.0
Green Ext Time (p_c), s	0.6	8.4	3.0

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1586	564	2	0	0	0	0	1740	85	135	1359	0
Future Volume (veh/h)	1586	564	2	0	0	0	0	1740	85	135	1359	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1900				0	1885	1870	1900	1856	0
Adj Flow Rate, veh/h	1669	594	2				0	1832	84	142	1431	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	0				0	1	2	0	3	0
Cap, veh/h	1748	914	3				0	2017	92	77	2026	0
Arrive On Green	0.49	0.49	0.49				0.00	0.27	0.27	0.40	0.40	0.00
Sat Flow, veh/h	3591	1878	6				0	5213	231	237	5233	0
Grp Volume(v), veh/h	1669	0	596				0	1245	671	142	1431	0
Grp Sat Flow(s),veh/h/ln	1795	0	1884				0	1716	1844	237	1689	0
Q Serve(g_s), s	49.0	0.0	26.1				0.0	38.6	38.7	5.3	26.0	0.0
Cycle Q Clear(g_c), s	49.0	0.0	26.1				0.0	38.6	38.7	44.0	26.0	0.0
Prop In Lane	1.00		0.00				0.00		0.13	1.00		0.00
Lane Grp Cap(c), veh/h	1748	0	917				0	1372	737	77	2026	0
V/C Ratio(X)	0.95	0.00	0.65				0.00	0.91	0.91	1.85	0.71	0.00
Avail Cap(c_a), veh/h	1763	0	925				0	1372	737	77	2026	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	0.48	0.00	0.48				0.00	1.00	1.00	0.65	0.65	0.00
Uniform Delay (d), s/veh	27.1	0.0	21.2				0.0	38.3	38.3	54.6	27.6	0.0
Incr Delay (d2), s/veh	7.1	0.0	0.8				0.0	10.3	17.2	412.4	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	27.0	0.0	15.2				0.0	25.9	29.3	19.7	14.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	0.0	22.0				0.0	48.6	55.6	467.0	28.3	0.0
LnGrp LOS	C	A	C				A	D	E	F	C	A
Approach Vol, veh/h		2265						1916			1573	
Approach Delay, s/veh		30.9						51.0			67.9	
Approach LOS		C						D			E	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	50.0	59.6	50.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	44.0	54.0	44.0
Max Q Clear Time (g_c+I1), s	46.0	51.0	40.7
Green Ext Time (p_c), s	0.0	2.5	2.9

Intersection Summary	
HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

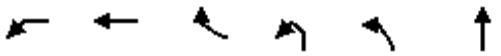
Notes

User approved volume balancing among the lanes for turning movement.



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	433	0	1622	0	0	0
Future Volume (vph)	433	0	1622	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			
Lane Util. Factor	1.00		0.91			
Frt	1.00		1.00			
Flt Protected	0.95		1.00			
Satd. Flow (prot)	1703		5085			
Flt Permitted	0.95		1.00			
Satd. Flow (perm)	1703		5085			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	446	0	1672	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	446	0	1672	0	0	0
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%
Turn Type	Prot		NA			Perm
Protected Phases	1	6	2			
Permitted Phases						6
Actuated Green, G (s)	35.9		62.1			
Effective Green, g (s)	35.9		62.1			
Actuated g/C Ratio	0.33		0.56			
Clearance Time (s)	6.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	555		2870			
v/s Ratio Prot	c0.26		c0.33			
v/s Ratio Perm						
v/c Ratio	0.80		0.58			
Uniform Delay, d1	33.8		15.5			
Progression Factor	1.00		2.23			
Incremental Delay, d2	8.3		0.2			
Delay (s)	42.1		34.9			
Level of Service	D		C			
Approach Delay (s)		42.1	34.9		0.0	
Approach LOS		D	C		A	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBT	WBR	NBL2	NBL	NBT
Lane Configurations						
Traffic Volume (vph)	589	50	57	1192	6	1639
Future Volume (vph)	589	50	57	1192	6	1639
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.0	5.8
Lane Util. Factor	0.97	0.95			1.00	0.95
Frt	1.00	0.92			1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3467	3322			1803	3574
Flt Permitted	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3467	3322			1803	3574
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	614	52	59	1242	6	1707
RTOR Reduction (vph)	0	16	0	0	22	0
Lane Group Flow (vph)	614	95	0	0	1226	1707
Heavy Vehicles (%)	1%	0%	0%	0%	25%	1%
Turn Type	Split	NA		Prot	Prot	NA
Protected Phases	4	4		5	5	2
Permitted Phases						
Actuated Green, G (s)	21.9	21.9			57.8	57.0
Effective Green, g (s)	21.9	21.9			57.8	57.0
Actuated g/C Ratio	0.24	0.24			0.64	0.63
Clearance Time (s)	5.3	5.3			5.0	5.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	843	808			1157	2263
v/s Ratio Prot	c0.18	0.03			c0.68	0.48
v/s Ratio Perm						
v/c Ratio	0.73	0.12			1.06	0.75
Uniform Delay, d1	31.3	26.5			16.1	11.6
Progression Factor	0.94	0.80			1.00	1.00
Incremental Delay, d2	2.7	0.1			43.7	2.4
Delay (s)	32.1	21.2			59.8	14.0
Level of Service	C	C			E	B
Approach Delay (s)		30.5				33.3
Approach LOS		C				C

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	30	130	129	461	678	0	0	682	56
Future Volume (veh/h)	0	0	0	30	130	129	461	678	0	0	682	56
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1826	1885	1885	1900	1870	0	0	1885	1900
Adj Flow Rate, veh/h				33	143	17	507	745	0	0	749	54
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				5	1	1	0	2	0	0	1	0
Cap, veh/h				192	395	176	587	2688	0	0	1998	144
Arrive On Green				0.11	0.11	0.11	0.20	1.00	0.00	0.00	0.59	0.59
Sat Flow, veh/h				1739	3582	1598	1810	3647	0	0	3482	244
Grp Volume(v), veh/h				33	143	17	507	745	0	0	396	407
Grp Sat Flow(s),veh/h/ln				1739	1791	1598	1810	1777	0	0	1791	1841
Q Serve(g_s), s				1.5	3.3	0.9	9.0	0.0	0.0	0.0	10.5	10.5
Cycle Q Clear(g_c), s				1.5	3.3	0.9	9.0	0.0	0.0	0.0	10.5	10.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				192	395	176	587	2688	0	0	1056	1086
V/C Ratio(X)				0.17	0.36	0.10	0.86	0.28	0.00	0.00	0.37	0.37
Avail Cap(c_a), veh/h				464	955	426	587	2688	0	0	1056	1086
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.98	0.98	0.98	0.35	0.35	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.3	37.1	36.0	11.7	0.0	0.0	0.0	9.7	9.7
Incr Delay (d2), s/veh				0.4	0.5	0.2	5.0	0.1	0.0	0.0	1.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.2	2.6	0.6	7.4	0.1	0.0	0.0	7.3	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.7	37.7	36.2	16.6	0.1	0.0	0.0	10.7	10.7
LnGrp LOS				D	D	D	B	A	A	A	B	B
Approach Vol, veh/h					193			1252			803	
Approach Delay, s/veh					37.4			6.8			10.7	
Approach LOS					D			A			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	59.1		15.9		74.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	9.0	39.0		24.0		54.0
Max Q Clear Time (g_c+I1), s	11.0	12.5		5.3		2.0
Green Ext Time (p_c), s	0.0	5.6		0.9		6.3

Intersection Summary	
HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	101	94	0	0	0	0	0	1071	121
Future Volume (veh/h)	0	0	0	101	94	0	0	0	0	0	1071	121
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	
Adj Sat Flow, veh/h/ln				1781	1856	0				0	1885	1856
Adj Flow Rate, veh/h				119	91	0				0	1177	128
Peak Hour Factor				0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %				8	3	0				0	1	3
Cap, veh/h				563	308	0				0	2335	253
Arrive On Green				0.17	0.17	0.00				0.00	0.72	0.72
Sat Flow, veh/h				3393	1856	0				0	3353	354
Grp Volume(v), veh/h				119	91	0				0	646	659
Grp Sat Flow(s),veh/h/ln				1697	1856	0				0	1791	1822
Q Serve(g_s), s				2.7	3.9	0.0				0.0	14.4	14.5
Cycle Q Clear(g_c), s				2.7	3.9	0.0				0.0	14.4	14.5
Prop In Lane				1.00		0.00				0.00		0.19
Lane Grp Cap(c), veh/h				563	308	0				0	1283	1305
V/C Ratio(X)				0.21	0.30	0.00				0.00	0.50	0.51
Avail Cap(c_a), veh/h				1312	717	0				0	1283	1305
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				32.5	32.9	0.0				0.0	5.7	5.7
Incr Delay (d2), s/veh				0.2	0.5	0.0				0.0	1.4	1.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				2.0	3.2	0.0				0.0	8.3	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.6	33.5	0.0				0.0	7.1	7.1
LnGrp LOS				C	C	A				A	A	A
Approach Vol, veh/h					210						1305	
Approach Delay, s/veh					33.0						7.1	
Approach LOS					C						A	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	69.9	20.1
Change Period (Y+Rc), s	5.4	* 5.2
Max Green Setting (Gmax), s	44.6	* 35
Max Q Clear Time (g_c+I1), s	16.5	5.9
Green Ext Time (p_c), s	11.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	484	0	0	0	0	0	2732	439	0	0	0
Future Volume (veh/h)	24	484	0	0	0	0	0	2732	439	0	0	0
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				
Adj Sat Flow, veh/h/ln	1900	1870	0				0	1885	1900			
Adj Flow Rate, veh/h	25	509	0				0	2876	441			
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95			
Percent Heavy Veh, %	0	2	0				0	1	0			
Cap, veh/h	343	708	0				0	3917	580			
Arrive On Green	0.19	0.19	0.00				0.00	0.68	0.68			
Sat Flow, veh/h	1810	3741	0				0	6009	851			
Grp Volume(v), veh/h	25	509	0				0	2419	898			
Grp Sat Flow(s),veh/h/ln	1810	1870	0				0	1621	1732			
Q Serve(g_s), s	1.0	11.5	0.0				0.0	28.3	30.8			
Cycle Q Clear(g_c), s	1.0	11.5	0.0				0.0	28.3	30.8			
Prop In Lane	1.00		0.00				0.00		0.49			
Lane Grp Cap(c), veh/h	343	708	0				0	3316	1181			
V/C Ratio(X)	0.07	0.72	0.00				0.00	0.73	0.76			
Avail Cap(c_a), veh/h	728	1505	0				0	3316	1181			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	30.0	34.2	0.0				0.0	9.1	9.5			
Incr Delay (d2), s/veh	0.1	1.4	0.0				0.0	1.4	4.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.8	9.0	0.0				0.0	13.4	16.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	35.6	0.0				0.0	10.5	14.1			
LnGrp LOS	C	D	A				A	B	B			
Approach Vol, veh/h		534						3317				
Approach Delay, s/veh		35.4						11.5				
Approach LOS		D						B				

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	67.2	22.8
Change Period (Y+Rc), s	* 5.8	* 5.8
Max Green Setting (Gmax), s	* 42	* 36
Max Q Clear Time (g_c+I1), s	32.8	13.5
Green Ext Time (p_c), s	9.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	770	186	0	0	0	0	1050	290	153	560	0
Future Volume (veh/h)	51	770	186	0	0	0	0	1050	290	153	560	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1885	1870				0	1885	1900	1900	1870	0
Adj Flow Rate, veh/h	54	819	48				0	1117	281	163	596	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	1	2				0	1	0	0	2	0
Cap, veh/h	69	1116	354				0	1457	363	271	2286	0
Arrive On Green	0.22	0.22	0.22				0.00	0.51	0.51	0.13	1.00	0.00
Sat Flow, veh/h	309	4992	1585				0	2934	709	1810	3647	0
Grp Volume(v), veh/h	327	546	48				0	701	697	163	596	0
Grp Sat Flow(s),veh/h/ln	1870	1716	1585				0	1791	1758	1810	1777	0
Q Serve(g_s), s	14.8	13.2	2.2				0.0	28.2	28.8	3.7	0.0	0.0
Cycle Q Clear(g_c), s	14.8	13.2	2.2				0.0	28.2	28.8	3.7	0.0	0.0
Prop In Lane	0.17		1.00				0.00		0.40	1.00		0.00
Lane Grp Cap(c), veh/h	418	767	354				0	919	901	271	2286	0
V/C Ratio(X)	0.78	0.71	0.14				0.00	0.76	0.77	0.60	0.26	0.00
Avail Cap(c_a), veh/h	499	915	423				0	919	901	337	2286	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.66	0.66	0.66				0.00	1.00	1.00	0.72	0.72	0.00
Uniform Delay (d), s/veh	32.9	32.3	28.0				0.0	17.5	17.7	15.4	0.0	0.0
Incr Delay (d2), s/veh	4.5	1.4	0.1				0.0	6.0	6.4	1.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	8.6	1.5				0.0	18.0	18.1	2.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	33.7	28.1				0.0	23.5	24.1	17.0	0.2	0.0
LnGrp LOS	D	C	C				A	C	C	B	A	A
Approach Vol, veh/h		921						1398			759	
Approach Delay, s/veh		34.7						23.8			3.8	
Approach LOS		C						C			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	11.7	52.2	26.1	63.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.6	39.0	24.0	54.0
Max Q Clear Time (g_c+I1), s	5.7	30.8	16.8	2.0
Green Ext Time (p_c), s	0.1	5.5	3.3	4.7

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	920	328	0	0	0	0	0	0	402	1014	0
Future Volume (veh/h)	0	920	328	0	0	0	0	0	0	402	1014	0
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	
Adj Sat Flow, veh/h/ln	0	1900	1885							1870	1870	0
Adj Flow Rate, veh/h	0	958	273							419	1056	0
Peak Hour Factor	0.96	0.96	0.96							0.96	0.96	0.96
Percent Heavy Veh, %	0	0	1							2	2	0
Cap, veh/h	0	1469	412							1085	3109	0
Arrive On Green	0.00	0.09	0.09							0.20	0.20	0.00
Sat Flow, veh/h	0	5700	1598							1781	5274	0
Grp Volume(v), veh/h	0	958	273							419	1056	0
Grp Sat Flow(s),veh/h/ln	0	1900	1598							1781	1702	0
Q Serve(g_s), s	0.0	14.7	14.9							18.3	16.0	0.0
Cycle Q Clear(g_c), s	0.0	14.7	14.9							18.3	16.0	0.0
Prop In Lane	0.00		1.00							1.00		0.00
Lane Grp Cap(c), veh/h	0	1469	412							1085	3109	0
V/C Ratio(X)	0.00	0.65	0.66							0.39	0.34	0.00
Avail Cap(c_a), veh/h	0	1900	533							1085	3109	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	0.68	0.68							0.85	0.85	0.00
Uniform Delay (d), s/veh	0.0	37.3	37.4							21.4	20.4	0.0
Incr Delay (d2), s/veh	0.0	0.3	1.4							0.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.2	10.0							13.4	11.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	37.6	38.8							22.3	20.7	0.0
LnGrp LOS	A	D	D							C	C	A
Approach Vol, veh/h		1231									1475	
Approach Delay, s/veh		37.9									21.1	
Approach LOS		D									C	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	60.8	29.2
Change Period (Y+Rc), s	6.0	6.0
Max Green Setting (Gmax), s	48.0	30.0
Max Q Clear Time (g_c+I1), s	20.3	16.9
Green Ext Time (p_c), s	10.5	6.3

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	782	0	0	0	0	0	1925	921	0	0	0
Future Volume (veh/h)	254	782	0	0	0	0	0	1925	921	0	0	0
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				
Adj Sat Flow, veh/h/ln	1885	1885	0				0	1885	1885			
Adj Flow Rate, veh/h	273	841	0				0	2332	748			
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93			
Percent Heavy Veh, %	1	1	0				0	1	1			
Cap, veh/h	1124	1155	0				0	3152	891			
Arrive On Green	0.11	0.11	0.00				0.00	0.56	0.56			
Sat Flow, veh/h	3483	3676	0				0	5656	1598			
Grp Volume(v), veh/h	273	841	0				0	2332	748			
Grp Sat Flow(s),veh/h/ln	1742	1791	0				0	1885	1598			
Q Serve(g_s), s	6.5	20.5	0.0				0.0	27.9	35.1			
Cycle Q Clear(g_c), s	6.5	20.5	0.0				0.0	27.9	35.1			
Prop In Lane	1.00		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	1124	1155	0				0	3152	891			
V/C Ratio(X)	0.24	0.73	0.00				0.00	0.74	0.84			
Avail Cap(c_a), veh/h	1536	1580	0				0	3152	891			
HCM Platoon Ratio	0.33	0.33	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.78	0.78	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	30.1	36.4	0.0				0.0	15.0	16.6			
Incr Delay (d2), s/veh	0.1	0.9	0.0				0.0	1.6	9.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	5.1	14.4	0.0				0.0	16.8	19.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	37.2	0.0				0.0	16.6	26.0			
LnGrp LOS	C	D	A				A	B	C			
Approach Vol, veh/h		1114						3080				
Approach Delay, s/veh		35.5						18.9				
Approach LOS		D						B				

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	55.7	34.3
Change Period (Y+Rc), s	5.5	* 5.3
Max Green Setting (Gmax), s	39.5	* 40
Max Q Clear Time (g_c+I1), s	37.1	22.5
Green Ext Time (p_c), s	2.4	6.6

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	6	478	0	0	0	0	0	213	511
Future Volume (veh/h)	0	0	0	6	478	0	0	0	0	0	213	511
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	
Adj Sat Flow, veh/h/ln				1900	1870	0				0	1870	1885
Adj Flow Rate, veh/h				6	503	0				0	224	495
Peak Hour Factor				0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %				0	2	0				0	2	1
Cap, veh/h				13	1117	0				0	1149	981
Arrive On Green				0.21	0.21	0.00				0.00	0.61	0.61
Sat Flow, veh/h				59	5381	0				0	1870	1598
Grp Volume(v), veh/h				192	317	0				0	224	495
Grp Sat Flow(s),veh/h/ln				1867	1702	0				0	1870	1598
Q Serve(g_s), s				6.3	5.7	0.0				0.0	3.7	12.1
Cycle Q Clear(g_c), s				6.3	5.7	0.0				0.0	3.7	12.1
Prop In Lane				0.03		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				400	729	0				0	1149	981
V/C Ratio(X)				0.48	0.44	0.00				0.00	0.19	0.50
Avail Cap(c_a), veh/h				507	924	0				0	1149	981
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.98	0.98	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				24.1	23.8	0.0				0.0	5.9	7.5
Incr Delay (d2), s/veh				0.9	0.4	0.0				0.0	0.4	1.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.9	4.0	0.0				0.0	2.3	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				24.9	24.2	0.0				0.0	6.3	9.4
LnGrp LOS				C	C	A				A	A	A
Approach Vol, veh/h					509						719	
Approach Delay, s/veh					24.5						8.4	
Approach LOS					C						A	

Timer - Assigned Phs	4	6
Phs Duration (G+Y+Rc), s	21.0	49.0
Change Period (Y+Rc), s	6.0	6.0
Max Green Setting (Gmax), s	19.0	39.0
Max Q Clear Time (g_c+I1), s	8.3	14.1
Green Ext Time (p_c), s	2.4	3.3

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	387	404	50	1518	0	0	0	0
Future Volume (veh/h)	0	0	0	0	387	404	50	1518	0	0	0	0
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				
Adj Sat Flow, veh/h/ln				0	1856	1885	1811	1900	0			
Adj Flow Rate, veh/h				0	425	413	55	1668	0			
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %				0	3	1	6	0	0			
Cap, veh/h				0	1586	500	111	3611	0			
Arrive On Green				0.00	0.31	0.31	0.55	0.55	0.00			
Sat Flow, veh/h				0	5233	1598	203	6855	0			
Grp Volume(v), veh/h				0	425	413	513	1210	0			
Grp Sat Flow(s),veh/h/ln				0	1689	1598	1890	1634	0			
Q Serve(g_s), s				0.0	5.7	21.6	15.1	13.3	0.0			
Cycle Q Clear(g_c), s				0.0	5.7	21.6	15.1	13.3	0.0			
Prop In Lane				0.00		1.00	0.11		0.00			
Lane Grp Cap(c), veh/h				0	1586	500	1036	2686	0			
V/C Ratio(X)				0.00	0.27	0.83	0.50	0.45	0.00			
Avail Cap(c_a), veh/h				0	2702	852	1036	2686	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	23.2	28.6	12.6	12.2	0.0			
Incr Delay (d2), s/veh				0.0	0.1	3.5	1.7	0.5	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	4.0	13.2	10.5	8.2	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	23.3	32.2	14.3	12.8	0.0			
LnGrp LOS				A	C	C	B	B	A			
Approach Vol, veh/h					838			1723				
Approach Delay, s/veh					27.6			13.2				
Approach LOS					C			B				

Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						55.8		34.2				
Change Period (Y+Rc), s						6.5		6.0				
Max Green Setting (Gmax), s						29.5		48.0				
Max Q Clear Time (g_c+I1), s						17.1		23.6				
Green Ext Time (p_c), s						8.6		4.6				

Intersection Summary		
HCM 6th Ctrl Delay	17.9	
HCM 6th LOS	B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	1322	254	69	309	6	31	345	163	6	405	20
Future Volume (veh/h)	152	1322	254	69	309	6	31	345	163	6	405	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	1363	246	71	319	5	32	356	131	6	418	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	632	1823	325	151	1063	17	191	680	246	43	468	21
Arrive On Green	0.61	0.61	0.61	0.61	0.61	0.61	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1047	2990	533	133	1743	29	952	2555	926	8	1761	79
Grp Volume(v), veh/h	157	796	813	97	0	298	32	246	241	443	0	0
Grp Sat Flow(s),veh/h/ln	1047	1763	1760	208	0	1697	952	1777	1704	1848	0	0
Q Serve(g_s), s	7.5	28.9	30.2	16.1	0.0	7.5	0.0	10.6	10.9	4.3	0.0	0.0
Cycle Q Clear(g_c), s	15.0	28.9	30.2	46.2	0.0	7.5	7.0	10.6	10.9	20.8	0.0	0.0
Prop In Lane	1.00		0.30	0.73		0.02	1.00		0.54	0.01		0.04
Lane Grp Cap(c), veh/h	632	1075	1073	196	0	1034	191	473	453	532	0	0
V/C Ratio(X)	0.25	0.74	0.76	0.50	0.00	0.29	0.17	0.52	0.53	0.83	0.00	0.00
Avail Cap(c_a), veh/h	632	1075	1073	196	0	1034	227	541	519	602	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.9	12.5	12.7	23.5	0.0	8.3	26.8	28.1	28.2	31.9	0.0	0.0
Incr Delay (d2), s/veh	0.9	4.6	5.0	8.7	0.0	0.7	0.4	0.9	1.0	8.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	16.9	17.5	4.2	0.0	4.8	1.0	8.0	7.9	15.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.8	17.1	17.8	32.2	0.0	9.0	27.2	29.0	29.2	40.7	0.0	0.0
LnGrp LOS	B	B	B	C	A	A	C	C	C	D	A	A
Approach Vol, veh/h		1766			395			519			443	
Approach Delay, s/veh		17.0			14.7			29.0			40.7	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	60.5	29.5	60.5	29.5
Change Period (Y+Rc), s	5.6	5.6	5.6	5.6
Max Green Setting (Gmax), s	51.4	27.4	51.4	27.4
Max Q Clear Time (g_c+I1), s	32.2	22.8	48.2	12.9
Green Ext Time (p_c), s	12.5	1.1	1.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2379	53	57	1039	270	0	509	133	217	206	27
Future Volume (veh/h)	0	2379	53	57	1039	270	0	509	133	217	206	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2453	53	59	1071	224	0	525	127	224	212	13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	3	3	3	0	2	2	2	2	2
Cap, veh/h	0	2200	47	80	1810	378	0	396	96	209	800	678
Arrive On Green	0.00	0.43	0.43	0.86	0.86	0.86	0.00	0.27	0.27	0.07	0.43	0.43
Sat Flow, veh/h	0	5270	110	129	4198	877	0	1455	352	1781	1870	1585
Grp Volume(v), veh/h	0	1620	886	59	861	434	0	0	652	224	212	13
Grp Sat Flow(s),veh/h/ln	0	1689	1836	129	1689	1698	0	0	1807	1781	1870	1585
Q Serve(g_s), s	0.0	38.8	38.8	0.0	6.5	6.5	0.0	0.0	24.5	6.5	6.6	0.4
Cycle Q Clear(g_c), s	0.0	38.8	38.8	38.8	6.5	6.5	0.0	0.0	24.5	6.5	6.6	0.4
Prop In Lane	0.00		0.06	1.00		0.52	0.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	0	1456	791	80	1456	732	0	0	492	209	800	678
V/C Ratio(X)	0.00	1.11	1.12	0.74	0.59	0.59	0.00	0.00	1.33	1.07	0.26	0.02
Avail Cap(c_a), veh/h	0	1456	791	80	1456	732	0	0	492	209	800	678
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.92	0.92	0.92	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	25.6	25.6	25.6	4.0	4.0	0.0	0.0	32.8	26.7	16.6	14.9
Incr Delay (d2), s/veh	0.0	61.0	70.0	42.7	1.6	3.2	0.0	0.0	160.1	83.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	38.1	43.7	3.7	2.9	3.5	0.0	0.0	48.3	12.8	5.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	86.6	95.6	68.3	5.6	7.2	0.0	0.0	192.8	109.9	16.8	14.9
LnGrp LOS	A	F	F	E	A	A	A	A	F	F	B	B
Approach Vol, veh/h		2506			1354			652			449	
Approach Delay, s/veh		89.8			8.8			192.8			63.2	
Approach LOS		F			A			F			E	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	45.0	14.0	31.0	45.0	45.0
Change Period (Y+Rc), s	* 6.2	7.5	6.5	* 6.2	6.5
Max Green Setting (Gmax), s	* 39	6.5	24.5	* 39	38.5
Max Q Clear Time (g_c+I1), s	40.8	8.5	26.5	40.8	8.6
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	78.8
HCM 6th LOS	E

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1499	1257	1185	1557	0	0	0	0	0	0	0
Future Volume (veh/h)	0	1499	1257	1185	1557	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1870	1841	1885	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1432	1132	1261	1656	0				0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	1	2	4	1	0				0	0	0
Cap, veh/h	0	2195	1846	998	4826	0				0	4	2
Arrive On Green	0.00	0.58	0.58	0.59	1.00	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	3770	3170	3401	5316	0				0	3705	1610
Grp Volume(v), veh/h	0	1432	1132	1261	1656	0				0	0	0
Grp Sat Flow(s),veh/h/ln	0	1885	1585	1700	1716	0				0	1805	1610
Q Serve(g_s), s	0.0	23.0	20.9	26.4	0.0	0.0				0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	23.0	20.9	26.4	0.0	0.0				0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h	0	2195	1846	998	4826	0				0	4	2
V/C Ratio(X)	0.00	0.65	0.61	1.26	0.34	0.00				0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2195	1846	998	4826	0				0	477	213
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.78	0.78	0.00				0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.7	12.2	18.6	0.0	0.0				0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.1	125.2	0.2	0.0				0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.2	8.0	34.0	0.1	0.0				0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.8	12.4	143.8	0.2	0.0				0.0	0.0	0.0
LnGrp LOS	A	B	B	F	A	A				A	A	A
Approach Vol, veh/h		2564			2917						0	
Approach Delay, s/veh		12.6			62.3						0.0	
Approach LOS		B			E							

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	32.0	58.0		0.0		90.0
Change Period (Y+Rc), s	5.6	5.6		6.1		5.6
Max Green Setting (Gmax), s	26.4	34.4		11.9		66.4
Max Q Clear Time (g_c+I1), s	28.4	25.0		0.0		2.0
Green Ext Time (p_c), s	0.0	8.1		0.0		21.3

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑↑	↱	↰↰↰	↑↑↱	↱			
Traffic Volume (veh/h)	0	1555	0	0	2046	20	667	98	996	0	0	0
Future Volume (veh/h)	0	1555	0	0	2046	20	667	98	996	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1885	0	0	1856	1900	1900	1856	1870			
Adj Flow Rate, veh/h	0	1654	0	0	2177	10	710	104	1017			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	1	0	0	3	0	0	3	2			
Cap, veh/h	0	2796	0	0	3468	875	1695	579	990			
Arrive On Green	0.00	0.18	0.00	0.00	0.54	0.54	0.31	0.31	0.31			
Sat Flow, veh/h	0	5486	0	0	6643	1610	5429	1856	3170			
Grp Volume(v), veh/h	0	1654	0	0	2177	10	710	104	1017			
Grp Sat Flow(s),veh/h/ln	0	1716	0	0	1596	1610	1810	1856	1585			
Q Serve(g_s), s	0.0	26.6	0.0	0.0	21.3	0.3	9.3	3.7	28.1			
Cycle Q Clear(g_c), s	0.0	26.6	0.0	0.0	21.3	0.3	9.3	3.7	28.1			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2796	0	0	3468	875	1695	579	990			
V/C Ratio(X)	0.00	0.59	0.00	0.00	0.63	0.01	0.42	0.18	1.03			
Avail Cap(c_a), veh/h	0	2796	0	0	3468	875	1695	579	990			
HCM Platoon Ratio	1.00	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.65	0.65	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	27.8	0.0	0.0	14.2	9.4	24.5	22.6	31.0			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.6	0.0	0.2	0.1	35.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	13.8	0.0	0.0	10.7	0.2	7.1	2.9	22.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	27.8	0.0	0.0	14.8	9.5	24.7	22.7	66.8			
LnGrp LOS	A	C	A	A	B	A	C	C	F			
Approach Vol, veh/h		1654			2187			1831				
Approach Delay, s/veh		27.8			14.8			47.9				
Approach LOS		C			B			D				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		55.0				55.0		35.0				
Change Period (Y+Rc), s		6.1				6.1		6.9				
Max Green Setting (Gmax), s		48.9				48.9		28.1				
Max Q Clear Time (g_c+I1), s		23.3				28.6		30.1				
Green Ext Time (p_c), s		19.4				12.5		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1863	729	0	1858	11	640	36	59	0	0	0
Future Volume (veh/h)	0	1863	729	0	1858	11	640	36	59	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1856	0	1841	1900	1870	1900	1856			
Adj Flow Rate, veh/h	0	1901	481	0	1896	11	734	0	0			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	2	3	0	4	0	2	0	3			
Cap, veh/h	0	2161	956	0	3135	18	882	470	0			
Arrive On Green	0.00	1.00	1.00	0.00	0.61	0.61	0.25	0.00	0.00			
Sat Flow, veh/h	0	3647	1572	0	5321	30	3563	1900	0			
Grp Volume(v), veh/h	0	1901	481	0	1232	675	734	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1572	0	1675	1835	1781	1900	0			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	20.5	20.5	17.6	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	20.5	20.5	17.6	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		0.02	1.00		0.00			
Lane Grp Cap(c), veh/h	0	2161	956	0	2037	1116	882	470	0			
V/C Ratio(X)	0.00	0.88	0.50	0.00	0.60	0.60	0.83	0.00	0.00			
Avail Cap(c_a), veh/h	0	2161	956	0	2037	1116	1484	792	0			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.62	0.62	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	10.9	10.9	32.1	0.0	0.0			
Incr Delay (d2), s/veh	0.0	3.5	1.2	0.0	0.5	0.9	2.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	1.9	0.6	0.0	11.2	12.2	12.1	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	3.5	1.2	0.0	11.4	11.9	34.2	0.0	0.0			
LnGrp LOS	A	A	A	A	B	B	C	A	A			
Approach Vol, veh/h		2382			1907			734				
Approach Delay, s/veh		3.1			11.6			34.2				
Approach LOS		A			B			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	61.2	28.8	61.2
Change Period (Y+Rc), s	6.5	6.5	6.5
Max Green Setting (Gmax), s	39.5	37.5	39.5
Max Q Clear Time (g_c+I1), s	2.0	19.6	22.5
Green Ext Time (p_c), s	26.1	2.7	12.1

Intersection Summary	
HCM 6th Ctrl Delay	10.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	422	0	2	218	0	0	0	15	380	23	174
Future Volume (veh/h)	0	422	0	2	218	0	0	0	15	380	23	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1900	1900	1885	0	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	444	0	2	229	0	0	0	0	417	0	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	0	588	0	38	579	0	0	2	0	543	0	242
Arrive On Green	0.00	0.17	0.00	0.17	0.17	0.00	0.00	0.00	0.00	0.15	0.00	0.15
Sat Flow, veh/h	0	3741	0	7	3587	0	0	1900	0	3619	0	1610
Grp Volume(v), veh/h	0	444	0	124	107	0	0	0	0	417	0	36
Grp Sat Flow(s),veh/h/ln	0	1777	0	1879	1630	0	0	1900	0	1810	0	1610
Q Serve(g_s), s	0.0	11.9	0.0	0.0	5.9	0.0	0.0	0.0	0.0	11.1	0.0	1.9
Cycle Q Clear(g_c), s	0.0	11.9	0.0	5.9	5.9	0.0	0.0	0.0	0.0	11.1	0.0	1.9
Prop In Lane	0.00		0.00	0.02		0.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	588	0	347	270	0	0	2	0	543	0	242
V/C Ratio(X)	0.00	0.76	0.00	0.36	0.40	0.00	0.00	0.00	0.00	0.77	0.00	0.15
Avail Cap(c_a), veh/h	0	1066	0	597	489	0	0	276	0	1393	0	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	39.8	0.0	37.3	37.3	0.0	0.0	0.0	0.0	40.8	0.0	37.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	2.8	4.3	0.0	0.0	0.0	0.0	2.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	9.1	0.0	5.3	4.8	0.0	0.0	0.0	0.0	8.8	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	41.8	0.0	40.1	41.6	0.0	0.0	0.0	0.0	43.2	0.0	37.2
LnGrp LOS	A	D	A	D	D	A	A	A	A	D	A	D
Approach Vol, veh/h		444			231			0			453	
Approach Delay, s/veh		41.8			40.8			0.0			42.7	
Approach LOS		D			D						D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	22.5	0.0	22.5	20.5
Change Period (Y+Rc), s	6.0	5.5	6.0	5.5
Max Green Setting (Gmax), s	30.0	14.5	30.0	38.5
Max Q Clear Time (g_c+I1), s	13.9	0.0	7.9	13.1
Green Ext Time (p_c), s	2.6	0.0	1.2	1.6

Intersection Summary	
HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

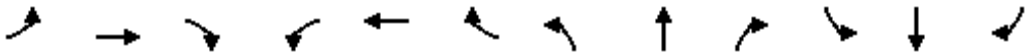
Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	753	219	0	0	228	402	0	0	0	0	0	0
Future Vol, veh/h	753	219	0	0	228	402	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	200	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	0	0	4	2	0	0	0	0	0	0
Mvmt Flow	801	233	0	0	243	428	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	243	0	-	-	-	0	1957	2078	117
Stage 1	-	-	-	-	-	-	1835	1835	-
Stage 2	-	-	-	-	-	-	122	243	-
Critical Hdwy	4.14	-	-	-	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1320	-	0	0	-	-	57	54	919
Stage 1	-	-	0	0	-	-	115	128	-
Stage 2	-	-	0	0	-	-	896	708	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1320	-	-	-	-	-	22	0	919
Mov Cap-2 Maneuver	-	-	-	-	-	-	22	0	-
Stage 1	-	-	-	-	-	-	45	0	-
Stage 2	-	-	-	-	-	-	896	0	-

Approach	EB	WB	NB
HCM Control Delay, s	9.2	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	-	1320	-	-	-
HCM Lane V/C Ratio	-	0.607	-	-	-
HCM Control Delay (s)	0	11.8	-	-	-
HCM Lane LOS	A	B	-	-	-
HCM 95th %tile Q(veh)	-	4.3	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	65	301	0	542	8	687	0	0	1070	20
Future Volume (veh/h)	42	0	65	301	0	542	8	687	0	0	1070	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1870	1900	1841	1900	1885	0	0	1870	1781
Adj Flow Rate, veh/h	43	0	6	310	0	273	8	708	0	0	1103	19
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	2	0	4	0	1	0	0	2	8
Cap, veh/h	0	0	0	297	0	265	59	2347	0	0	2410	42
Arrive On Green	0.00	0.00	0.00	0.16	0.00	0.16	0.67	0.67	0.00	0.00	0.67	0.67
Sat Flow, veh/h		0		1810	0	1610	9	3566	0	0	3668	62
Grp Volume(v), veh/h		0.0		310	0	273	382	334	0	0	548	574
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1860	1630	0	0	1777	1859
Q Serve(g_s), s				11.5	0.0	11.5	0.0	5.9	0.0	0.0	10.2	10.2
Cycle Q Clear(g_c), s				11.5	0.0	11.5	5.8	5.9	0.0	0.0	10.2	10.2
Prop In Lane				1.00		1.00	0.02		0.00	0.00		0.03
Lane Grp Cap(c), veh/h				297	0	265	1307	1099	0	0	1198	1254
V/C Ratio(X)				1.04	0.00	1.03	0.29	0.30	0.00	0.00	0.46	0.46
Avail Cap(c_a), veh/h				297	0	265	1307	1099	0	0	1198	1254
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				29.3	0.0	29.3	4.7	4.7	0.0	0.0	5.4	5.4
Incr Delay (d2), s/veh				63.8	0.0	63.9	0.6	0.7	0.0	0.0	1.3	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				15.5	0.0	14.0	3.3	3.0	0.0	0.0	5.7	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				93.0	0.0	93.1	5.2	5.4	0.0	0.0	6.6	6.6
LnGrp LOS				F	A	F	A	A	A	A	A	A
Approach Vol, veh/h					583			716			1122	
Approach Delay, s/veh					93.1			5.3			6.6	
Approach LOS					F			A			A	

Timer - Assigned Phs	2			6		8						
Phs Duration (G+Y+Rc), s	53.0			53.0		17.0						
Change Period (Y+Rc), s	* 5.8			* 5.8		5.5						
Max Green Setting (Gmax), s	* 27			* 26		11.5						
Max Q Clear Time (g_c+I1), s	7.9			12.2		13.5						
Green Ext Time (p_c), s	4.4			6.4		0.0						

Intersection Summary												
HCM 6th Ctrl Delay		27.0										
HCM 6th LOS		C										

Notes

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

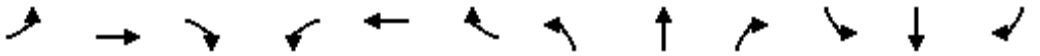
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑	↱	↰	↑↑					↱
Traffic Vol, veh/h	0	752	667	172	418	0	0	0	0	0
Future Vol, veh/h	0	752	667	172	418	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	None	-	-
Storage Length	-	-	80	220	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	1	1	0	2	0	0	0	0	0
Mvmt Flow	0	800	710	183	445	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	-	0	0	800	0	0	-	223
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.1	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	832	-	0	0	787
Stage 1	0	-	-	-	-	0	0	-
Stage 2	0	-	-	-	-	0	0	-
Platoon blocked, %		-	-		-			
Mov Cap-1 Maneuver	-	-	-	832	-	-	-	787
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay, s	0	3.1	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SELn1
Capacity (veh/h)	-	-	832	-	-
HCM Lane V/C Ratio	-	-	0.22	-	-
HCM Control Delay (s)	-	-	10.5	-	0
HCM Lane LOS	-	-	B	-	A
HCM 95th %tile Q(veh)	-	-	0.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	726	0	0	0	0	120	100	98	0	0	0
Future Volume (veh/h)	17	726	0	0	0	0	120	100	98	0	0	0
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				
Adj Sat Flow, veh/h/ln	1900	1885	0				1900	1900	1870			
Adj Flow Rate, veh/h	19	807	0				133	111	56			
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90			
Percent Heavy Veh, %	0	1	0				0	0	2			
Cap, veh/h	25	1112	0				523	437	823			
Arrive On Green	0.31	0.31	0.00				0.52	0.52	0.52			
Sat Flow, veh/h	81	3686	0				1008	841	1585			
Grp Volume(v), veh/h	443	383	0				244	0	56			
Grp Sat Flow(s),veh/h/ln	1881	1791	0				1850	0	1585			
Q Serve(g_s), s	14.9	13.2	0.0				5.1	0.0	1.2			
Cycle Q Clear(g_c), s	14.9	13.2	0.0				5.1	0.0	1.2			
Prop In Lane	0.04		0.00				0.55		1.00			
Lane Grp Cap(c), veh/h	582	554	0				960	0	823			
V/C Ratio(X)	0.76	0.69	0.00				0.25	0.00	0.07			
Avail Cap(c_a), veh/h	887	844	0				960	0	823			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				1.00	0.00	1.00			
Uniform Delay (d), s/veh	21.8	21.2	0.0				9.3	0.0	8.4			
Incr Delay (d2), s/veh	2.1	1.6	0.0				0.6	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	10.6	9.2	0.0				3.6	0.0	0.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	22.8	0.0				10.0	0.0	8.6			
LnGrp LOS	C	C	A				A	A	A			
Approach Vol, veh/h		826						300				
Approach Delay, s/veh		23.4						9.7				
Approach LOS		C						A				

Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		42.3		27.7								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		25.0		33.0								
Max Q Clear Time (g_c+I1), s		7.1		16.9								
Green Ext Time (p_c), s		1.5		4.8								

Intersection Summary												
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	517	5	1061	185	726	0	0	1185	511
Future Volume (veh/h)	0	0	0	517	5	1061	185	726	0	0	1185	511
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1500	1900	1826	1500	1826	0	0	1796	1870
Adj Flow Rate, veh/h				554	0	1056	197	772	0	0	1261	143
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				27	0	5	27	5	0	0	7	2
Cap, veh/h				1236	0	669	161	1518	0	0	896	416
Arrive On Green				0.43	0.00	0.43	0.04	0.14	0.00	0.00	0.26	0.26
Sat Flow, veh/h				2857	0	1547	1428	3561	0	0	3503	1585
Grp Volume(v), veh/h				554	0	1056	197	772	0	0	1261	143
Grp Sat Flow(s),veh/h/ln				1428	0	1547	1428	1735	0	0	1706	1585
Q Serve(g_s), s				10.9	0.0	34.6	9.0	16.4	0.0	0.0	21.0	5.9
Cycle Q Clear(g_c), s				10.9	0.0	34.6	9.0	16.4	0.0	0.0	21.0	5.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1236	0	669	161	1518	0	0	896	416
V/C Ratio(X)				0.45	0.00	1.58	1.23	0.51	0.00	0.00	1.41	0.34
Avail Cap(c_a), veh/h				1236	0	669	161	1518	0	0	896	416
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.50	0.50	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				16.0	0.0	22.7	38.5	26.3	0.0	0.0	29.5	23.9
Incr Delay (d2), s/veh				0.3	0.0	267.2	126.1	0.6	0.0	0.0	190.1	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.1	0.0	112.6	13.5	10.9	0.0	0.0	48.8	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.2	0.0	289.9	164.7	26.9	0.0	0.0	219.6	26.2
LnGrp LOS				B	A	F	F	C	A	A	F	C
Approach Vol, veh/h					1610			969			1404	
Approach Delay, s/veh					195.7			54.9			199.9	
Approach LOS					F			D			F	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	40.0	40.0	14.0	26.0
Change Period (Y+Rc), s	5.0	* 5.4	5.0	5.0
Max Green Setting (Gmax), s	35.0	* 35	9.0	21.0
Max Q Clear Time (g_c+I1), s	18.4	36.6	11.0	23.0
Green Ext Time (p_c), s	5.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	162.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	2	138	0	0	0	0	594	962	852	965	0
Future Volume (veh/h)	290	2	138	0	0	0	0	594	962	852	965	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1263				0	1752	1796	1856	1589	0
Adj Flow Rate, veh/h	309	2	32				0	632	0	906	1027	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	43				0	10	7	3	21	0
Cap, veh/h	356	19	306				0	998		596	2075	0
Arrive On Green	0.20	0.20	0.20				0.00	0.20	0.00	0.11	0.23	0.00
Sat Flow, veh/h	1781	96	1529				0	3416	1522	1767	3098	0
Grp Volume(v), veh/h	309	0	34				0	632	0	906	1027	0
Grp Sat Flow(s),veh/h/ln	1781	0	1625				0	1664	1522	1767	1509	0
Q Serve(g_s), s	13.4	0.0	1.4				0.0	13.9	0.0	27.0	23.7	0.0
Cycle Q Clear(g_c), s	13.4	0.0	1.4				0.0	13.9	0.0	27.0	23.7	0.0
Prop In Lane	1.00		0.94				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	356	0	325				0	998		596	2075	0
V/C Ratio(X)	0.87	0.00	0.10				0.00	0.63		1.52	0.49	0.00
Avail Cap(c_a), veh/h	468	0	426				0	998		596	2075	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.67	0.67	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.74	0.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	31.0	0.0	26.1				0.0	27.9	0.0	35.5	18.8	0.0
Incr Delay (d2), s/veh	12.7	0.0	0.1				0.0	2.3	0.0	234.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.1	0.0	1.0				0.0	9.5	0.0	70.7	11.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	0.0	26.3				0.0	30.2	0.0	269.9	18.9	0.0
LnGrp LOS	D	A	C				A	C		F	B	A
Approach Vol, veh/h		343						632			1933	
Approach Delay, s/veh		42.0						30.2			136.6	
Approach LOS		D						C			F	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	31.0	29.0	20.0	60.0
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5
Max Green Setting (Gmax), s	27.0	19.0	21.0	* 51
Max Q Clear Time (g_c+I1), s	29.0	15.9	15.4	25.7
Green Ext Time (p_c), s	0.0	1.3	0.6	8.5

Intersection Summary	
HCM 6th Ctrl Delay	102.3
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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	660	160	241	516	244	121	196	360	290	271	92
Future Volume (veh/h)	88	660	160	241	516	244	121	196	360	290	271	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1811	1633	1574	1604	1589	1737	1722	1693	1737	1826	1796
Adj Flow Rate, veh/h	101	759	154	277	593	100	139	225	140	333	311	24
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	26	6	18	22	20	21	11	12	14	11	5	7
Cap, veh/h	189	730	148	249	472	396	464	549	328	478	1141	500
Arrive On Green	0.07	0.26	0.26	0.11	0.29	0.29	0.08	0.28	0.28	0.04	0.11	0.11
Sat Flow, veh/h	1443	2849	578	1499	1604	1346	1654	1970	1177	1654	3469	1522
Grp Volume(v), veh/h	101	458	455	277	593	100	139	185	180	333	311	24
Grp Sat Flow(s),veh/h/ln	1443	1721	1707	1499	1604	1346	1654	1636	1510	1654	1735	1522
Q Serve(g_s), s	4.1	20.5	20.5	8.5	23.5	4.5	4.7	7.4	7.8	10.5	6.6	1.1
Cycle Q Clear(g_c), s	4.1	20.5	20.5	8.5	23.5	4.5	4.7	7.4	7.8	10.5	6.6	1.1
Prop In Lane	1.00		0.34	1.00		1.00	1.00		0.78	1.00		1.00
Lane Grp Cap(c), veh/h	189	441	437	249	472	396	464	456	421	478	1141	500
V/C Ratio(X)	0.54	1.04	1.04	1.11	1.26	0.25	0.30	0.41	0.43	0.70	0.27	0.05
Avail Cap(c_a), veh/h	243	441	437	249	472	396	546	456	421	478	1141	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	22.2	29.7	29.8	23.2	28.2	21.5	17.9	23.5	23.6	18.7	26.9	24.4
Incr Delay (d2), s/veh	2.4	53.4	53.7	90.1	132.1	0.3	0.4	2.7	3.1	3.7	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	21.4	21.3	15.1	38.9	2.5	3.2	5.5	5.5	8.4	5.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.6	83.2	83.4	113.3	160.3	21.9	18.3	26.1	26.8	22.4	27.4	24.6
LnGrp LOS	C	F	F	F	F	C	B	C	C	C	C	C
Approach Vol, veh/h		1014			970			504			668	
Approach Delay, s/veh		77.5			132.6			24.2			24.8	
Approach LOS		E			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	32.0	12.0	26.0	14.0	28.0	9.0	29.0
Change Period (Y+Rc), s	3.5	5.7	3.5	5.5	3.5	5.7	3.5	5.5
Max Green Setting (Gmax), s	10.5	22.3	8.5	20.5	10.5	22.3	8.5	20.5
Max Q Clear Time (g_c+I1), s	6.7	8.6	10.5	22.5	12.5	9.8	6.1	25.5
Green Ext Time (p_c), s	0.1	1.7	0.0	0.0	0.0	1.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	74.8
HCM 6th LOS	E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	127	591	774	128	464	542
Future Volume (vph)	127	591	774	128	464	542
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	6.0
Lane Util. Factor	0.95			0.95	0.97	1.00
Frt	0.88			1.00	1.00	0.85
Flt Protected	1.00			0.96	0.95	1.00
Satd. Flow (prot)	2946			3361	3045	1495
Flt Permitted	1.00			0.53	0.95	1.00
Satd. Flow (perm)	2946			1868	3045	1495
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	131	609	798	132	478	559
RTOR Reduction (vph)	218	0	0	0	0	442
Lane Group Flow (vph)	522	0	0	930	478	117
Heavy Vehicles (%)	0%	9%	3%	3%	15%	8%
Turn Type	NA		pm+pt	NA	Prot	Prot
Protected Phases	2		1	6	4	4
Permitted Phases			6			
Actuated Green, G (s)	51.3			51.3	16.7	16.7
Effective Green, g (s)	51.3			51.3	16.7	16.7
Actuated g/C Ratio	0.64			0.64	0.21	0.21
Clearance Time (s)	6.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1889			1197	635	312
v/s Ratio Prot	0.18				c0.16	0.08
v/s Ratio Perm				c0.50		
v/c Ratio	0.28			1.89dl	0.75	0.37
Uniform Delay, d1	6.3			10.3	29.7	27.2
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			3.2	5.0	0.8
Delay (s)	6.3			13.5	34.7	27.9
Level of Service	A			B	C	C
Approach Delay (s)	6.3			13.5	31.1	
Approach LOS	A			B	C	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	325	469	591	559	912	417
Future Volume (veh/h)	325	469	591	559	912	417
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	1752	1589	1856	1781	1841	1811
Adj Flow Rate, veh/h	346	0	629	595	970	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	10	21	3	8	4	6
Cap, veh/h	388		510	2169	2160	
Arrive On Green	0.23	0.00	0.10	0.43	0.43	0.00
Sat Flow, veh/h	1668	1346	3428	3474	5191	1535
Grp Volume(v), veh/h	346	0	629	595	970	0
Grp Sat Flow(s),veh/h/ln	1668	1346	1714	1692	1675	1535
Q Serve(g_s), s	18.1	0.0	13.4	10.2	12.3	0.0
Cycle Q Clear(g_c), s	18.1	0.0	13.4	10.2	12.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	388		510	2169	2160	
V/C Ratio(X)	0.89		1.23	0.27	0.45	
Avail Cap(c_a), veh/h	575		510	2169	2160	
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.4	0.0	40.5	12.1	18.1	0.0
Incr Delay (d2), s/veh	11.6	0.0	120.7	0.3	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.2	0.0	22.4	6.9	8.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.1	0.0	161.2	12.5	18.8	0.0
LnGrp LOS	D		F	B	B	
Approach Vol, veh/h	346			1224	970	
Approach Delay, s/veh	45.1			88.9	18.8	
Approach LOS	D			F	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		63.1		26.9	19.0	44.1
Change Period (Y+Rc), s		5.4		6.0	5.6	5.4
Max Green Setting (Gmax), s		47.6		31.0	13.4	28.6
Max Q Clear Time (g_c+I1), s		12.2		20.1	15.4	14.3
Green Ext Time (p_c), s		4.2		0.9	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	56.2
HCM 6th LOS	E

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	0	290	0	0	6	628	912	0	0	901	464
Future Volume (veh/h)	186	0	290	0	0	6	628	912	0	0	901	464
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1900	1856	1900	1900	1900	1811	1826	1900	1900	1722	1841
Adj Flow Rate, veh/h	192	0	0	0	0	0	647	940	0	0	929	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	11	0	3	0	0	0	6	5	0	0	12	4
Cap, veh/h	274	0		0	2	0	751	2746	0	80	2358	
Arrive On Green	0.08	0.00	0.00	0.00	0.00	0.00	0.22	0.79	0.00	0.00	0.17	0.00
Sat Flow, veh/h	3309	0	1572	0	1900	0	3346	3561	0	606	4701	1560
Grp Volume(v), veh/h	192	0	0	0	0	0	647	940	0	0	929	0
Grp Sat Flow(s),veh/h/ln	1654	0	1572	0	1900	0	1673	1735	0	606	1567	1560
Q Serve(g_s), s	5.1	0.0	0.0	0.0	0.0	0.0	16.7	7.0	0.0	0.0	15.9	0.0
Cycle Q Clear(g_c), s	5.1	0.0	0.0	0.0	0.0	0.0	16.7	7.0	0.0	0.0	15.9	0.0
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	274	0		0	2	0	751	2746	0	80	2358	
V/C Ratio(X)	0.70	0.00		0.00	0.00	0.00	0.86	0.34	0.00	0.00	0.39	
Avail Cap(c_a), veh/h	647	0		0	106	0	933	2746	0	80	2358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	40.2	0.0	0.0	0.0	0.0	0.0	33.6	2.7	0.0	0.0	25.3	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.0	0.0	0.0	7.0	0.3	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.9	0.0	0.0	0.0	0.0	0.0	11.8	2.9	0.0	0.0	11.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	0.0	0.0	0.0	0.0	0.0	40.5	3.0	0.0	0.0	25.8	0.0
LnGrp LOS	D	A		A	A	A	D	A	A	A	C	
Approach Vol, veh/h		192			0			1587			929	
Approach Delay, s/veh		43.4			0.0			18.3			25.8	
Approach LOS		D						B			C	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	77.1	12.9	26.1	51.0	0.0
Change Period (Y+Rc), s	5.9	5.4	5.9	5.9	6.0
Max Green Setting (Gmax), s	50.1	17.6	25.1	19.1	5.0
Max Q Clear Time (g_c+I1), s	9.0	7.1	18.7	17.9	0.0
Green Ext Time (p_c), s	8.4	0.4	1.5	0.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	85	123	112	64	0	0	0	0	59	2728	5
Future Volume (veh/h)	0	85	123	112	64	0	0	0	0	59	2728	5
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1826	1841	1633	0				1811	1856	1900
Adj Flow Rate, veh/h	0	96	135	126	72	0				66	3065	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %	0	4	5	4	18	0				6	3	0
Cap, veh/h	0	359	321	213	638	0				73	3615	7
Arrive On Green	0.00	0.21	0.21	0.21	0.21	0.00				0.69	0.69	0.69
Sat Flow, veh/h	0	1841	1560	1131	3185	0				107	5275	11
Grp Volume(v), veh/h	0	96	135	126	72	0				1146	949	1043
Grp Sat Flow(s),veh/h/ln	0	1749	1560	1131	1552	0				1850	1689	1854
Q Serve(g_s), s	0.0	5.1	8.3	12.0	2.1	0.0				56.3	44.4	44.5
Cycle Q Clear(g_c), s	0.0	5.1	8.3	20.3	2.1	0.0				56.3	44.4	44.5
Prop In Lane	0.00		1.00	1.00		0.00				0.06		0.01
Lane Grp Cap(c), veh/h	0	359	321	213	638	0				1268	1157	1270
V/C Ratio(X)	0.00	0.27	0.42	0.59	0.11	0.00				0.90	0.82	0.82
Avail Cap(c_a), veh/h	0	429	383	258	762	0				1268	1157	1270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.70	0.70	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	36.7	38.0	46.8	35.5	0.0				14.3	12.4	12.4
Incr Delay (d2), s/veh	0.0	0.4	0.9	1.8	0.1	0.0				10.7	6.5	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	4.0	5.8	6.0	1.4	0.0				32.1	23.4	25.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	37.1	38.9	48.7	35.6	0.0				25.0	19.0	18.5
LnGrp LOS	A	D	D	D	D	A				C	B	B
Approach Vol, veh/h		231			198						3137	
Approach Delay, s/veh		38.1			43.9						21.0	
Approach LOS		D			D						C	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	81.4	28.6	28.6
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	71.0	27.0	27.0
Max Q Clear Time (g_c+I1), s	58.3	10.3	22.3
Green Ext Time (p_c), s	12.3	1.2	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	186	0	0	200	85	11	902	29	0	0	0
Future Volume (veh/h)	21	186	0	0	200	85	11	902	29	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1885	0	0	1841	1900	1900	1885	1515			
Adj Flow Rate, veh/h	23	207	0	0	222	38	12	1002	29			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	1	0	0	4	0	0	1	26			
Cap, veh/h	55	331	0	0	353	60	58	5179	153			
Arrive On Green	0.24	0.24	0.00	0.00	0.12	0.12	0.26	0.26	0.26			
Sat Flow, veh/h	130	2895	0	0	3086	505	75	6700	198			
Grp Volume(v), veh/h	115	115	0	0	128	132	301	472	270			
Grp Sat Flow(s),veh/h/ln	1309	1630	0	0	1749	1750	1881	1621	1849			
Q Serve(g_s), s	2.0	6.9	0.0	0.0	7.7	7.9	13.8	12.5	12.6			
Cycle Q Clear(g_c), s	9.9	6.9	0.0	0.0	7.7	7.9	13.8	12.5	12.6			
Prop In Lane	0.20		0.00	0.00		0.29	0.04		0.11			
Lane Grp Cap(c), veh/h	194	192	0	0	206	206	1454	2506	1430			
V/C Ratio(X)	0.59	0.60	0.00	0.00	0.62	0.64	0.21	0.19	0.19			
Avail Cap(c_a), veh/h	406	400	0	0	429	430	1454	2506	1430			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33			
Upstream Filter(I)	0.89	0.89	0.00	0.00	1.00	1.00	0.94	0.94	0.94			
Uniform Delay (d), s/veh	40.1	39.7	0.0	0.0	46.2	46.3	14.5	14.0	14.0			
Incr Delay (d2), s/veh	2.5	2.7	0.0	0.0	3.0	3.3	0.3	0.2	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	5.0	4.9	0.0	0.0	6.3	6.5	11.3	9.2	10.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	42.4	0.0	0.0	49.2	49.5	14.8	14.1	14.3			
LnGrp LOS	D	D	A	A	D	D	B	B	B			
Approach Vol, veh/h		230			260			1043				
Approach Delay, s/veh		42.5			49.4			14.3				
Approach LOS		D			D			B				

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	91.0	19.0	19.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	71.0	27.0	27.0
Max Q Clear Time (g_c+I1), s	15.8	11.9	9.9
Green Ext Time (p_c), s	8.5	1.1	1.3

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	224	2	33	70	0	0	0	0	522	688	120
Future Volume (veh/h)	0	224	2	33	70	0	0	0	0	522	688	120
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1752	1900	1826	1870	0				1900	1885	1796
Adj Flow Rate, veh/h	0	238	1	35	74	0				555	732	59
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	10	0	5	2	0				0	1	7
Cap, veh/h	0	1568	7	571	1639	0				696	1377	585
Arrive On Green	0.00	0.46	0.46	0.46	0.46	0.00				0.38	0.38	0.38
Sat Flow, veh/h	0	3487	14	1114	3647	0				1810	3582	1522
Grp Volume(v), veh/h	0	116	123	35	74	0				555	732	59
Grp Sat Flow(s),veh/h/ln	0	1664	1749	1114	1777	0				1810	1791	1522
Q Serve(g_s), s	0.0	2.8	2.8	1.3	0.8	0.0				19.1	11.1	1.7
Cycle Q Clear(g_c), s	0.0	2.8	2.8	4.2	0.8	0.0				19.1	11.1	1.7
Prop In Lane	0.00		0.01	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	768	807	571	1639	0				696	1377	585
V/C Ratio(X)	0.00	0.15	0.15	0.06	0.05	0.00				0.80	0.53	0.10
Avail Cap(c_a), veh/h	0	768	807	571	1639	0				871	1724	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.73	0.99	0.99	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	10.9	10.9	12.1	10.4	0.0				19.1	16.7	13.8
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.2	0.1	0.0				4.2	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	1.7	1.8	0.6	0.5	0.0				12.7	7.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.0	11.0	12.3	10.4	0.0				23.3	17.0	13.9
LnGrp LOS	A	B	B	B	B	A				C	B	B
Approach Vol, veh/h		239			109						1346	
Approach Delay, s/veh		11.0			11.0						19.5	
Approach LOS		B			B						B	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	37.8	32.2	37.8
Change Period (Y+Rc), s	5.5	* 5.3	5.5
Max Green Setting (Gmax), s	25.5	* 34	25.5
Max Q Clear Time (g_c+I1), s	6.2	21.1	4.8
Green Ext Time (p_c), s	0.5	5.9	1.3

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	731	0	0	309	35	3	139	14	0	0	0
Future Volume (veh/h)	58	731	0	0	309	35	3	139	14	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1544	1885	0	0	1870	1618	1900	1811	1900			
Adj Flow Rate, veh/h	67	850	0	0	359	32	3	162	2			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86			
Percent Heavy Veh, %	24	1	0	0	2	19	0	6	0			
Cap, veh/h	185	2232	0	0	2321	206	12	717	230			
Arrive On Green	0.70	0.70	0.00	0.00	0.70	0.70	0.14	0.14	0.14			
Sat Flow, veh/h	180	3261	0	0	3395	293	87	5016	1610			
Grp Volume(v), veh/h	473	444	0	0	192	199	62	103	2			
Grp Sat Flow(s),veh/h/ln	1726	1630	0	0	1777	1818	1807	1648	1610			
Q Serve(g_s), s	0.0	7.8	0.0	0.0	2.5	2.6	2.1	1.9	0.1			
Cycle Q Clear(g_c), s	7.0	7.8	0.0	0.0	2.5	2.6	2.1	1.9	0.1			
Prop In Lane	0.14		0.00	0.00		0.16	0.05		1.00			
Lane Grp Cap(c), veh/h	1272	1145	0	0	1249	1278	258	471	230			
V/C Ratio(X)	0.37	0.39	0.00	0.00	0.15	0.16	0.24	0.22	0.01			
Avail Cap(c_a), veh/h	1272	1145	0	0	1249	1278	586	1069	522			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.85	0.85	0.00	0.00	0.96	0.96	1.00	1.00	1.00			
Uniform Delay (d), s/veh	4.1	4.2	0.0	0.0	3.5	3.5	26.6	26.5	25.7			
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.0	0.3	0.2	0.5	0.2	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.4	3.3	0.0	0.0	1.3	1.3	1.7	1.3	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.3	4.4	0.0	0.0	3.7	3.7	27.1	26.8	25.8			
LnGrp LOS	A	A	A	A	A	A	C	C	C			
Approach Vol, veh/h		917			391			167				
Approach Delay, s/veh		4.4			3.7			26.9				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		54.7				54.7		15.3				
Change Period (Y+Rc), s		5.5				5.5		5.3				
Max Green Setting (Gmax), s		36.5				36.5		22.7				
Max Q Clear Time (g_c+I1), s		4.6				9.8		4.1				
Green Ext Time (p_c), s		2.5				6.8		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			6.7									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	595	120	62	130	109	18	132	65	41	61	17
Future Volume (veh/h)	21	595	120	62	130	109	18	132	65	41	61	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1826	1826	1856	1900	1826	1856	1841	1900	1900
Adj Flow Rate, veh/h	21	601	99	63	131	33	18	133	38	41	62	10
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	1	0	5	5	3	0	5	3	4	0	0
Cap, veh/h	57	893	145	167	476	474	190	1332	371	593	1007	171
Arrive On Green	0.30	0.30	0.30	0.10	0.10	0.10	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	50	2958	479	290	1578	1572	253	2357	656	928	1782	303
Grp Volume(v), veh/h	385	0	336	63	131	33	100	0	89	58	0	55
Grp Sat Flow(s),veh/h/ln	1859	0	1629	290	1578	1572	1723	0	1543	1339	0	1674
Q Serve(g_s), s	2.6	0.0	16.4	7.7	6.9	1.7	0.0	0.0	2.4	0.6	0.0	1.3
Cycle Q Clear(g_c), s	16.2	0.0	16.4	24.1	6.9	1.7	2.3	0.0	2.4	3.0	0.0	1.3
Prop In Lane	0.05		0.29	1.00		1.00	0.18		0.43	0.71		0.18
Lane Grp Cap(c), veh/h	603	0	492	167	476	474	1020	0	872	825	0	946
V/C Ratio(X)	0.64	0.00	0.68	0.38	0.28	0.07	0.10	0.00	0.10	0.07	0.00	0.06
Avail Cap(c_a), veh/h	844	0	706	263	684	681	1020	0	872	825	0	946
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.00	0.92	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	0.0	27.7	47.2	31.4	29.1	9.0	0.0	9.0	9.1	0.0	8.8
Incr Delay (d2), s/veh	1.0	0.0	1.6	1.3	0.3	0.1	0.2	0.0	0.2	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	0.0	10.4	2.8	5.0	1.2	1.6	0.0	1.5	1.0	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	0.0	29.2	48.5	31.7	29.1	9.2	0.0	9.3	9.2	0.0	8.9
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		721			227			189			113	
Approach Delay, s/veh		28.9			36.0			9.2			9.1	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	56.8	33.2	56.8	33.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	39.0	39.0	39.0	39.0
Max Q Clear Time (g_c+I1), s	4.4	18.4	5.0	26.1
Green Ext Time (p_c), s	1.1	4.6	0.6	1.1

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	257	434	505	139	20	117	165	189	95	1268	42
Future Volume (veh/h)	9	257	434	505	139	20	117	165	189	95	1268	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1885	1885	1826	1900	1856	1870	1870	1900	1885	1900
Adj Flow Rate, veh/h	9	271	354	532	146	16	123	174	56	100	1335	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	1	1	5	0	3	2	2	0	1	0
Cap, veh/h	20	368	328	602	621	68	274	2068	876	778	1935	59
Arrive On Green	0.00	0.07	0.07	0.17	0.38	0.38	0.05	0.55	0.55	0.04	0.55	0.55
Sat Flow, veh/h	1810	1763	1572	3483	1617	177	1767	3741	1585	1810	3548	109
Grp Volume(v), veh/h	9	271	354	532	0	162	123	174	56	100	673	703
Grp Sat Flow(s),veh/h/ln	1810	1763	1572	1742	0	1794	1767	1870	1585	1810	1791	1866
Q Serve(g_s), s	0.4	13.6	18.8	13.4	0.0	5.5	2.7	2.0	1.2	2.2	24.6	24.7
Cycle Q Clear(g_c), s	0.4	13.6	18.8	13.4	0.0	5.5	2.7	2.0	1.2	2.2	24.6	24.7
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	20	368	328	602	0	689	274	2068	876	778	977	1018
V/C Ratio(X)	0.44	0.74	1.08	0.88	0.00	0.24	0.45	0.08	0.06	0.13	0.69	0.69
Avail Cap(c_a), veh/h	121	368	328	619	0	689	284	2068	876	801	977	1018
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.37	0.00	0.37	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	39.5	41.9	36.3	0.0	18.8	12.9	9.4	6.6	8.1	14.9	14.9
Incr Delay (d2), s/veh	9.0	4.7	61.4	5.9	0.0	0.1	1.1	0.1	0.1	0.1	4.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	10.2	19.0	8.5	0.0	3.7	1.9	1.4	0.9	1.4	15.5	16.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	44.1	103.3	42.2	0.0	18.8	14.0	9.5	6.7	8.2	18.9	18.8
LnGrp LOS	D	D	F	D	A	B	B	A	A	A	B	B
Approach Vol, veh/h		634			694			353			1476	
Approach Delay, s/veh		77.3			36.7			10.6			18.1	
Approach LOS		E			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	55.8	21.8	25.0	9.5	55.1	6.0	40.8
Change Period (Y+Rc), s	5.0	6.0	* 6.2	* 6.2	5.0	6.0	5.0	* 6.2
Max Green Setting (Gmax), s	5.8	28.0	* 16	* 19	5.0	28.0	6.0	* 29
Max Q Clear Time (g_c+I1), s	4.2	4.0	15.4	20.8	4.7	26.7	2.4	7.5
Green Ext Time (p_c), s	0.0	1.2	0.1	0.0	0.0	1.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	235	319	73	457	0	0	0	0	33	1421	238
Future Volume (veh/h)	0	235	319	73	457	0	0	0	0	33	1421	238
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1856	1885	1870	1900	0				1900	1885	1856
Adj Flow Rate, veh/h	0	245	303	76	476	0				34	1480	248
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	3	1	2	0	0				0	1	3
Cap, veh/h	0	509	454	94	671	0				1035	2541	425
Arrive On Green	0.00	0.10	0.10	0.29	0.29	0.00				0.57	0.57	0.57
Sat Flow, veh/h	0	1856	1572	146	2410	0				1810	4440	743
Grp Volume(v), veh/h	0	245	303	261	291	0				34	1143	585
Grp Sat Flow(s),veh/h/ln	0	1763	1572	827	1643	0				1810	1716	1752
Q Serve(g_s), s	0.0	11.9	16.8	9.2	13.8	0.0				0.7	19.2	19.3
Cycle Q Clear(g_c), s	0.0	11.9	16.8	26.0	13.8	0.0				0.7	19.2	19.3
Prop In Lane	0.00		1.00	0.29		0.00				1.00		0.42
Lane Grp Cap(c), veh/h	0	509	454	291	475	0				1035	1963	1002
V/C Ratio(X)	0.00	0.48	0.67	0.90	0.61	0.00				0.03	0.58	0.58
Avail Cap(c_a), veh/h	0	509	454	291	475	0				1035	1963	1002
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.54	0.54	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	34.3	36.5	33.9	27.6	0.0				8.4	12.3	12.4
Incr Delay (d2), s/veh	0.0	0.4	2.0	28.6	2.3	0.0				0.1	1.3	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.5	10.5	12.7	9.4	0.0				0.5	11.4	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.7	38.5	62.5	30.0	0.0				8.5	13.6	14.8
LnGrp LOS	A	C	D	E	C	A				A	B	B
Approach Vol, veh/h		548			552						1762	
Approach Delay, s/veh		36.8			45.4						13.9	
Approach LOS		D			D						B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	58.0	32.0	32.0
Change Period (Y+Rc), s	6.5	6.0	6.0
Max Green Setting (Gmax), s	51.5	26.0	26.0
Max Q Clear Time (g_c+I1), s	21.3	18.8	28.0
Green Ext Time (p_c), s	16.3	2.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	182	318	0	0	0	0	0	2415	583
Future Volume (veh/h)	0	0	0	182	318	0	0	0	0	0	2415	583
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	
Adj Sat Flow, veh/h/ln				1530	1737	0				0	1870	1856
Adj Flow Rate, veh/h				179	365	0				0	2597	0
Peak Hour Factor				0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %				25	11	0				0	2	3
Cap, veh/h				437	1042	0				0	1777	
Arrive On Green				0.10	0.10	0.00				0.00	0.17	0.00
Sat Flow, veh/h				1457	3474	0				0	3647	1572
Grp Volume(v), veh/h				179	365	0				0	2597	0
Grp Sat Flow(s),veh/h/ln				1457	1737	0				0	1777	1572
Q Serve(g_s), s				6.3	5.4	0.0				0.0	27.5	0.0
Cycle Q Clear(g_c), s				6.3	5.4	0.0				0.0	27.5	0.0
Prop In Lane				1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				437	1042	0				0	1777	
V/C Ratio(X)				0.41	0.35	0.00				0.00	1.46	
Avail Cap(c_a), veh/h				437	1042	0				0	1777	
HCM Platoon Ratio				0.33	0.33	1.00				1.00	0.33	0.33
Upstream Filter(I)				0.94	0.94	0.00				0.00	0.41	0.00
Uniform Delay (d), s/veh				20.2	19.8	0.0				0.0	23.0	0.0
Incr Delay (d2), s/veh				2.7	0.9	0.0				0.0	209.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.4	4.0	0.0				0.0	93.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.9	20.6	0.0				0.0	232.0	0.0
LnGrp LOS				C	C	A				A	F	
Approach Vol, veh/h					544						2597	
Approach Delay, s/veh					21.4						232.0	
Approach LOS					C						F	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	22.0	33.0
Change Period (Y+Rc), s	5.5	5.5
Max Green Setting (Gmax), s	16.5	27.5
Max Q Clear Time (g_c+I1), s	8.3	29.5
Green Ext Time (p_c), s	1.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	195.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	172	304	312	654	0	0	0	0
Future Volume (veh/h)	0	0	0	0	172	304	312	654	0	0	0	0
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				
Adj Sat Flow, veh/h/ln				0	1530	1841	1781	1856	0			
Adj Flow Rate, veh/h				0	176	192	318	667	0			
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %				0	25	4	8	3	0			
Cap, veh/h				0	794	1425	477	1423	0			
Arrive On Green				0.00	0.52	0.52	0.28	0.28	0.00			
Sat Flow, veh/h				0	1530	2745	1697	5233	0			
Grp Volume(v), veh/h				0	176	192	318	667	0			
Grp Sat Flow(s),veh/h/ln				0	1530	1373	1697	1689	0			
Q Serve(g_s), s				0.0	3.4	2.0	9.1	6.0	0.0			
Cycle Q Clear(g_c), s				0.0	3.4	2.0	9.1	6.0	0.0			
Prop In Lane				0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h				0	794	1425	477	1423	0			
V/C Ratio(X)				0.00	0.22	0.13	0.67	0.47	0.00			
Avail Cap(c_a), veh/h				0	794	1425	694	2072	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.75	0.75	0.00			
Uniform Delay (d), s/veh				0.0	7.2	6.8	17.5	16.4	0.0			
Incr Delay (d2), s/veh				0.0	0.6	0.2	1.2	0.2	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	1.8	0.9	5.9	3.8	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	7.8	7.0	18.7	16.6	0.0			
LnGrp LOS				A	A	A	B	B	A			
Approach Vol, veh/h					368			985				
Approach Delay, s/veh					7.4			17.3				
Approach LOS					A			B				
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						34.0		21.0				
Change Period (Y+Rc), s						5.5		5.5				
Max Green Setting (Gmax), s						21.5		22.5				
Max Q Clear Time (g_c+I1), s						5.4		11.1				
Green Ext Time (p_c), s						1.6		4.3				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	110	117	0	0	0	0	0	0	806	1623	0
Future Volume (veh/h)	0	110	117	0	0	0	0	0	0	806	1623	0
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	
Adj Sat Flow, veh/h/ln	0	1885	1781							1885	1796	0
Adj Flow Rate, veh/h	0	112	0							822	1656	0
Peak Hour Factor	0.98	0.98	0.98							0.98	0.98	0.98
Percent Heavy Veh, %	0	1	8							1	7	0
Cap, veh/h	0	1151								1019	1936	0
Arrive On Green	0.00	0.22	0.00							0.19	0.19	0.00
Sat Flow, veh/h	0	5316	1510							1795	3503	0
Grp Volume(v), veh/h	0	112	0							822	1656	0
Grp Sat Flow(s),veh/h/ln	0	1716	1510							1795	1706	0
Q Serve(g_s), s	0.0	1.0	0.0							24.1	25.8	0.0
Cycle Q Clear(g_c), s	0.0	1.0	0.0							24.1	25.8	0.0
Prop In Lane	0.00		1.00							1.00		0.00
Lane Grp Cap(c), veh/h	0	1151								1019	1936	0
V/C Ratio(X)	0.00	0.10								0.81	0.86	0.00
Avail Cap(c_a), veh/h	0	1151								1028	1955	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	0.00							0.09	0.09	0.00
Uniform Delay (d), s/veh	0.0	16.9	0.0							19.5	20.2	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0							0.5	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.7	0.0							12.9	13.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.1	0.0							19.9	20.5	0.0
LnGrp LOS	A	B								B	C	A
Approach Vol, veh/h		112									2478	
Approach Delay, s/veh		17.1									20.3	
Approach LOS		B									C	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	18.3	36.7
Change Period (Y+Rc), s	6.0	5.5
Max Green Setting (Gmax), s	12.0	31.5
Max Q Clear Time (g_c+I1), s	3.0	27.8
Green Ext Time (p_c), s	0.3	3.4

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

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



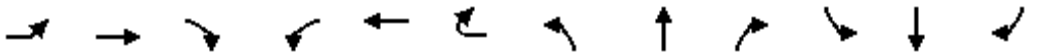
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	1111	0	0	0	0	0	740	549	0	0	0
Future Volume (veh/h)	179	1111	0	0	0	0	0	740	549	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1811	1885	0				0	1781	1767			
Adj Flow Rate, veh/h	195	1208	0				0	804	0			
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92			
Percent Heavy Veh, %	6	1	0				0	8	9			
Cap, veh/h	1971	1110	0				0	1027				
Arrive On Green	0.19	0.19	0.00				0.00	0.21	0.00			
Sat Flow, veh/h	3346	1885	0				0	5024	1497			
Grp Volume(v), veh/h	195	1208	0				0	804	0			
Grp Sat Flow(s),veh/h/ln	1673	1885	0				0	1621	1497			
Q Serve(g_s), s	2.6	32.4	0.0				0.0	8.6	0.0			
Cycle Q Clear(g_c), s	2.6	32.4	0.0				0.0	8.6	0.0			
Prop In Lane	1.00		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	1971	1110	0				0	1027				
V/C Ratio(X)	0.10	1.09	0.00				0.00	0.78				
Avail Cap(c_a), veh/h	1971	1110	0				0	1105				
HCM Platoon Ratio	0.33	0.33	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.81	0.81	0.00				0.00	0.53	0.00			
Uniform Delay (d), s/veh	10.2	22.2	0.0				0.0	20.5	0.0			
Incr Delay (d2), s/veh	0.1	52.0	0.0				0.0	1.9	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.4	43.0	0.0				0.0	5.2	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	74.2	0.0				0.0	22.4	0.0			
LnGrp LOS	B	F	A				A	C				
Approach Vol, veh/h		1403						804				
Approach Delay, s/veh		65.3						22.4				
Approach LOS		E						C				

Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						37.9		17.1				
Change Period (Y+Rc), s						5.5		5.5				
Max Green Setting (Gmax), s						31.5		12.5				
Max Q Clear Time (g_c+I1), s						34.4		10.6				
Green Ext Time (p_c), s						0.0		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			49.6									
HCM 6th LOS			D									

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	431	731	176	166	262	253	71	499	115	370	1266	42
Future Volume (vph)	431	731	176	166	262	253	71	499	115	370	1266	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.5	5.0	5.0	6.5	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1719	3505	1538	1719	3312	1599	1467	3252	1615	1805	3438	1495
Flt Permitted	0.36	1.00	1.00	0.36	1.00	1.00	0.15	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	649	3505	1538	652	3312	1599	231	3252	1615	496	3438	1495
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	454	769	185	175	276	266	75	525	121	389	1333	44
RTOR Reduction (vph)	0	0	131	0	0	235	0	0	112	0	0	33
Lane Group Flow (vph)	454	769	54	175	276	31	75	525	9	389	1333	11
Heavy Vehicles (%)	5%	3%	5%	5%	9%	1%	23%	11%	0%	0%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Over	pm+pt	NA	custom
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)	44.1	31.1	31.1	20.8	12.8	12.8	34.1	26.7	8.0	52.7	40.3	26.3
Effective Green, g (s)	44.1	31.1	31.1	20.8	12.8	12.8	34.1	26.7	8.0	52.7	40.3	26.3
Actuated g/C Ratio	0.40	0.28	0.28	0.19	0.12	0.12	0.31	0.24	0.07	0.48	0.37	0.24
Clearance Time (s)	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.5	5.0	5.0	6.5	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	516	990	434	200	385	186	154	789	117	487	1259	357
v/s Ratio Prot	c0.21	0.22		0.06	0.08		0.03	0.16	0.01	c0.15	c0.39	0.01
v/s Ratio Perm	c0.14		0.03	0.10		0.02	0.12			0.23		
v/c Ratio	0.88	0.78	0.12	0.88	0.72	0.17	0.49	0.67	0.08	0.80	1.06	0.03
Uniform Delay, d1	27.2	36.3	29.3	40.7	46.9	43.8	30.1	37.6	47.6	20.5	34.9	32.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.11	1.10	1.00
Incremental Delay, d2	15.7	3.9	0.1	31.9	6.3	0.4	2.4	4.4	0.3	6.0	38.1	0.0
Delay (s)	42.9	40.1	29.5	72.5	53.1	44.2	32.5	42.0	47.8	28.7	76.4	32.1
Level of Service	D	D	C	E	D	D	C	D	D	C	E	C
Approach Delay (s)		39.6			54.5			42.0			64.8	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	23.2
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	1	171	35	0	14	45	1639	54	6	2039	17
Future Volume (veh/h)	31	1	171	35	0	14	45	1639	54	6	2039	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1856	1841	1900	1752	1752	1885	1900	1900	1870	1900
Adj Flow Rate, veh/h	33	1	18	38	0	0	48	1762	57	6	2192	12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	3	4	0	10	10	1	0	0	2	0
Cap, veh/h	217	7	127	186	0	0	59	2582	83	11	2486	1127
Arrive On Green	0.08	0.08	0.08	0.08	0.00	0.00	0.04	0.73	0.73	0.01	0.70	0.70
Sat Flow, veh/h	1440	85	1538	1229	0	0	1668	3541	114	1810	3554	1610
Grp Volume(v), veh/h	33	0	19	38	0	0	48	887	932	6	2192	12
Grp Sat Flow(s),veh/h/ln	1440	0	1623	1229	0	0	1668	1791	1865	1810	1777	1610
Q Serve(g_s), s	0.0	0.0	0.9	2.2	0.0	0.0	2.4	22.6	23.0	0.3	41.1	0.2
Cycle Q Clear(g_c), s	1.4	0.0	0.9	3.1	0.0	0.0	2.4	22.6	23.0	0.3	41.1	0.2
Prop In Lane	1.00		0.95	1.00		0.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	217	0	134	186	0	0	59	1306	1359	11	2486	1127
V/C Ratio(X)	0.15	0.00	0.14	0.20	0.00	0.00	0.81	0.68	0.69	0.53	0.88	0.01
Avail Cap(c_a), veh/h	429	0	372	394	0	0	239	1306	1359	260	2486	1127
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.69	0.69	0.69	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	0.0	36.2	37.7	0.0	0.0	40.7	6.2	6.2	42.1	10.0	3.9
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.5	0.0	0.0	16.0	2.0	2.0	34.0	4.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	0.0	0.7	1.4	0.0	0.0	2.2	10.5	11.0	0.4	19.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	0.0	36.7	38.2	0.0	0.0	56.7	8.2	8.2	76.1	14.9	3.9
LnGrp LOS	D	A	D	D	A	A	E	A	A	E	B	A
Approach Vol, veh/h		52			38			1867			2210	
Approach Delay, s/veh		36.7			38.2			9.4			15.0	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	67.2		12.5	7.8	64.7		12.5
Change Period (Y+Rc), s	* 4.8	5.2		5.5	* 4.8	5.2		5.5
Max Green Setting (Gmax), s	* 12	37.8		19.5	* 12	37.8		19.5
Max Q Clear Time (g_c+I1), s	2.3	25.0		5.1	4.4	43.1		3.4
Green Ext Time (p_c), s	0.0	9.8		0.1	0.0	0.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

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



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Traffic Volume (veh/h)	336	0	375	0	1166	489	0	901	866	0	0
Future Volume (veh/h)	336	0	375	0	1166	489	0	901	866	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1826	0	1856	1781	0	1870	1796		
Adj Flow Rate, veh/h	357	357	0	0	1240	0	0	959	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	5	0	3	8	0	2	7		
Cap, veh/h	404	404		0	2276		0	2294			
Arrive On Green	0.23	0.23	0.00	0.00	0.65	0.00	0.00	0.65	0.00		
Sat Flow, veh/h	1781	1781	1547	0	3618	1510	0	3647	1522		
Grp Volume(v), veh/h	357	357	0	0	1240	0	0	959	0		
Grp Sat Flow(s),veh/h/ln	1781	1781	1547	0	1763	1510	0	1777	1522		
Q Serve(g_s), s	17.4	17.4	0.0	0.0	17.3	0.0	0.0	11.8	0.0		
Cycle Q Clear(g_c), s	17.4	17.4	0.0	0.0	17.3	0.0	0.0	11.8	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	404	404		0	2276		0	2294			
V/C Ratio(X)	0.88	0.88		0.00	0.54		0.00	0.42			
Avail Cap(c_a), veh/h	673	673		0	2276		0	2294			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.28	0.00		
Uniform Delay (d), s/veh	33.7	33.7	0.0	0.0	8.7	0.0	0.0	7.7	0.0		
Incr Delay (d2), s/veh	7.8	7.8	0.0	0.0	0.9	0.0	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	12.9	12.9	0.0	0.0	10.0	0.0	0.0	5.7	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	41.5	41.5	0.0	0.0	9.7	0.0	0.0	7.9	0.0		
LnGrp LOS	D	D		A	A		A	A			
Approach Vol, veh/h	357	357			1240			959			
Approach Delay, s/veh	41.5	41.5			9.7			7.9			
Approach LOS	D	D			A			A			

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	63.6	63.6	26.4
Change Period (Y+Rc), s	5.5	5.5	6.0
Max Green Setting (Gmax), s	44.5	44.5	34.0
Max Q Clear Time (g_c+I1), s	19.3	13.8	19.4
Green Ext Time (p_c), s	10.6	8.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

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

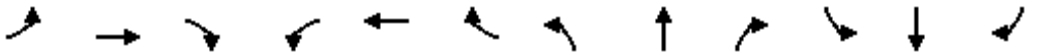
Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↱			↱		↑↑	↱	↰	↑↑	
Traffic Vol, veh/h	0	0	388	0	0	782	0	864	582	417	783	0
Future Vol, veh/h	0	0	388	0	0	782	0	864	582	417	783	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	0	-	-	0	-	-	300	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	6	0	0	4	0	4	1	2	2	0
Mvmt Flow	0	0	426	0	0	859	0	949	640	458	860	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	-	-	430	-	0	0	949	0	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	562	0	-	-	719	-	0
Stage 1	0	0	-	0	-	-	-	-	0
Stage 2	0	0	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	562	-	-	-	719	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.8	0	6.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	562	719	-
HCM Lane V/C Ratio	-	-	0.759	0.637	-
HCM Control Delay (s)	-	-	28.8	18.4	-
HCM Lane LOS	-	-	D	C	-
HCM 95th %tile Q(veh)	-	-	6.7	4.6	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	376	47	36	9	34	128	14	913	12	93	907	175
Future Volume (veh/h)	376	47	36	9	34	128	14	913	12	93	907	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1900	1693	1781	1796	1767	1870	1900	1633	1870	1796
Adj Flow Rate, veh/h	418	52	36	10	38	104	16	1014	12	103	1008	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	0	14	8	7	9	2	0	18	2	7
Cap, veh/h	477	48	33	682	174	478	61	1432	17	184	1472	
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.00
Sat Flow, veh/h	924	115	80	1185	421	1153	20	3458	41	480	3554	1522
Grp Volume(v), veh/h	506	0	0	10	0	142	541	0	501	103	1008	0
Grp Sat Flow(s),veh/h/ln	1119	0	0	1185	0	1574	1823	0	1695	480	1777	1522
Q Serve(g_s), s	24.9	0.0	0.0	0.0	0.0	4.1	0.0	0.0	17.2	11.8	16.2	0.0
Cycle Q Clear(g_c), s	29.0	0.0	0.0	0.3	0.0	4.1	16.7	0.0	17.2	29.0	16.2	0.0
Prop In Lane	0.83		0.07	1.00		0.73	0.03		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	557	0	0	682	0	652	808	0	702	184	1472	
V/C Ratio(X)	0.91	0.00	0.00	0.01	0.00	0.22	0.67	0.00	0.71	0.56	0.68	
Avail Cap(c_a), veh/h	557	0	0	682	0	652	808	0	702	184	1472	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.6	0.0	0.0	12.1	0.0	13.2	16.9	0.0	17.1	30.4	16.8	0.0
Incr Delay (d2), s/veh	18.8	0.0	0.0	0.0	0.0	0.2	4.4	0.0	6.1	11.8	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.3	0.0	0.0	0.2	0.0	2.4	11.9	0.0	11.6	4.1	10.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.3	0.0	0.0	12.1	0.0	13.4	21.3	0.0	23.2	42.2	19.4	0.0
LnGrp LOS	D	A	A	B	A	B	C	A	C	D	B	
Approach Vol, veh/h		506			152			1042			1111	
Approach Delay, s/veh		42.3			13.3			22.2			21.5	
Approach LOS		D			B			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0		35.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		29.0		29.0		29.0		29.0				
Max Q Clear Time (g_c+I1), s		31.0		31.0		19.2		6.1				
Green Ext Time (p_c), s		0.0		0.0		4.8		0.8				

Intersection Summary		
HCM 6th Ctrl Delay		25.1
HCM 6th LOS		C

Notes

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



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Traffic Volume (veh/h)	704	0	659	0	1655	333	0	1270	770	0	0
Future Volume (veh/h)	704	0	659	0	1655	333	0	1270	770	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1856	1856	1811	0	1841	1856	0	1870	1841		
Adj Flow Rate, veh/h	749	749	0	0	1761	0	0	1351	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	3	3	6	0	4	3	0	2	4		
Cap, veh/h	883	883		0	3168		0	3219			
Arrive On Green	0.26	0.26	0.00	0.00	0.21	0.00	0.00	0.63	0.00		
Sat Flow, veh/h	3428	3428	1535	0	5191	1572	0	5274	1560		
Grp Volume(v), veh/h	749	749	0	0	1761	0	0	1351	0		
Grp Sat Flow(s),veh/h/ln	1714	1714	1535	0	1675	1572	0	1702	1560		
Q Serve(g_s), s	20.8	20.8	0.0	0.0	31.4	0.0	0.0	13.3	0.0		
Cycle Q Clear(g_c), s	20.8	20.8	0.0	0.0	31.4	0.0	0.0	13.3	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	883	883		0	3168		0	3219			
V/C Ratio(X)	0.85	0.85		0.00	0.56		0.00	0.42			
Avail Cap(c_a), veh/h	1766	1766		0	3168		0	3219			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	35.3	35.3	0.0	0.0	27.1	0.0	0.0	9.3	0.0		
Incr Delay (d2), s/veh	2.4	2.4	0.0	0.0	0.7	0.0	0.0	0.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	13.7	13.7	0.0	0.0	20.4	0.0	0.0	8.2	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	37.6	37.6	0.0	0.0	27.8	0.0	0.0	9.7	0.0		
LnGrp LOS	D	D		A	C		A	A			
Approach Vol, veh/h	749	749			1761			1351			
Approach Delay, s/veh	37.6	37.6			27.8			9.7			
Approach LOS	D	D			C			A			

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	68.7	68.7	31.3
Change Period (Y+Rc), s	* 5.7	* 5.7	5.5
Max Green Setting (Gmax), s	* 37	* 37	51.5
Max Q Clear Time (g_c+I1), s	33.4	15.3	22.8
Green Ext Time (p_c), s	3.3	10.6	3.0

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

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

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



Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (veh/h)	787	0	556	0	1230	475	0	1569	438	0	0
Future Volume (veh/h)	787	0	556	0	1230	475	0	1569	438	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1796	1796	1870	0	1870	1856	0	1870	1870		
Adj Flow Rate, veh/h	837	837	0	0	1309	0	0	1669	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	7	7	2	0	2	3	0	2	2		
Cap, veh/h	966	966		0	2078		0	2986			
Arrive On Green	0.29	0.29	0.00	0.00	0.58	0.00	0.00	0.19	0.00		
Sat Flow, veh/h	3319	3319	1585	0	3647	1572	0	5274	1585		
Grp Volume(v), veh/h	837	837	0	0	1309	0	0	1669	0		
Grp Sat Flow(s),veh/h/ln	1659	1659	1585	0	1777	1572	0	1702	1585		
Q Serve(g_s), s	23.9	23.9	0.0	0.0	24.2	0.0	0.0	29.6	0.0		
Cycle Q Clear(g_c), s	23.9	23.9	0.0	0.0	24.2	0.0	0.0	29.6	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	966	966		0	2078		0	2986			
V/C Ratio(X)	0.87	0.87		0.00	0.63		0.00	0.56			
Avail Cap(c_a), veh/h	1686	1686		0	2078		0	2986			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	33.6	33.6	0.0	0.0	13.6	0.0	0.0	28.7	0.0		
Incr Delay (d2), s/veh	2.5	2.5	0.0	0.0	1.5	0.0	0.0	0.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	14.4	14.4	0.0	0.0	13.8	0.0	0.0	19.6	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	36.1	36.1	0.0	0.0	15.1	0.0	0.0	29.4	0.0		
LnGrp LOS	D	D		A	B		A	C			
Approach Vol, veh/h	837	837			1309			1669			
Approach Delay, s/veh	36.1	36.1			15.1			29.4			
Approach LOS	D	D			B			C			

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	64.7	35.3	64.7
Change Period (Y+Rc), s	6.2	6.2	6.2
Max Green Setting (Gmax), s	36.8	50.8	36.8
Max Q Clear Time (g_c+I1), s	26.2	25.9	31.6
Green Ext Time (p_c), s	6.2	3.2	4.1

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	61	559	224	82	25	452	1118	134	13	1374	485
Future Volume (veh/h)	153	61	559	224	82	25	452	1118	134	13	1374	485
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1648	1322	1870	1752	1678	1633	1811	1811	1648	1574	1856	1796
Adj Flow Rate, veh/h	174	69	0	255	93	3	514	1270	138	15	1561	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	17	39	2	10	15	18	6	6	17	22	3	7
Cap, veh/h	329	108		316	248	108	582	2483	270	232	1986	
Arrive On Green	0.12	0.08	0.00	0.12	0.08	0.08	0.35	1.00	1.00	0.02	0.39	0.00
Sat Flow, veh/h	1570	1322	1585	1668	3188	1384	3346	4527	492	1499	5066	1522
Grp Volume(v), veh/h	174	69	0	255	93	3	514	925	483	15	1561	0
Grp Sat Flow(s),veh/h/ln	1570	1322	1585	1668	1594	1384	1673	1648	1723	1499	1689	1522
Q Serve(g_s), s	9.0	4.5	0.0	10.6	2.5	0.2	13.0	0.0	0.0	0.5	24.4	0.0
Cycle Q Clear(g_c), s	9.0	4.5	0.0	10.6	2.5	0.2	13.0	0.0	0.0	0.5	24.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	329	108		316	248	108	582	1808	945	232	1986	
V/C Ratio(X)	0.53	0.64		0.81	0.38	0.03	0.88	0.51	0.51	0.06	0.79	
Avail Cap(c_a), veh/h	392	273		316	517	225	673	1808	945	508	1986	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.4	40.0	0.0	35.3	39.4	38.4	28.5	0.0	0.0	15.9	24.0	0.0
Incr Delay (d2), s/veh	1.3	6.1	0.0	14.3	0.9	0.1	12.1	1.0	2.0	0.1	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	2.9	0.0	3.5	1.8	0.1	8.6	0.5	0.9	0.3	14.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	46.1	0.0	49.6	40.4	38.5	40.6	1.0	2.0	16.0	27.3	0.0
LnGrp LOS	C	D		D	D	D	D	A	A	B	C	
Approach Vol, veh/h		243			351			1922			1576	
Approach Delay, s/veh		37.3			47.1			11.8			27.2	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	54.8	16.0	12.8	20.5	40.7	16.4	12.4
Change Period (Y+Rc), s	* 4.9	* 5.4	* 5.4	* 5.4	* 4.9	* 5.4	* 5.4	* 5.4
Max Green Setting (Gmax), s	* 18	* 22	* 11	* 19	* 18	* 22	* 15	* 15
Max Q Clear Time (g_c+I1), s	12.5	2.0	12.6	6.5	15.0	26.4	11.0	4.5
Green Ext Time (p_c), s	0.0	9.0	0.0	0.2	0.6	0.0	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

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

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	338	852	527	1327	1769	367
Future Volume (veh/h)	338	852	527	1327	1769	367
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	1796	1841	1870	1826	1856	1781
Adj Flow Rate, veh/h	348	0	543	1368	1824	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	4	2	5	3	8
Cap, veh/h	446		611	3689	3240	
Arrive On Green	0.13	0.00	0.35	1.00	1.00	0.00
Sat Flow, veh/h	3319	2745	3456	5149	6643	1510
Grp Volume(v), veh/h	348	0	543	1368	1824	0
Grp Sat Flow(s),veh/h/ln	1659	1373	1728	1662	1596	1510
Q Serve(g_s), s	9.1	0.0	13.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.1	0.0	13.3	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	446		611	3689	3240	
V/C Ratio(X)	0.78		0.89	0.37	0.56	
Avail Cap(c_a), veh/h	892		691	3689	3240	
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.20	0.20	1.00	0.00
Uniform Delay (d), s/veh	37.7	0.0	28.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	2.9	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	0.0	5.9	0.0	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.7	0.0	31.2	0.1	0.7	0.0
LnGrp LOS	D		C	A	A	
Approach Vol, veh/h	348			1911	1824	
Approach Delay, s/veh	40.7			8.9	0.7	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	72.1		17.9	20.9	51.2
Change Period (Y+Rc), s	5.5		* 5.8	5.0	5.5
Max Green Setting (Gmax), s	54.5		* 24	18.0	31.5
Max Q Clear Time (g_c+I1), s	2.0		11.1	15.3	2.0
Green Ext Time (p_c), s	12.7		1.0	0.6	16.5

Intersection Summary	
HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Notes

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	348	562	266	254	412	319	236	1248	275	492	1802	272
Future Volume (veh/h)	348	562	266	254	412	319	236	1248	275	492	1802	272
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1870	1885	1885	1856	1885	1885	1856	1856
Adj Flow Rate, veh/h	355	573	208	259	420	222	241	1273	236	502	1839	220
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	0	2	1	1	3	1	1	3	3
Cap, veh/h	307	511	185	211	513	492	298	1399	258	570	1711	802
Arrive On Green	0.17	0.20	0.20	0.12	0.14	0.14	0.09	0.26	0.26	0.33	0.68	0.68
Sat Flow, veh/h	1781	2555	925	1810	3554	1598	3483	5455	1007	3483	5066	1572
Grp Volume(v), veh/h	355	398	383	259	420	222	241	1117	392	502	1839	220
Grp Sat Flow(s),veh/h/ln	1781	1777	1704	1810	1777	1598	1742	1596	1674	1742	1689	1572
Q Serve(g_s), s	15.5	18.0	18.0	10.5	10.3	10.1	6.1	20.4	20.5	12.3	30.4	4.2
Cycle Q Clear(g_c), s	15.5	18.0	18.0	10.5	10.3	10.1	6.1	20.4	20.5	12.3	30.4	4.2
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	307	355	341	211	513	492	298	1228	429	570	1711	802
V/C Ratio(X)	1.16	1.12	1.12	1.23	0.82	0.45	0.81	0.91	0.91	0.88	1.07	0.27
Avail Cap(c_a), veh/h	307	355	341	211	553	510	298	1228	429	635	1711	802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.62	0.62
Uniform Delay (d), s/veh	37.3	36.0	36.0	39.8	37.4	25.0	40.4	32.4	32.5	29.5	14.6	5.8
Incr Delay (d2), s/veh	101.0	84.3	86.6	136.6	8.9	0.6	15.2	11.5	26.5	8.4	41.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	23.1	23.8	23.3	19.9	8.7	6.8	5.8	13.8	16.7	7.6	16.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	138.2	120.3	122.6	176.3	46.2	25.7	55.6	43.9	59.0	37.9	55.9	6.3
LnGrp LOS	F	F	F	F	D	C	E	D	E	D	F	A
Approach Vol, veh/h		1136			901			1750			2561	
Approach Delay, s/veh		126.7			78.6			48.9			48.1	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	37.0	15.0	24.0	21.3	29.7	20.0	19.0
Change Period (Y+Rc), s	* 6.3	* 6.6	4.5	6.0	* 6.6	* 6.6	4.5	6.0
Max Green Setting (Gmax), s	* 7.7	* 29	10.5	18.0	* 16	* 21	15.5	14.0
Max Q Clear Time (g_c+I1), s	18.1	32.4	12.5	20.0	14.3	22.5	17.5	12.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	66.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.

APPENDIX M: FUTURE 2040 NO-BUILD CONDITIONS CAPACITY ANALYSIS RESULTS

2040 Freeway Operations

Freeway operations and deficiencies within each spoke for the future 2040 No-Build scenario are described below.

I-65 Spoke

Freeway operations for the I-65 spoke are depicted in **Figure 1** and **Figure 2** for the AM and PM peak hours, respectively. In general, segments that do not meet the LOS D standard are:

- AM Peak Hour:
    - I-65 southbound, between the 38th Street on-ramp and the West Street off-ramp (overlaps with the Downtown spoke).
- PM Peak Hour:
    - I-65 northbound, between the West Street on-ramp and the 38th Street off-ramp (overlaps with the Downtown spoke).

Downtown Spoke

Freeway operations for the Downtown spoke are depicted **Figure 3** and **Figure 4** for the AM and PM peak hours, respectively. In general, segments that do not meet the LOS D standard are:

- AM Peak Hour:
    - I-65 southbound, between the 38th Street on-ramp and the West Street off-ramp (overlaps with the I-65 spoke)
    - I-65 southbound, between the West Street on-ramp and the North Split
    - I-65 northbound, between the North Split and the West Street off-ramp
    - I-65 northbound, between the West Street on-ramp and the 21st St off-ramp
    - I-70 westbound, between the South Split and the Missouri Street off-ramp
    - I-70 eastbound, from the Sam Jones Expressway on-ramp to West Street (overlaps with the I-70 W)
    - I-70 eastbound, within the South Split
    - I-65 northbound, diverge segment to westbound I-70
    - I-65 southbound mainline and collector-distributor, from Washington Street through the South Split
- PM Peak Hour:
    - I-65 southbound, between the West Street on-ramp and the North Split
    - I-65 northbound, between the West Street on-ramp and the 38th Street off-ramp (overlaps with the I-65 spoke)
    - I-70 eastbound, from the Missouri Street on-ramp to the South Split
    - I-65 southbound mainline and collector-distributor, from Washington Street to East Street

I-70 W Spoke

Freeway operations for the I-70 W spoke are depicted **Figure 5** and **Figure 6** for the AM and PM peak hours, respectively. The only segment that does not meet the LOS D standard is:

- AM Peak Hour:
  - I-70 westbound, between West Street and Harding Street
  - I-70 eastbound, from the Sam Jones Expressway on-ramp to West Street (overlaps with the Downtown spoke)
- PM Peak Hour:
  - I-70 westbound, between the West Street on-ramp and the Holt Road off-ramp

I-70 E Spoke

Freeway operations for the I-70 E spoke are depicted **Figure 7** and **Figure 8** for the AM and PM peak hours, respectively. In general, segments that do not meet the LOS D standard are:

- AM Peak Hour:
  - I-70 westbound, between the southbound I-465 on-ramp and the North Split
- PM Peak Hour:
  - I-70 eastbound, between the North Split and the off-ramp to the collector-distributor roadway at Shadeland Avenue
  - I-70 eastbound collector-distributor roadway at Shadeland Avenue

Figure 1: 2040 No-Build Freeway Operations (AM Peak Hour) – I-65 Spoke

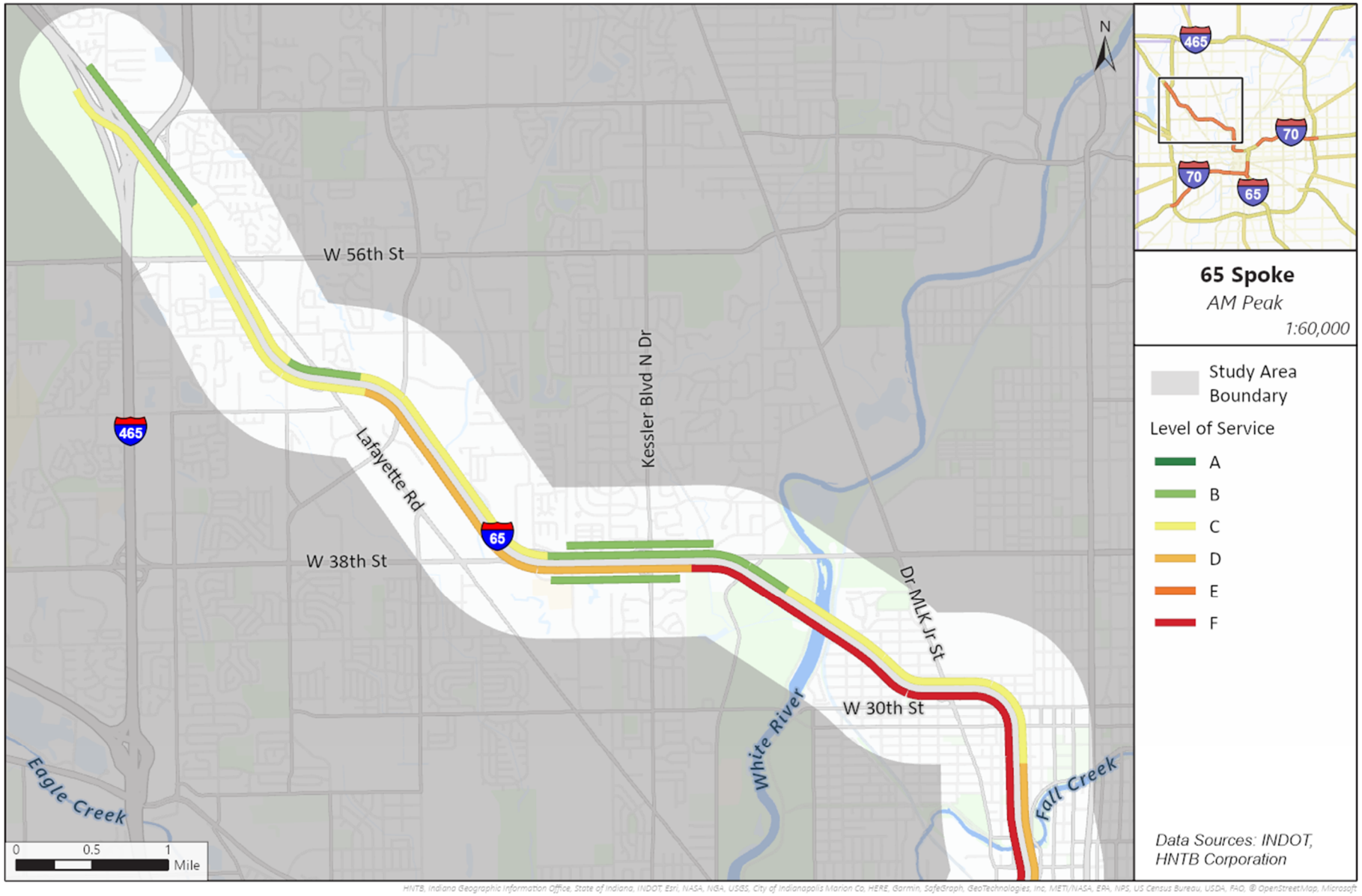


Figure 2: 2040 No-Build Freeway Operations (PM Peak Hour) – I-65 Spoke

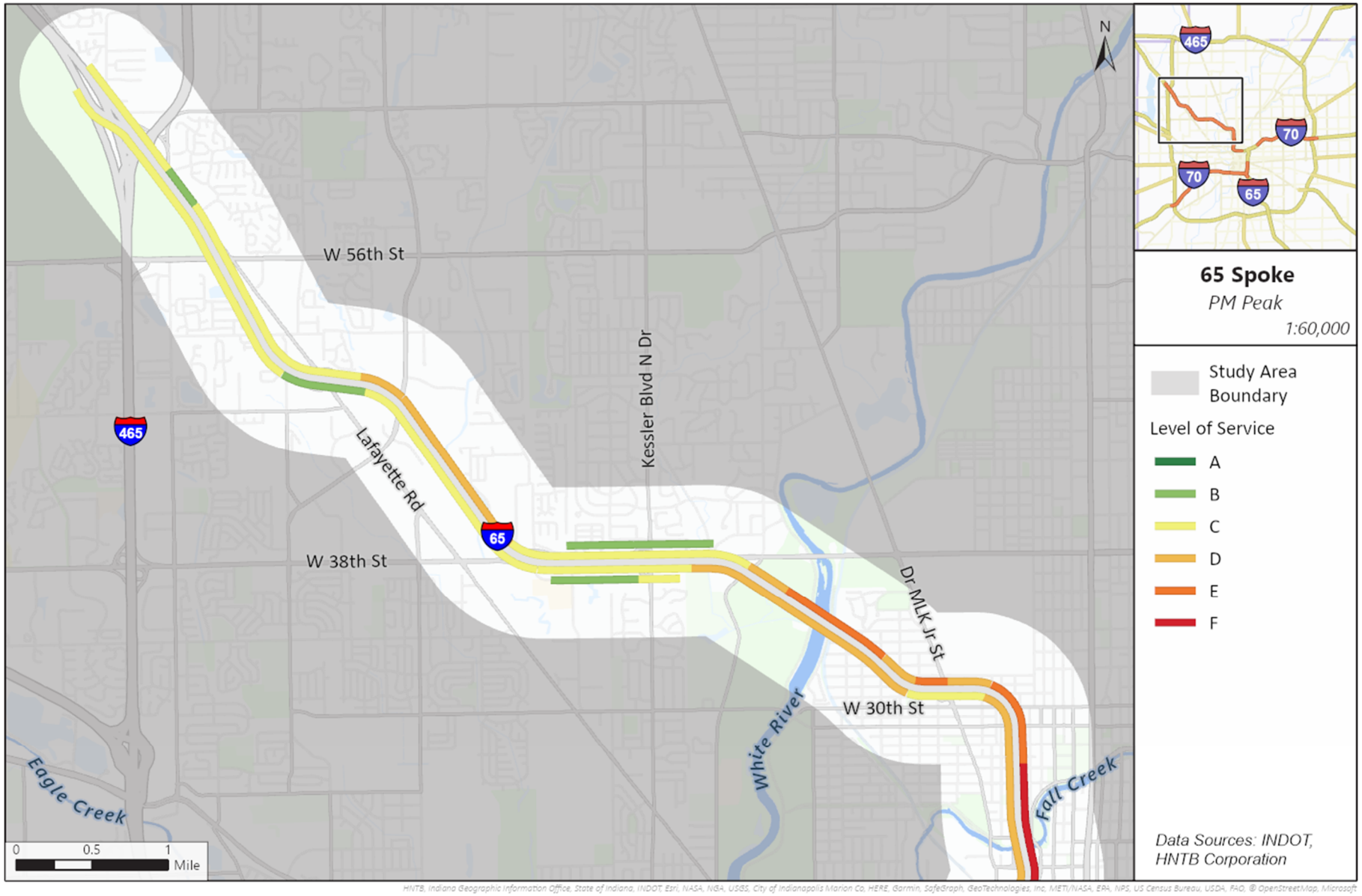


Figure 3: 2040 No-Build Freeway Operations (AM Peak Hour) – Downtown Spoke

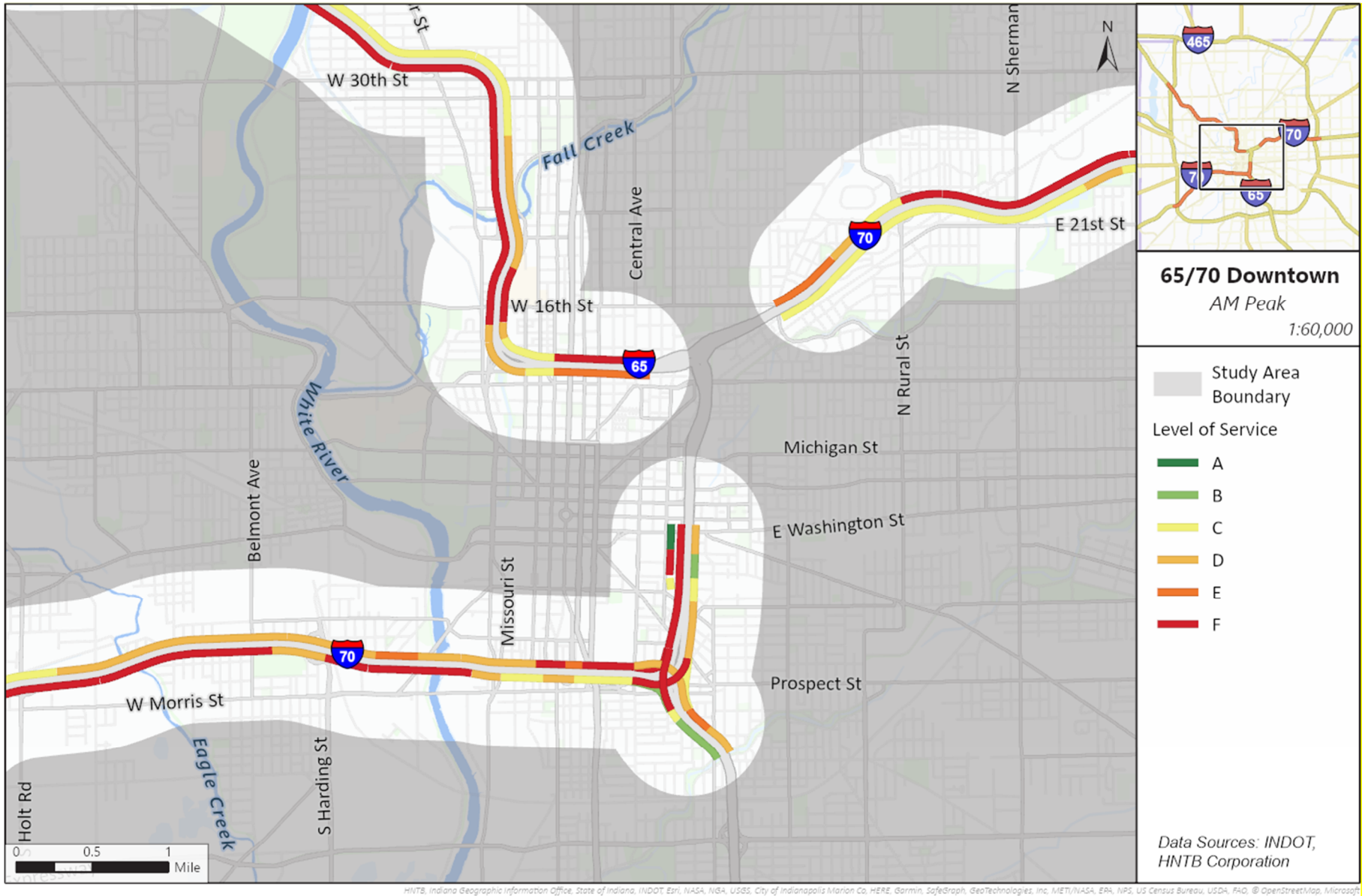


Figure 4: 2040 No-Build Freeway Operations (PM Peak Hour) – Downtown Spoke

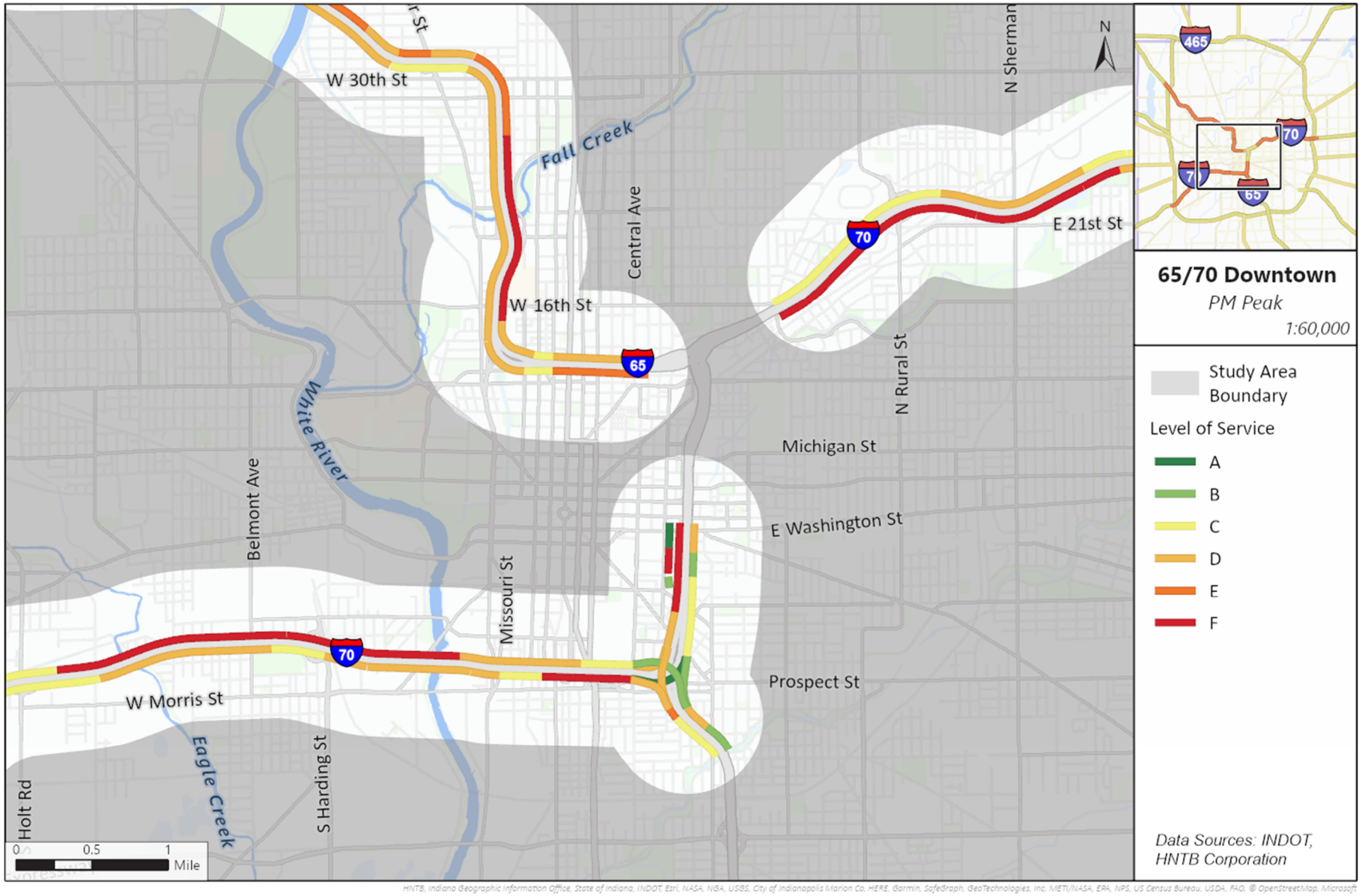


Figure 5: 2040 No-Build Freeway Operations (AM Peak Hour) – I-70 W Spoke

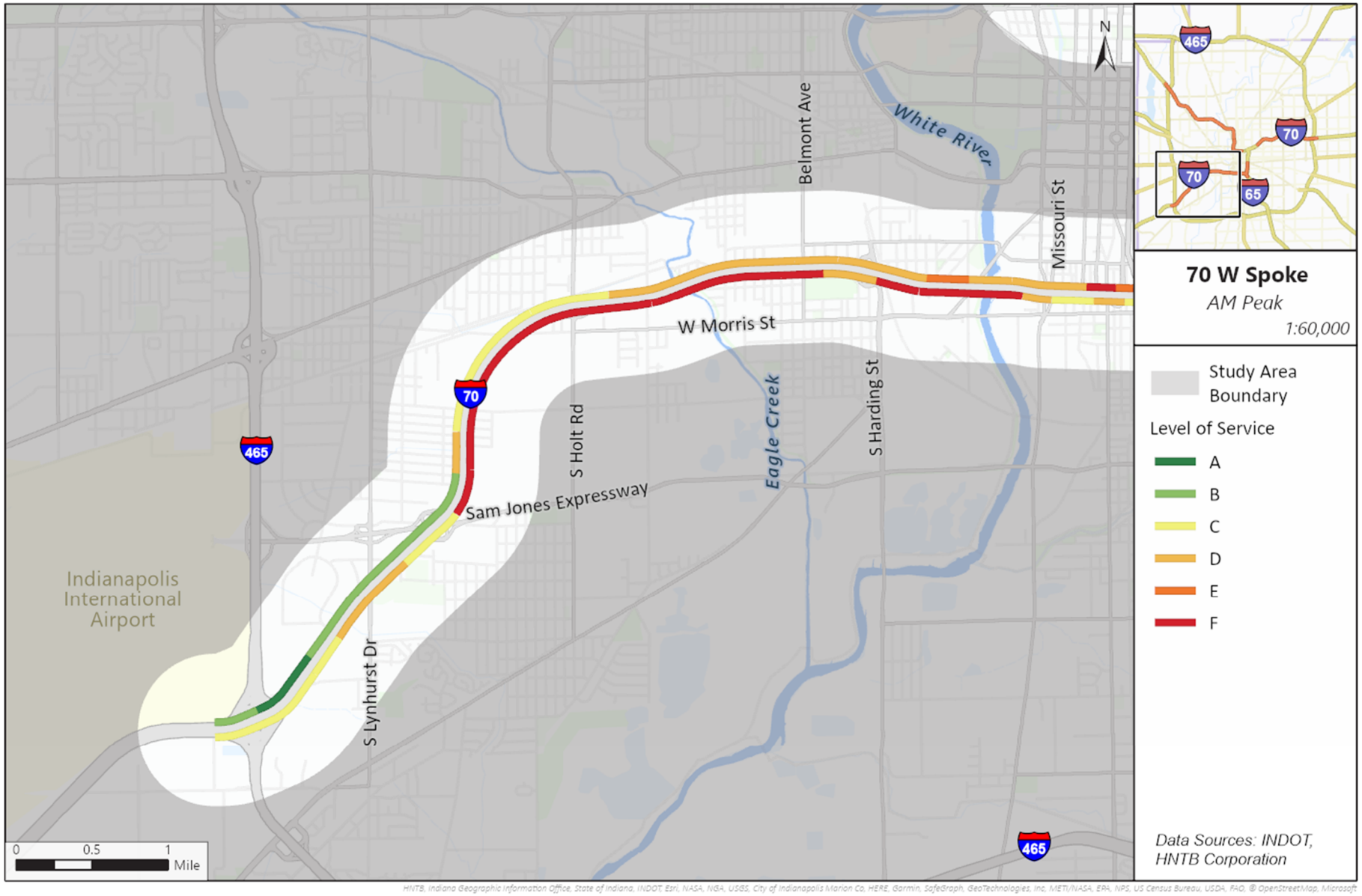


Figure 6: 2040 No-Build Freeway Operations (PM Peak Hour) – I-70 W Spoke

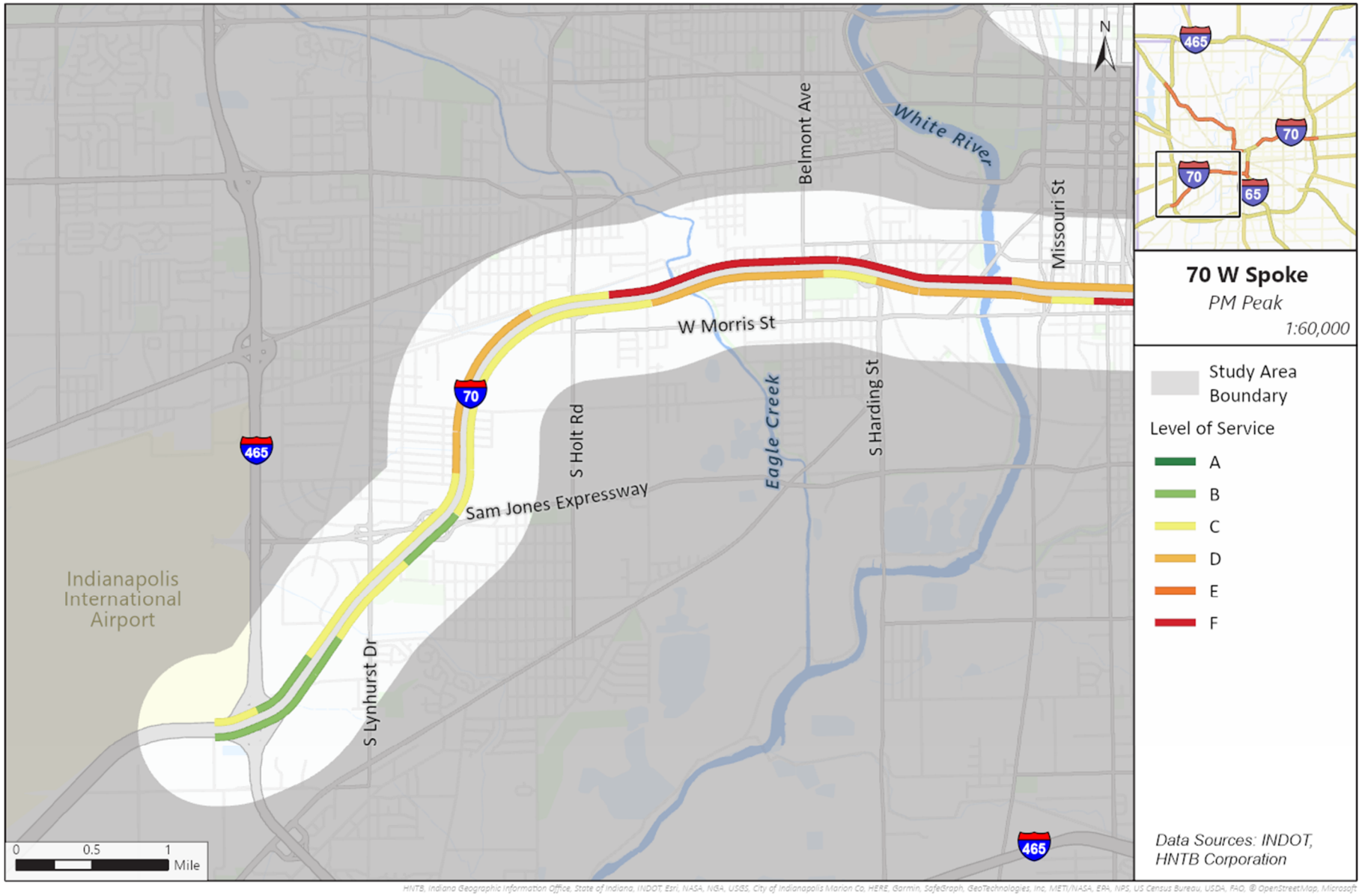


Figure 7: 2040 No-Build Freeway Operations (AM Peak Hour) – I-70 E Spoke

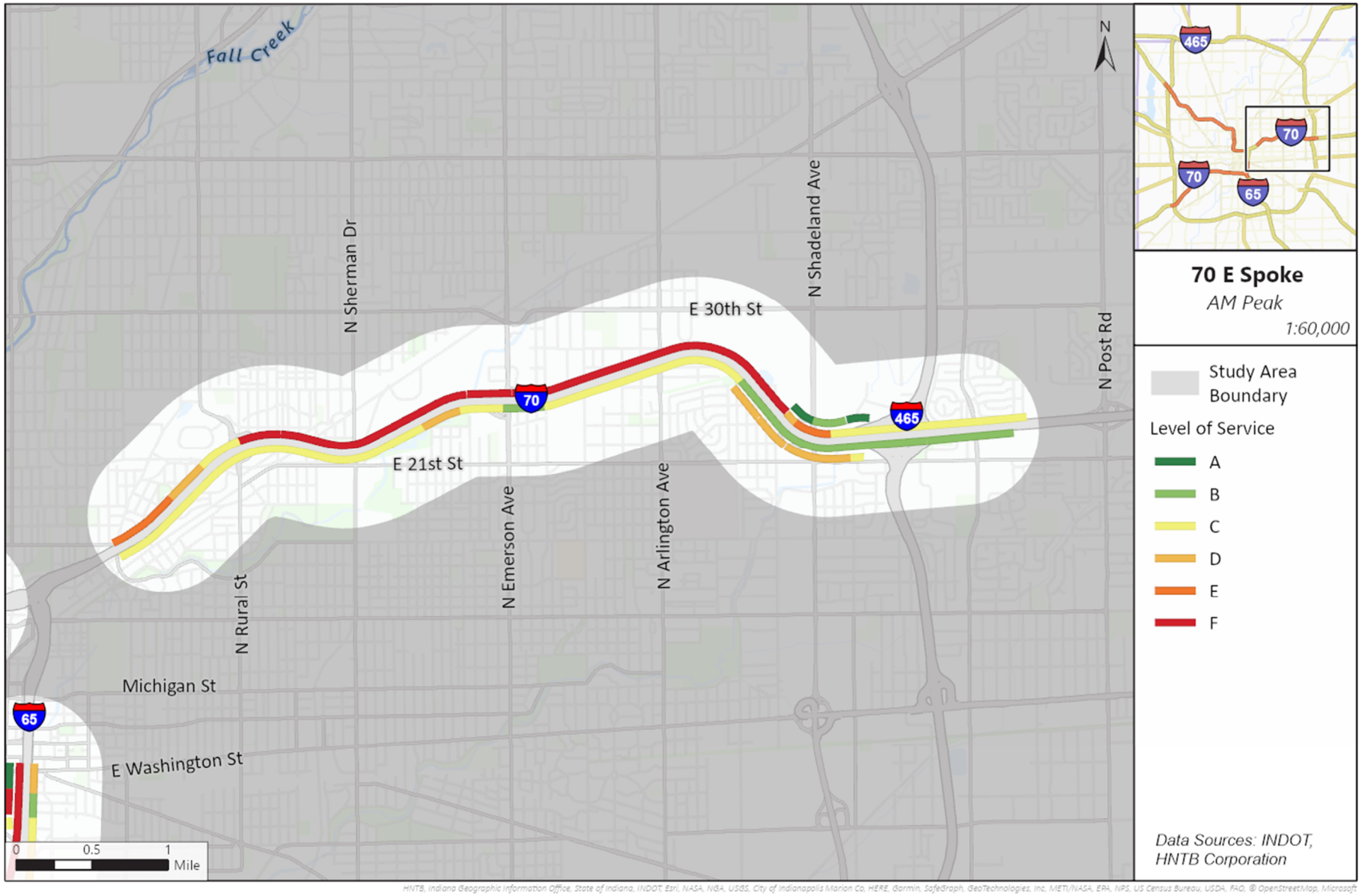
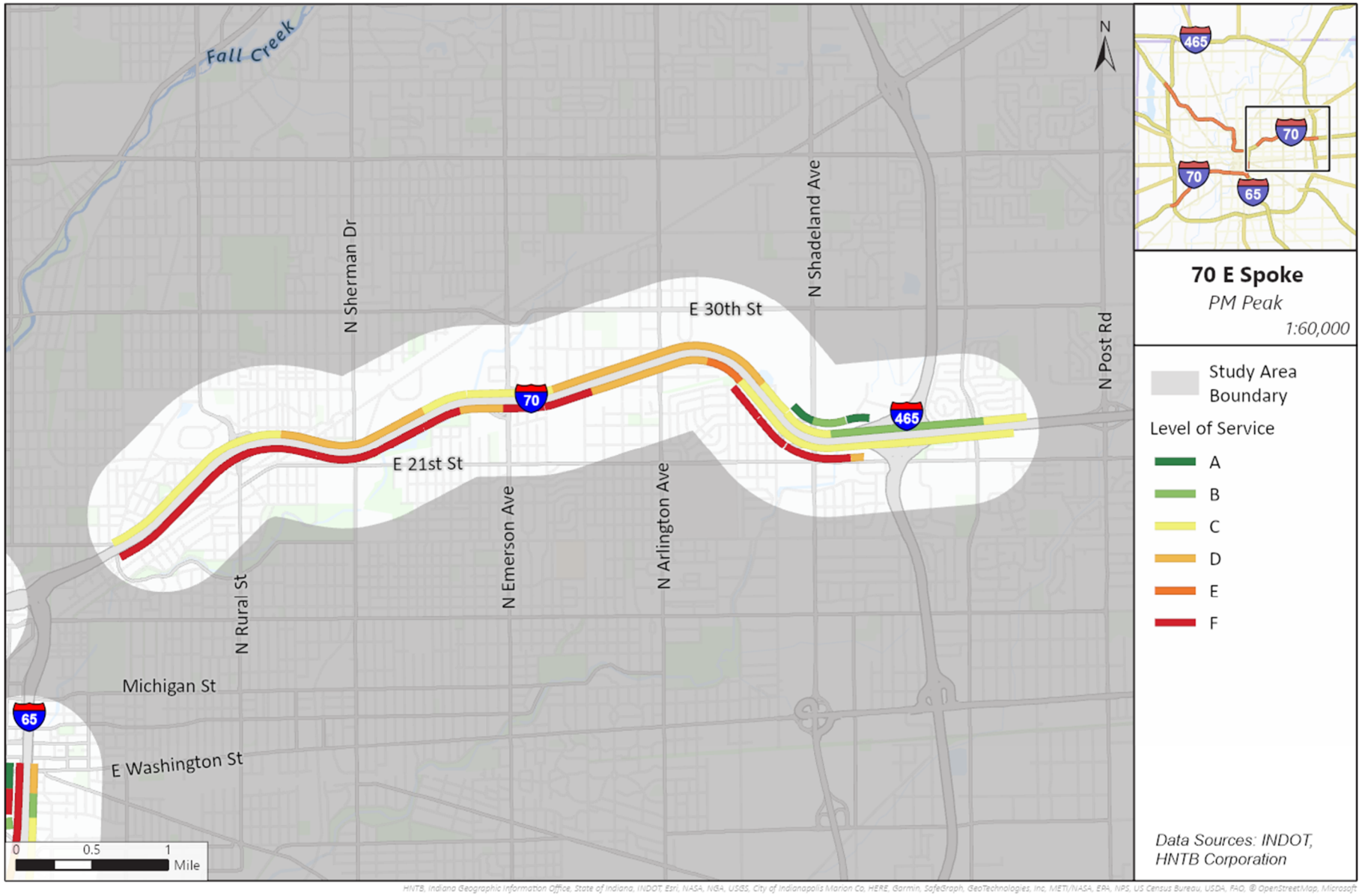


Figure 8: 2040 No-Build Freeway Operations (PM Peak Hour) – I-70 E Spoke



HNTB, Indiana Geographic Information Office, State of Indiana, INDOT, Esri, NASA, NGA, USGS, City of Indianapolis Marion Co, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, EPA, NPS, US Census Bureau, USDA, FAO, © OpenStreetMap, Microsoft

Intersection Operations

Interim year (2040) operating conditions were analyzed to help determine how soon deficiencies identified in the 2050 analysis may arise.

I-65 Spoke

Future 2040 No-Build operating conditions of the intersections within the I-65 spoke, where operational deficiencies were noted in the 2050 design year, are summarized in **Table 1**.

Table 1: Future No-Build (2040) Intersection Operations for I-65 Spoke

Intersection	Approach	Future No Build (2040)			
		AM Peak		PM Peak	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
38th St at Industrial Blvd / Commercial Dr (Signalized)	Eastbound	A	1.3	D	43.9
	Westbound	D	38.3	D	52.5
	Northbound	D	51.1	D	54.4
	Southbound	D	50.2	E	61.0
	Overall	**C**	**20.3**	**D**	**48.8**
38th St at Knollton Rd / Cold Springs Rd (Signalized)	Eastbound	**F**	**90.0**	**F**	**151.1**
	Westbound	D	37.3	**E**	**67.8**
	Northbound	**F**	**96.8**	**F**	**175.7**
	Southbound	C	33.5	C	30.9
	Overall	**E**	**65.9**	**F**	**121.3**
38th St at Lafayette Rd (Signalized)	Eastbound	**F**	**81.1**	**F**	**124.3**
	Westbound	C	24.2	D	40.9
	Northbound	**F**	**83.1**	**F**	**99.6**
	Southbound	D	43.0	**F**	**96.6**
	Overall	**E**	**58.1**	**F**	**85.7**
Dr MLK Jr St at NB I-65 Ramps (Unsignalized)	Northbound Left	D	30.9	**F**	**54.4**
Dr MLK Jr St at SB I-65 Ramps (Unsignalized)	Eastbound Left	C	18.6	**E**	**39.0**
	Eastbound Right	C	17.3	C	19.7
Dr MLK Jr St at 30th St (Signalized)	Eastbound	C	26.2	C	26.2
	Westbound	C	22.6	C	26.4
	Northbound	A	7.1	C	23.3
	Southbound	A	7.8	B	19.0
	Overall	**B**	**12.9**	**C**	**23.1**

Downtown Spoke

Future 2040 No-Build operating conditions of the intersections within the Downtown spoke, where operational deficiencies were noted in the 2050 design year, are summarized in **Table 2**.

Table 2: Future No-Build (2040) Intersection Operations, Downtown Spoke

Intersection	Approach	Future No Build (2040)			
		AM Peak		PM Peak	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
W 21st St at NB I-65 ramps (Unsignalized)	Eastbound Left	A	8.8	A	8.8
	Northbound Thru/Left	**F**	**173.5**	**F**	**321.5**
	Northbound Right	C	17.5	C	15.3
W 21st St at N Capitol Ave (Signalized)	Eastbound	D	45.7	D	52.3
	Westbound	C	27.5	C	23.8
	Southbound	B	15.8	B	14.2
	Overall	**C**	**25.7**	**C**	**32.8**
SB I-65 Off-ramp at NB I-65 Off-ramp (to 11th St) (Signalized)	Westbound	**F**	**144.7**	C	33.3
	Southbound	D	46.9	C	23.3
	Overall	**F**	**94.6**	**C**	**29.1**
E Michigan St at Davidson St (Signalized)	Westbound	C	25.7	C	24.1
	Southbound	D	35.5	A	7.6
	Overall	**C**	**32.0**	**B**	**14.6**
E Ohio St at N College Ave (Signalized)	Eastbound	A	8.6	B	11.3
	Westbound	C	24.3	A	8.6
	Northbound	E	64.6	C	30.5
	Southbound	E	71.4	D	39.0
	Overall	**C**	**33.2**	**B**	**17.9**
E Washington St at N College Ave (Signalized)	Eastbound	B	12.5	D	38.5
	Westbound	A	8.2	A	7.1
	Northbound	**E**	**59.0**	**F**	**106.7**
	Southbound	C	29.9	D	38.7
	Overall	**B**	**13.0**	**D**	**39.0**
East St at SB I-65 & I-70 Off-ramp (Signalized)	Westbound	**F**	**108.8**	D	48.7
	Northbound	A	9.1	A	5.0
	Southbound	A	8.2	A	6.1
	Overall	**E**	**55.1**	**B**	**14.7**

Intersection	Approach	Future No Build (2040)			
		AM Peak		PM Peak	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
WB I-70 ramps at S West St (Signalized)	Westbound	B	14.5	C	20.8
	Southbound	C	23.5	**F**	**150.9**
	Overall	**B**	**18.6**	**F**	**128.3**
S West St at W Morris St (Signalized)	Eastbound	D	39.8	D	37.3
	Westbound	D	46.1	D	48.6
	Northbound	D	52.2	D	36.1
	Southbound	E	56.4	D	37.7
	Overall	**D**	**50.8**	**D**	**39.0**

I-70 W Spoke

Future 2040 No-Build operating conditions of the intersections within the I-70 W spoke, where operational deficiencies were noted in the 2050 design year, are summarized in **Table 3**.

Table 3: Future No-Build (2040) Intersection Operations, I-70W Spoke

Intersection	Approach	Future No Build (2040)			
		AM Peak		PM Peak	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
I-70 WB Ramps at Holt Rd (Signalized)	Westbound	**F**	**100.3**	**F**	**117.8**
	Northbound	D	44.0	D	43.2
	Southbound	**F**	**195.0**	**F**	**126.3**
	Overall	**F**	**117.3**	**F**	**102.5**
I-70 EB Ramps at Holt Rd (Signalized)	Eastbound	D	52.2	D	39.8
	Northbound	C	29.4	C	31.1
	Southbound	**F**	**117.8**	**F**	**92.7**
	Overall	**F**	**90.2**	**E**	**73.1**
W Morris St at Holt Rd (Signalized)	Eastbound	D	43.6	D	48.7
	Westbound	**F**	**168.1**	**E**	**72.1**
	Northbound	C	24.6	C	22.3
	Southbound	C	24.1	C	22.2
	Overall	**E**	**78.5**	**D**	**46.4**

Intersection	Approach	Future No Build (2040)			
		AM Peak		PM Peak	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
I-70 WB Ramps at S Harding St (Signalized)	Eastbound	D	35.4	D	42.8
	Northbound	D	54.7	E	56.1
	Southbound	B	16.9	B	16.3
	Overall	**D**	**41.3**	**D**	**39.1**

I-70 E Spoke

Future 2040 No-Build operating conditions of the intersections within the I-70 E spoke, where operational deficiencies were noted in the 2050 design year, are summarized in **Table 4**.

Table 4: Future No-Build (2040) Intersection Operations, I-70E Spoke

Intersection	Approach	Future No Build (2040)			
		AM Peak		PM Peak	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
EB I-70 ramps at Keystone Way / N Rural St (Unsignalized)	Eastbound Right	D	32.3	C	21.9
	Southbound Left	B	10.6	C	15.1
WB I-70 ramps at Shadeland Ave / Western Select Dr (Signalized)	Eastbound	E	79.7	D	37.5
	Westbound	D	37.4	D	42.3
	Northbound	C	25.3	B	11.3
	Southbound	C	24.8	C	23.8
	Overall	**C**	**32.5**	**C**	**20.3**
East 21st St at Shadeland Ave (Signalized)	Eastbound	**E**	**69.9**	**F**	**93.6**
	Westbound	D	41.5	**E**	**66.3**
	Northbound	D	37.8	D	39.9
	Southbound	C	20.2	C	28.2
	Overall	**D**	**36.6**	**D**	**48.5**

FREEWAY ANALYSIS

HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	5.54		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 SB, between Exit 123 (I-465) and Entrance Ramp from SB I-465	2760	2
2	Merge	Basic	I-65 SB, Entrance Ramp from SB I-465	1500	3
3	Basic	Basic	I-65 SB, between I-465 and Lafayette Rd	6500	3
4	Diverge	Diverge	I-65 SB, Exit Ramp to Lafayette Rd	1500	3
5	Basic	Basic	I-65 SB, at Layfayette Rd	2700	3
6	Merge	Merge	I-65 SB, Entrance Ramp from Lafayette Rd	1500	3
7	Basic	Basic	I-65 SB, between Layfayette Rd and 38th St	6100	3
8	Diverge	Diverge	I-65 SB, Exit Ramp to 38th St	1500	3
9	Basic	Basic	I-65 SB, between 38th St Exit and 38th St Entrance	5200	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.855	2748	4700	0.58	65.0	21.1	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.855	0.962	4717	1969	7050	2000	0.67	0.98	64.6	64.6	24.3	24.3	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.901	4710	7050	0.67	64.6	24.3	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.901	0.952	4710	353	7050	2000	0.67	0.18	58.6	54.4	26.8	25.5	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.901	4337	7050	0.62	64.8	22.2	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.901	0.990	5759	1422	7050	2000	0.82	0.71	55.5	53.5	34.6	33.3	D

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.917	5797	7050	0.82	61.0	31.7	D

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.917	0.971	5797	679	7050	2000	0.82	0.34	58.0	53.8	33.3	29.7	D

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.909	5122	7050	0.73	63.7	26.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	6129	5149	4.26	106.60	62.2	27.1	24.5	5.30	D

Facility Overall Results

Space Mean Speed, mi/h	62.2	Average Density, veh/mi/ln	24.5
Average Travel Time, min	5.30	Average Density, pc/mi/ln	27.1
Total VMT, veh-mi	6129	Total VHD, veh-h	4.26
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	106.60

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.05		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Basic	I-65 SB, Entrance Ramp from 38th St	3200	3
2	Basic	Basic	I-65 SB, between 38th St and Dr MLK Jr St	4200	3
3	Diverge	Diverge	I-65 SB, Exit Ramp to Dr MLK Jr St	1500	3
4	Basic	Basic	I-65 SB, at Dr MLK Jr St	1200	3
5	Merge	Merge	I-65 SB, Entrance Ramp from Dr MLK Jr St	1500	3
6	Basic	Basic	I-65 SB, between Dr MLK Jr St and 29th St	2500	3
7	Weaving	Weaving	I-65 SB, between 29th St and 21st St	2000	4

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.909	0.943	6276	2014	7050	2000	1.01	1.01	34.3	34.3	60.9	60.9	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.917	6037	7050	1.01	31.7	63.6	F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.917	0.980	5939	307	7050	2000	1.01	0.15	29.7	54.5	66.6	36.5	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

			(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
1	0.87	0.917	5538		7050		0.97		24.6		75.0		F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.917	0.980	6565	1027	7050	2000	1.11	0.51	54.5	52.6	40.2	31.5	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.926	6565	7050	1.11	56.2	38.9	F

Segment 7: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.926	7387	8372	1.03	46.1	40.1	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4551	4188	51.88	1296.94	37.3	54.7	50.2	4.90	F

Facility Overall Results

Space Mean Speed, mi/h	37.3	Average Density, veh/mi/ln	50.2
Average Travel Time, min	4.90	Average Density, pc/mi/ln	54.7
Total VMT, veh-mi	4551	Total VHD, veh-h	51.88
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1296.94

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.98		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 SB, between 21st Exit Ramp and 21st St Entrance Ramp	1140	3
2	Weaving	Weaving	I-65 SB, between 21st Entrance Ramp and West St Exit Ramp	4030	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.926	4712	7050	1.12	16.9	93.1	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.926	5385	5783	1.46	54.8	24.6	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1753	1561	14.68	367.03	42.1	36.6	34.2	1.40	F

Facility Overall Results

Space Mean Speed, mi/h	42.1	Average Density, veh/mi/ln	34.2
Average Travel Time, min	1.40	Average Density, pc/mi/ln	36.6
Total VMT, veh-mi	1753	Total VHD, veh-h	14.68
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	367.03

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.36		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 SB, between West St Exit Ramp and Illinois St	500	3
2	Diverge	Diverge	I-65 SB, Exit Ramp to N Illinois St	1500	3
3	Basic	Basic	I-65 SB, between N Illinois St Exit and West St Entrance	350	3
4	Weaving	Weaving	I-65 SB, between Entrance Ramp from West St and North Split	4340	3
5	Basic	Basic	I-65 SB, at North Split	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.901	5769	7050	0.82	61.1	31.5	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.87	0.87	0.901	0.990	5769	1380	7050	2000	0.82	0.69	56.6	52.3	34.0	33.8	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.877	4368	7050	0.62	63.1	22.4	C

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.877	5593	6189	0.90	45.7	40.8	E

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.87	0.893	2081	4700	0.44	64.6	16.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1627	1207	7.67	191.73	49.8	36.6	29.4	1.60	E

Facility Overall Results

Space Mean Speed, mi/h	49.8	Average Density, veh/mi/ln	29.4
Average Travel Time, min	1.60	Average Density, pc/mi/ln	36.6
Total VMT, veh-mi	1627	Total VHD, veh-h	7.67
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	191.73

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, EB 38th St Frontage		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.75		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	38th St Frontage, from Industrial Blvd / Commercial Dr	1640	2
2	Weaving	Weaving	38th St Frontage, Between Entrance from I-65 SB and Kessler Blvd	3330	4
3	Weaving	Weaving	38th St Frontage, Between Kessler Blvd and Exit to I-65 SB	1640	3
4	Basic	Basic	38th St Frontage, to Cold Spring Rd	2640	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.952	2474	4700	0.53	65.0	19.0	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.952	3125	8008	0.39	55.1	14.2	B

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.980	2931	5670	0.52	55.0	17.8	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.980	954	4700	0.20	64.7	7.3	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	992	748	1.93	48.24	57.7	14.1	12.4	1.80	B

Facility Overall Results

Space Mean Speed, mi/h	57.7	Average Density, veh/mi/ln	12.4
Average Travel Time, min	1.80	Average Density, pc/mi/ln	14.1
Total VMT, veh-mi	992	Total VHD, veh-h	1.93
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	48.24

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, WB 38th St Frontage		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.55		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	38th St Frontage, from NB I-65	1000	2
2	Weaving	Weaving	38th St Frontage, Between Cold Springs Entrance and Exit to Kessler Blvd	2950	4
3	Weaving	Weaving	38th St Frontage, Between Entrance from Kessler Blvd and NB I-65	2590	4
4	Basic	Basic	38th St Frontage, to Industrial Blvd	1640	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.83	0.980	1867	4700	0.40	65.0	14.4	B

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.83	0.980	3521	5139	0.69	58.4	15.1	B

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.83	0.962	3506	7732	0.45	58.9	14.9	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.83	0.962	2807	4700	0.60	64.8	21.6	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1182	761	1.49	37.25	60.1	15.8	13.3	1.50	B

Facility Overall Results

Space Mean Speed, mi/h	60.1	Average Density, veh/mi/ln	13.3
Average Travel Time, min	1.50	Average Density, pc/mi/ln	15.8
Total VMT, veh-mi	1182	Total VHD, veh-h	1.49
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	37.25

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	Collector-Distributor I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.08		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Collector-Distributor I-70/I-65 SB at Washington St	2010	2
2	Weaving	Weaving	Collector-Distributor I-70/I-65 SB Between E Washington St Entrance and Fletcher Ave Exit	1750	3
3	Basic	Basic	Collector-Distributor I-70/I-65 SB, Slip Ramp to Mainline	1940	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.962	965	2300	0.42	59.6	8.1	A

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.962	2864	2867	1.02	40.4	23.6	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.952	2380	4600	0.53	59.0	19.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	529	338	1.95	48.63	49.2	17.8	17.0	1.30	F

Facility Overall Results

Space Mean Speed, mi/h	49.2	Average Density, veh/mi/ln	17.0
Average Travel Time, min	1.30	Average Density, pc/mi/ln	17.8

Total VMT, veh-mi	529	Total VHD, veh-h	1.95
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	48.63

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	Main I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70/I-65 SB from North Split	5750	3
2	Weaving	Weaving	I-70/I-65 SB, Between Slip Ramp and East St	1700	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.885	4400	6900	0.77	22.1	66.2	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.885	4922	5286	1.42	42.2	23.3	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1615	1576	34.10	852.59	26.5	52.1	46.3	3.20	F

Facility Overall Results

Space Mean Speed, mi/h	26.5	Average Density, veh/mi/ln	46.3
Average Travel Time, min	3.20	Average Density, pc/mi/ln	52.1
Total VMT, veh-mi	1615	Total VHD, veh-h	34.10
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	852.59

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	Main I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.53		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	I-70/I-65 SB, to I-70 WB	820	4
2	Basic	Basic	I-65 SB, through South Split	2000	2

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.901	0.885	8920	4320	9200	4000	0.70	1.08	50.8	45.3	43.9	38.2	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.917	4600	4600	0.47	51.1	45.0	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	711	394	2.10	52.53	51.0	44.5	40.5	0.60	F

Facility Overall Results

Space Mean Speed, mi/h	51.0	Average Density, veh/mi/ln	40.5
Average Travel Time, min	0.60	Average Density, pc/mi/ln	44.5
Total VMT, veh-mi	711	Total VHD, veh-h	2.10
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	52.53

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Facility Name		Units	U.S. Customary
Project Description	I-65 NB, I-70 EB, South Split to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.39		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, through South Split	1950	3
2	Merge	Basic	I-65 NB / I-70 EB, between South Split and Calvary St	1800	5
3	Merge	Merge	I-65 NB / I-70 EB, Entrance Ramp from Calvary St	800	5
4	Diverge	Diverge	I-65 NB / I-70 EB, Exit Ramp to Washington St	800	5
5	Basic	Basic	I-65 NB / I-70 EB, Washington St to South of North Split	2000	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.935	4232	6900	0.61	60.0	23.5	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.935	0.847	8261	4029	11500	4400	0.72	0.92	60.0	60.0	27.5	27.5	D

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.893	0.952	9047	794	11500	2000	0.79	0.40	54.3	53.2	24.7	26.6	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.93	0.93	0.893	0.962	9099	1983	11500	4000	0.79	0.50	55.3	49.1	26.3	19.6	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	7090	9200	0.77	59.5	29.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2226	1747	1.05	26.35	58.3	26.8	24.4	1.40	D

Facility Overall Results

Space Mean Speed, mi/h	58.3	Average Density, veh/mi/ln	24.4
Average Travel Time, min	1.40	Average Density, pc/mi/ln	26.8
Total VMT, veh-mi	2226	Total VHD, veh-h	1.05
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	26.35

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Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, between North Split and Delaware St	1800	3
2	Diverge	Diverge	I-65 NB, Exit Ramp to West St	1500	3
3	Basic	Basic	I-65 NB, between West St Exit Ramp and Illinois St Ent Ramp	700	3
4	Merge	Merge	I-65 NB, Entrance Ramp from Illinois St	1500	3
5	Basic	Basic	I-65 NB, between Entrance Ramp from Illinois St and Entrance Ramp from West St	470	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.926	7050	7050	1.11	52.2	45.0	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.926	0.990	7050	2265	7050	2000	1.11	1.13	54.7	50.5	43.0	40.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	4785	7050	0.78	63.3	24.7	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.909	0.971	5297	512	7050	2000	0.86	0.26	57.3	56.0	30.8	27.7	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	5297	7050	0.86	63.1	28.0	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1613	1640	4.26	106.48	55.5	37.2	34.2	1.20	F

Facility Overall Results

Space Mean Speed, mi/h	55.5	Average Density, veh/mi/ln	34.2
Average Travel Time, min	1.20	Average Density, pc/mi/ln	37.2
Total VMT, veh-mi	1613	Total VHD, veh-h	4.26
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	106.48

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Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.28		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Weaving	Weaving	I-65 NB, between Entrance Ramp from West St and Exit Ramp to 21st St	2300	4
2	Basic	Basic	I-65 NB, at 21st St	970	3
3	Weaving	Weaving	I-65 NB, between 21st St and 29th St	3500	4

Facility Segment Data

Segment 1: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	7723	5868	1.19	41.0	47.1	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	5868	7050	0.73	60.6	32.3	D

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.909	6167	8552	0.63	47.5	32.5	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1775	1466	11.30	282.44	46.0	37.6	34.9	1.70	F

Facility Overall Results

Space Mean Speed, mi/h	46.0	Average Density, veh/mi/ln	34.9
Average Travel Time, min	1.70	Average Density, pc/mi/ln	37.6
Total VMT, veh-mi	1775	Total VHD, veh-h	11.30
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	282.44

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Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	8.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, at W 29th St	2950	3
2	Merge	Merge	I-65 NB, Entrance Ramp from 30th St	1500	3
3	Basic	Basic	I-65 NB, between 30th St and Dr MLK Jr St	1100	3
4	Merge	Merge	I-65 NB, Entrance Ramp from Dr MLK Jr St	1500	3
5	Basic	Basic	I-65 NB, between from Dr MLK Jr St and 38th St	3200	3
6	Diverge	Diverge	I-65 NB, Exit Ramp to 38th St	2500	3
7	Basic	Basic	I-65 NB, between Exit Ramp to 38th St and Entrance Ramp from 38th St	6930	3
8	Merge	Merge	I-65 NB, Entrance Ramp from 38th St	1500	3
9	Basic	Basic	I-65 NB, between 38th St and Lafayette Rd	6400	3
10	Diverge	Diverge	I-65 NB, Exit Ramp to Lafayette Rd	1500	3
11	Basic	Basic	I-65 NB, at Lafayette Rd	2660	3
12	Merge	Merge	I-65 NB, Entrance Ramp from Lafayette Rd	1500	3
13	Basic	Basic	I-65 NB, between Lafayette Rd and I-465	4990	3
14	Diverge	Diverge	I-65 NB, Exit Ramp to I-465	1500	3
15	Basic	Basic	I-65 NB, at I-465	4700	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	4305	7050	0.61	65.0	22.1	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.962	4590	285	7050	2000	0.65	0.14	58.9	57.9	26.0	20.6	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	4612	7050	0.65	64.3	23.8	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.952	4717	105	7050	2000	0.67	0.05	58.6	57.6	26.8	21.8	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	4724	7050	0.67	64.6	24.4	C

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.943	4724	1480	7050	4000	0.67	0.37	57.2	52.1	27.5	16.0	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.877	3219	7050	0.46	65.0	16.5	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.877	0.971	3848	629	7050	2000	0.55	0.31	59.2	57.8	21.7	20.2	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	3845	7050	0.55	65.0	19.7	C

Segment 10: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.943	3845	776	7050	2000	0.55	0.39	57.7	53.5	22.2	21.9	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.877	3081	7050	0.44	64.7	15.8	B

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.877	0.962	3726	645	7050	2000	0.53	0.32	59.1	57.6	21.0	20.5	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.893	3721	7050	0.53	65.0	19.1	C

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.893	0.952	3721	2240	7050	4200	0.53	0.53	56.6	53.5	21.9	15.7	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.820	1451	4700	0.31	64.9	11.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	6789	6150	3.88	96.93	62.7	20.1	17.8	8.10	C

Facility Overall Results

Space Mean Speed, mi/h	62.7	Average Density, veh/mi/ln	17.8
Average Travel Time, min	8.10	Average Density, pc/mi/ln	20.1
Total VMT, veh-mi	6789	Total VHD, veh-h	3.88
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	96.93

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Facility Name		Units	U.S. Customary
Project Description	I-70 EB, I-465 to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.74		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, at I-465	1700	3
2	Merge	Merge	I-70 EB, Entrance Ramp from NB I-465	1500	3
3	Basic	Basic	I-70 EB, between I-465 and Sam Jones Expy	2070	3
4	Diverge	Diverge	I-70 EB, Exit Ramp to Sam Jones Expy	1500	3
5	Basic	Basic	I-70 EB, at Sam Jones Expy	2400	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.893	4776	7050	0.68	64.5	24.7	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.893	0.935	5352	576	7050	2000	0.76	0.29	57.4	56.1	31.1	27.1	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.901	5331	7050	0.76	63.0	28.2	D

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.901	0.855	5331	407	7050	2000	0.76	0.20	58.5	54.3	30.4	28.1	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.901	4945	7050	0.70	64.1	25.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2001	1748	1.65	41.37	61.7	27.7	24.9	1.70	D

Facility Overall Results

Space Mean Speed, mi/h	61.7	Average Density, veh/mi/ln	24.9
Average Travel Time, min	1.70	Average Density, pc/mi/ln	27.7
Total VMT, veh-mi	2001	Total VHD, veh-h	1.65
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	41.37

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Facility Name		Units	U.S. Customary
Project Description	I-70 EB, I-465 to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	17
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.01		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 EB, Entrance Ramp from Sam Jones Expy	1500	3
2	Basic	Basic	I-70 EB, between Sam Jones Expy and Holt Rd	4320	3
3	Diverge	Diverge	I-70 EB, Exit Ramp to Holt Rd	1500	3
4	Basic	Basic	I-70 EB, at Holt Rd	3000	3
5	Merge	Merge	I-70 EB, Entrance Ramp from Holt Rd	1500	3
6	Basic	Basic	I-70 EB, between Holt Rd and Harding St	4700	3
7	Diverge	Diverge	I-70 EB, Exit Ramp to Harding St	1500	3
8	Basic	Basic	I-70 EB, at Harding St	1800	3
9	Merge	Merge	I-70 EB, Entrance Ramp from Harding St	1500	3
10	Basic	Basic	I-70 EB, between Harding St and West St	1550	3
11	Diverge	Diverge	I-70 EB, Exit Ramp to West St	1500	3
12	Basic	Basic	I-70 EB, over West St	650	3
13	Diverge	Diverge	I-70 EB, Exit Ramp to Madison Ave & Illinois St	1000	3
14	Basic	Basic	I-70 EB, between Missouri St and Kenwood Ave	1300	3
15	Merge	Merge	I-70 EB, Entrance Ramp from Missouri St	650	3
16	Weaving	Weaving	I-70 EB, Entrance Ramp from Madison Ave & Exit to SB I-65	3000	4
17	Basic	Basic	I-70 EB at South Split	780	2

Facility Segment Data

Segment 1: Merge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.901	0.952	6673	2095	7050	2000	1.00	1.05	42.2	49.8	52.8	39.6	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.917	6467	7050	0.98	39.8	54.2	F

Segment 3: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.917	0.893	6384	640	7050	2000	0.98	0.32	37.8	53.8	56.3	33.5	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.917	5462	7050	0.90	25.4	71.8	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.917	0.862	6565	1680	7050	2000	1.13	0.84	52.9	50.6	45.0	36.4	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.909	6565	7050	1.13	56.2	38.9	F

Segment 7: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.909	0.943	6565	1077	7050	2000	1.13	0.54	57.1	52.9	38.3	35.2	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.901	5488	7050	0.98	62.4	29.3	D

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.901	0.806	6479	991	7050	2000	1.12	0.50	54.3	52.2	39.8	34.6	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.893	6479	7050	1.11	56.8	38.0	F

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.893	0.943	6479	821	7050	2000	1.11	0.41	57.5	53.5	37.6	35.7	F

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.885	5658	7050	1.00	61.7	30.6	F

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.885	0.980	5658	1142	7050	2000	1.00	0.57	57.1	52.8	33.0	32.9	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.870	4516	7050	0.84	63.8	23.2	C

Segment 15: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.89	0.89	0.870	0.870	5433	917	7050	2000	0.97	0.46	56.9	55.3	31.8	29.2	D

Segment 16: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.855	5579	8027	0.87	56.7	24.6	C

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.89	0.862	3552	4700	1.05	63.0	28.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8371	8340	49.03	1225.77	47.1	42.0	38.0	7.70	F

Facility Overall Results

Space Mean Speed, mi/h	47.1	Average Density, veh/mi/ln	38.0
Average Travel Time, min	7.70	Average Density, pc/mi/ln	42.0
Total VMT, veh-mi	8371	Total VHD, veh-h	49.03
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1225.77

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	17
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.10		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, between North Split and Keystone Way	4840	5
2	Diverge	Diverge	I-70 EB, Exit Ramp to SB Keystone Way	1500	5
3	Diverge	Basic	I-70 EB, Exit Ramp to NB Keystone Way	1460	5
4	Basic	Basic	I-70 EB, at Keystone Way	1170	4
5	Merge	Merge	I-70 EB, Entrance Ramp from Keystone Way	1500	4
6	Basic	Basic	I-70 EB, between Keystone Way and Emerson Ave	3870	4
7	Diverge	Diverge	I-70 EB, Exit Ramp to Emerson Ave	1500	4
8	Basic	Basic	I-70 EB, West of Emerson Ave	1530	4
9	Merge	Merge	I-70 EB, Entrance Ramp from SB Emerson Ave	1420	4
10	Merge	Merge	I-70 EB, Entrance Ramp from NB Emerson Ave	1600	4
11	Basic	Basic	I-70 EB, between Emerson Ave and Shadeland (5 Lane)	4415	5
12	Diverge	Diverge	I-70 EB, Exit Ramp to Shadeland Ave	1500	5
13	Basic	Basic	I-70 EB, at Shadeland Ave	5360	3
14	Merge	Merge	I-70 EB, Entrance Ramp from Shadeland Ave	1800	3
15	Merge	Merge	I-70 EB, Entrance Ramp from SB I-465	1500	4
16	Merge	Basic	I-70 EB, Entrance Ramp from NB I-465	1500	5
17	Basic	Basic	I-70 EB, East of I-465	1000	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.94		0.885		7607		11750		0.65		64.8		23.5		C
Segment 2: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.885	0.943	7607	451	11750	2000	0.65	0.23	61.0	54.2	20.0	23.9	C
Segment 3: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.885	0.917	7126	936	11750	2000	0.61	0.47	64.6	65.0	21.9	21.9	C
Segment 4: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.94		0.877		6212		9400		0.66		64.7		24.0		C
Segment 5: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.877	0.917	6707	495	9400	2000	0.71	0.25	58.7	57.1	28.6	23.7	C
Segment 6: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.94		0.885		6669		9400		0.71		64.0		26.0		C
Segment 7: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.885	0.935	6669	1236	9400	2000	0.71	0.62	59.1	52.6	28.2	30.0	D
Segment 8: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.94		0.870		5456		9400		0.58		64.5		21.0		C
Segment 9: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.870	0.926	5757	301	9400	2000	0.61	0.15	59.6	57.9	24.1	19.4	B
Segment 10: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.94	0.94	0.870	0.971	6327	551	9400	2000	0.67	0.28	59.1	57.3	26.8	22.7	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.885	6283	11750	0.53	65.0	19.3	C

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.885	0.901	6283	4029	11750	5000	0.53	0.81	57.1	57.1	22.0	22.0	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.847	2280	7050	0.32	65.0	11.7	B

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.847	0.833	2414	134	7050	2000	0.34	0.07	60.2	58.3	13.4	13.0	B

Segment 15: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.847	0.926	3369	957	9400	4000	0.36	0.24	61.4	59.4	13.7	10.7	B

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.870	0.833	5061	1695	11750	2000	0.43	0.85	64.7	65.0	15.6	15.6	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.862	5035	11750	0.43	65.0	15.5	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	8717	7953	4.63	115.83	62.8	20.8	18.2	6.80	C

Facility Overall Results

Space Mean Speed, mi/h	62.8	Average Density, veh/mi/ln	18.2
Average Travel Time, min	6.80	Average Density, pc/mi/ln	20.8
Total VMT, veh-mi	8717	Total VHD, veh-h	4.63
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	115.83

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.66		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, east of I-465	500	5
2	Diverge	Diverge	I-70 WB, Exit to I-465 NB/SB	1500	5
3	Basic	Basic	I-70 WB, east of I-465	1600	3
4	Diverge	Diverge	I-70 WB, Exit to Shadeland Ave	1500	3
5	Basic	Basic	I-70 WB, west of I-465	1650	3
6	Merge	Merge	I-70 WB, Entrance Ramp From SB I-465	1500	4
7	Basic	Basic	I-70 WB, East of Entrance Ramp From NB I-465	500	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.901	8191	11750	0.70	64.2	25.5	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.885	8191	3484	11750	4000	0.70	0.87	53.9	47.9	24.3	27.6	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.909	4727	7050	0.67	64.1	24.4	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.94	0.94	0.909	0.935	4727	289	7050	2000	0.67	0.14	58.8	54.6	26.8	23.4	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.909	4430	7050	0.63	64.5	22.8	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.909	0.971	7966	3536	9400	4000	0.85	0.88	54.3	51.1	36.7	35.9	E

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	7978	9400	0.85	60.0	33.2	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2335	1980	4.08	102.03	58.4	27.4	24.9	1.70	D

Facility Overall Results

Space Mean Speed, mi/h	58.4	Average Density, veh/mi/ln	24.9
Average Travel Time, min	1.70	Average Density, pc/mi/ln	27.4
Total VMT, veh-mi	2335	Total VHD, veh-h	4.08
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	102.03

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	10
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.88		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 WB, Entrance Ramp from I-465 N	1350	4
2	Merge	Merge	I-70 WB Entrance Ramp from Shadeland Ave	1500	4
3	Basic	Basic	I-70 WB, between Shadeland Entrance and Emerson Exit	4780	4
4	Diverge	Diverge	I-70 WB, Exit Ramp to Emerson Ave	1500	4
5	Basic	Basic	I-70 WB, East of Emerson Ave	1500	4
6	Merge	Merge	I-70 WB, Entrance Ramp From NB Emerson Ave	1500	4
7	Merge	Merge	I-70 WB, Entrance Ramp From SB Emerson Ave	1500	4
8	Basic	Basic	I-70 WB, between Emerson Ave and Keystone Way	4000	4
9	Diverge	Diverge	I-70 WB, Exit Ramp to Keystone Way	1500	4
10	Basic	Basic	I-70 WB, East of Keystone Way	1350	4

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.917	7657	556	9400	2000	0.91	0.28	26.6	55.1	71.9	29.5	F

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.952	8747	1297	9400	2000	1.04	0.65	48.6	50.1	45.0	36.3	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	8445	9400	1.05	42.3	49.9	F

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.952	8336	783	9400	2000	1.05	0.39	38.2	53.5	54.5	40.0	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	7387	9400	0.96	27.1	68.1	F

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.962	7905	626	9400	2000	1.03	0.31	29.7	52.5	66.6	33.3	F

Segment 7: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.935	8753	848	9400	2000	1.12	0.42	56.1	54.0	39.0	31.1	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	8753	9400	1.12	56.2	38.9	F

Segment 9: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.935	8753	701	9400	2000	1.12	0.35	59.6	53.7	36.7	37.3	F

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	8052	9400	1.05	59.7	33.7	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7588	8252	60.66	1516.51	42.8	48.9	45.7	5.40	F

Facility Overall Results

Space Mean Speed, mi/h	42.8	Average Density, veh/mi/ln	45.7
Average Travel Time, min	5.40	Average Density, pc/mi/ln	48.9
Total VMT, veh-mi	7588	Total VHD, veh-h	60.66

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1516.51

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.01		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 WB, Entrance Ramp from NB Keystone Way	1450	5
2	Merge	Merge	I-70 WB, Entrance Ramp from SB Keystone Way	1500	5
3	Basic	Basic	I-70 WB, between Keystone Way and North Split	2370	5

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.926	10218	381	11750	2000	0.87	0.19	58.3	57.5	26.5	22.1	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.935	0.943	10865	650	11750	2000	0.92	0.32	56.9	55.1	29.4	29.7	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.935	10870	11750	0.93	56.5	38.5	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2518	2303	5.38	134.49	57.1	32.7	30.6	1.10	D

Facility Overall Results

Space Mean Speed, mi/h	57.1	Average Density, veh/mi/ln	30.6
Average Travel Time, min	1.10	Average Density, pc/mi/ln	32.7
Total VMT, veh-mi	2518	Total VHD, veh-h	5.38
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	134.49

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at South Split	1600	2
2	Weaving	Weaving	I-70 WB, between I-65 Ramp and Madison Ave	2100	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.885	4154	4700	0.94	33.6	61.8	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	4806	5161	1.57	51.7	23.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1016	636	6.93	173.23	45.0	33.9	30.5	0.90	F

Facility Overall Results

Space Mean Speed, mi/h	45.0	Average Density, veh/mi/ln	30.5
Average Travel Time, min	0.90	Average Density, pc/mi/ln	33.9
Total VMT, veh-mi	1016	Total VHD, veh-h	6.93
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	173.23

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at Madison Ave	350	3
2	Weaving	Weaving	I-70 WB, Ent from Madison Ave and Exit to Missouri St	1330	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.909	7037	7050	1.00	52.3	44.9	E

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.909	7309	7920	0.91	41.4	44.1	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	526	473	4.08	101.93	43.2	44.2	40.7	0.40	E

Facility Overall Results

Space Mean Speed, mi/h	43.2	Average Density, veh/mi/ln	40.7
Average Travel Time, min	0.40	Average Density, pc/mi/ln	44.2
Total VMT, veh-mi	526	Total VHD, veh-h	4.08
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	101.93

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at Kenwood Ave	1050	3
2	Merge	Merge	I-70 WB, Entrance Ramp from Capitol Ave	1600	3
3	Merge	Merge	I-70 WB, Entrance from West St	1500	3
4	Basic	Basic	I-70 WB, between West St and Harding St	1370	3
5	Diverge	Diverge	I-70 WB, Exit to Harding St	1500	3
6	Basic	Basic	I-70 WB, at Harding St	1600	3
7	Merge	Merge	I-70 WB, Entrance from Harding St	1500	3
8	Basic	Basic	I-70 WB, between Harding St and Holt Rd	5200	3
9	Diverge	Diverge	I-70 WB, Exit to Holt Rd	1500	3
10	Basic	Basic	I-70 WB, at Holt Rd	2650	3
11	Merge	Merge	I-70 WB, Entrance Ramp from Holt Rd	1500	3
12	Basic	Basic	I-70 WB, between Holt Rd and Sam Jones Expy	3380	3
13	Diverge	Diverge	I-70 WB, Exit to Sam Jones Expy	1500	3
14	Basic	Basic	I-70 WB, at Sam Jones Expy	3180	3
15	Merge	Merge	I-70 WB, Entrance Ramp from Sam Jones Expy	1400	3
16	Basic	Basic	I-70 WB, Between Sam Jones Expy and I-465	3770	3
17	Diverge	Diverge	I-70 WB, Exit Ramp to NB I-465	1500	4
18	Diverge	Basic	I-70 WB, Exit Ramp to SB I-465	1200	4
19	Basic	Basic	I-70 WB, West of I-465	4500	3

Facility Segment Data

Segment 1: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.93		0.901		5693		7050		0.81		61.5		30.9		D
Segment 2: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.901	0.909	5883	190	7050	2000	0.83	0.10	56.6	55.4	34.6	29.3	D
Segment 3: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.901	0.901	6379	494	7050	2000	0.90	0.25	54.6	52.6	38.9	34.7	D
Segment 4: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.93		0.901		6379		7050		0.90		57.5		37.0		E
Segment 5: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.901	0.935	6379	1245	7050	2000	0.90	0.62	56.9	52.6	37.4	34.9	D
Segment 6: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.93		0.893		5132		7050		0.73		63.6		26.9		D
Segment 7: Merge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.893	0.794	5893	761	7050	2000	0.84	0.38	56.2	54.6	35.0	30.6	D
Segment 8: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.93		0.885		5861		7050		0.83		60.7		32.2		D
Segment 9: Diverge															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
	F	**R**	**F**	**R**	**Freeway**	**Ramp**	**Freeway**	**Ramp**	**F**	**R**	**F**	**R Infl.**	**F**	**R Infl.**	
1	0.93	0.93	0.885	0.926	5861	1736	7050	2000	0.83	0.87	55.9	51.6	34.9	31.3	D
Segment 10: Basic															
AP	**PHF**		**fHV**		**Flow Rate (pc/h)**		**Capacity (pc/h)**		**d/c Ratio**		**Speed (mi/h)**		**Density (pc/mi/ln)**		**LOS**
1	0.93		0.870		4114		7050		0.58		64.7		21.1		C

Segment 11: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.870	0.847	4627	513	7050	2000	0.66	0.26	58.2	56.8	26.5	24.9	C

Segment 12: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.870	4614	7050	0.65	64.7	23.8	C

Segment 13: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.870	0.926	4614	1865	7050	2000	0.65	0.93	55.0	51.3	28.0	28.7	D

Segment 14: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.847	2700	7050	0.38	64.8	13.8	B

Segment 15: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.847	0.730	2934	234	7050	2000	0.42	0.12	59.9	58.2	16.3	15.4	B

Segment 16: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.840	2926	7050	0.42	64.9	15.0	B

Segment 17: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.840	0.752	2926	144	9400	2000	0.31	0.07	62.6	54.9	11.7	5.8	A

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.847	0.901	2774	246	9400	2000	0.30	0.12	64.7	65.0	10.7	10.7	A

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.840	2533	7050	0.36	65.0	13.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7584	6925	9.06	226.39	60.3	23.9	20.9	7.80	C

Facility Overall Results

Space Mean Speed, mi/h	60.3	Average Density, veh/mi/ln	20.9
Average Travel Time, min	7.80	Average Density, pc/mi/ln	23.9
Total VMT, veh-mi	7584	Total VHD, veh-h	9.06
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	226.39

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/23/2024
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	South Split, EB I-70 to SB I-65		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South Split, EB I-70	1050	2
2	Merge	Merge	South Split, SB I-65 and EB I-70	360	4
3	Merge	Basic	SB I-65, On-ramp from Morris St	1500	5
4	Basic	Basic	SB I-65, south of South Split	1900	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.84	0.893	2148	4700	0.46	65.0	16.5	B

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.84	0.84	0.893	0.917	4603	2455	9400	4400	0.49	0.56	58.9	57.0	19.5	25.8	C

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.84	0.84	0.909	0.943	4821	235	11750	2000	0.41	0.12	63.6	65.0	14.8	14.8	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.84	0.909	4830	11750	0.41	64.9	14.9	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	872	688	0.22	5.53	63.9	15.4	13.9	0.90	B

Facility Overall Results

Space Mean Speed, mi/h	63.9	Average Density, veh/mi/ln	13.9
Average Travel Time, min	0.90	Average Density, pc/mi/ln	15.4
Total VMT, veh-mi	872	Total VHD, veh-h	0.22
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	5.53

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/23/2024
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	South Split, NB I-65 to WB I-70		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.06		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	NB I-65, Off-ramp to Morris St	1500	4
2	Diverge	Diverge	South Split, Off-ramp to NB I-65	1015	4
3	Basic	Basic	South Split, WB I-70	3100	2

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.943	0.990	8291	349	9600	2000	0.86	0.17	68.6	60.1	30.2	30.3	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.943	0.935	7925	4232	9400	6600	0.84	0.64	57.4	52.4	34.5	44.4	E

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.952	3693	4700	0.79	62.2	29.7	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1430	1330	1.82	45.47	63.2	31.1	29.4	1.00	D

Facility Overall Results

Space Mean Speed, mi/h	63.2	Average Density, veh/mi/ln	29.4
Average Travel Time, min	1.00	Average Density, pc/mi/ln	31.1

Total VMT, veh-mi	1430	Total VHD, veh-h	1.82
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	45.47

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/24/2024
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB C-D near Shadeland Ave and I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.57		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Collector-Distributor I-70 WB	500	2
2	Weaving	Weaving	Collector-Distributor I-70 WB, I-465 and Shadeland Ave	2000	3
3	Basic	Basic	Collector-Distributor I-70 WB, to Shadeland Ave	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.81	0.926	937	4500	0.21	55.0	8.5	A

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.81	0.917	1810	6138	0.29	49.8	12.1	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.81	0.917	645	2250	0.29	54.3	5.9	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	198	95	0.31	7.85	50.6	10.9	8.4	0.70	A

Facility Overall Results

Space Mean Speed, mi/h	50.6	Average Density, veh/mi/ln	8.4
Average Travel Time, min	0.70	Average Density, pc/mi/ln	10.9
Total VMT, veh-mi	198	Total VHD, veh-h	0.31

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	7.85

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/24/2024
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	AM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB C-D near Shadeland Ave and I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.02		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Basic	Collector-Distributor I-70 EB, Shadeland Exit Ramp	1380	3
2	Basic	Basic	Collector-Distributor I-70 EB	1000	2
3	Weaving	Weaving	Collector-Distributor I-70 EB, Shadeland Entrance Ramp and Slip ramp to EB I-70	2500	3
4	Basic	Basic	Collector-Distributor I-70 EB	500	3

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.86	0.86	0.901	0.926	4403	1006	6750	2000	0.65	0.50	55.0	55.0	26.7	26.7	D

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.893	3400	4500	0.76	55.0	30.9	D

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.893	4014	5700	0.70	46.5	28.8	D

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.893	3875	6750	0.57	54.3	23.5	C

Facility Analysis Results

AP	VMT	VMT-Demand	VHD	Total Delay Cost	Speed	Density	Density	TT	LOS

	veh-mi/AP	veh-mi/AP	veh-h/AP	$/AP	mi/h	pc/mi/ln	veh/mi/ln	min	
1	909	726	1.43	35.75	50.6	28.0	23.3	1.20	D

Facility Overall Results

Space Mean Speed, mi/h	50.6	Average Density, veh/mi/ln	23.3
Average Travel Time, min	1.20	Average Density, pc/mi/ln	28.0
Total VMT, veh-mi	909	Total VHD, veh-h	1.43
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	35.75

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, from I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	23
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	11.06		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 SB, between Exit 123 (I-465) and Entrance Ramp from SB I-465	2760	2
2	Merge	Basic	I-65 SB, Entrance Ramp from SB I-465	1500	3
3	Basic	Basic	I-65 SB, between I-465 and Lafayette Rd	6500	3
4	Diverge	Diverge	I-65 SB, Exit Ramp to Lafayette Rd	1500	3
5	Basic	Basic	I-65 SB, at Layfayette Rd	2700	3
6	Merge	Merge	I-65 SB, Entrance Ramp from Lafayette Rd	1500	3
7	Basic	Basic	I-65 SB, between Layfayette Rd and 38th St	6100	3
8	Diverge	Diverge	I-65 SB, Exit Ramp to 38th St	1500	3
9	Basic	Basic	I-65 SB, between 38th St Exit and 38th St Entrance	5200	3
10	Merge	Basic	I-65 SB, Entrance Ramp from 38th St	3200	3
11	Basic	Basic	I-65 SB, between 38th St and Dr MLK Jr St	4200	3
12	Diverge	Diverge	I-65 SB, Exit Ramp to Dr MLK Jr St	1500	3
13	Basic	Basic	I-65 SB, at Dr MLK Jr St	1200	3
14	Merge	Merge	I-65 SB, Entrance Ramp from Dr MLK Jr St	1500	3
15	Basic	Basic	I-65 SB, between Dr MLK Jr St and 29th St	2500	3
16	Weaving	Weaving	I-65 SB, between 29th St and 21st St	2000	4
17	Basic	Basic	I-65 SB, between 21st Exit Ramp and 21st St Entrance Ramp	1140	3
18	Weaving	Weaving	I-65 SB, between 21st Entrance Ramp and West St Exit Ramp	4030	4
19	Basic	Basic	I-65 SB, between West St Exit Ramp and Illinois St	500	3

20	Diverge	Diverge	I-65 SB, Exit Ramp to N Illinois St	1500	3
21	Basic	Basic	I-65 SB, between N Illinois St Exit and West St Entrance	350	3
22	Weaving	Weaving	I-65 SB, between Entrance Ramp from West St and North Split	4340	3
23	Basic	Basic	I-65 SB, at North Split	1170	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.813	2424	4664	0.52	63.2	19.2	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.813	0.962	4117	1693	7050	2000	0.58	0.85	64.9	65.0	21.1	21.1	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	4105	7050	0.58	65.0	21.0	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.877	0.971	4105	565	7050	2000	0.58	0.28	57.9	54.0	23.6	24.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.870	3508	7050	0.50	64.8	18.0	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.870	0.980	4515	1007	7050	2000	0.64	0.50	58.0	56.4	25.9	26.4	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	4523	7050	0.64	64.8	23.3	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.893	0.980	4523	840	7050	2000	0.64	0.42	57.7	53.4	26.1	24.6	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.870	3695	7050	0.52	65.0	19.0	C

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.870	0.943	5327	1632	7050	2000	0.76	0.82	63.0	63.0	28.2	28.2	D

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	5323	7050	0.76	63.0	28.2	D

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.893	0.962	5323	397	7050	2000	0.76	0.20	58.4	54.3	30.4	28.1	D

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.885	4940	7050	0.70	64.1	25.7	C

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.885	0.952	5691	751	7050	2000	0.81	0.38	57.1	55.7	33.2	27.1	C

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	5697	7050	0.81	61.5	30.9	D

Segment 16: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	6118	8380	0.73	49.8	30.7	D

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.901	5499	7050	0.78	62.3	29.4	D

Segment 18: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.901	6127	8700	0.70	53.2	28.8	D

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.893	5222	7050	0.74	63.4	27.5	D

Segment 20: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.93	0.93	0.893	0.980	5222	563	7050	2000	0.74	0.28	58.2	54.0	29.9	30.1	D

Segment 21: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	4689	7050	0.67	63.5	24.2	C

Segment 22: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.877	5797	6222	0.93	45.9	42.1	E

Segment 23: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.93	0.885	2198	4700	0.47	64.8	16.9	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	11500	9952	18.08	452.04	58.9	26.3	22.7	11.30	D

Facility Overall Results

Space Mean Speed, mi/h	58.9	Average Density, veh/mi/ln	22.7
Average Travel Time, min	11.30	Average Density, pc/mi/ln	26.3
Total VMT, veh-mi	11500	Total VHD, veh-h	18.08
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	452.04

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 SB, EB 38th St Frontage		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.75		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	38th St Frontage, from Industrial Blvd / Commercial Dr	1640	2
2	Weaving	Weaving	38th St Frontage, Between Entrance from I-65 SB and Kessler Blvd	3330	4
3	Weaving	Weaving	38th St Frontage, Between Kessler Blvd and Exit to I-65 SB	1640	3
4	Basic	Basic	38th St Frontage, to Cold Spring Rd	2640	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.90	0.962	2775	4700	0.59	65.0	21.4	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.90	0.962	3639	8136	0.45	56.8	16.0	B

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.90	0.980	3756	5769	0.65	54.7	22.9	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.90	0.980	2065	4700	0.44	64.7	15.9	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1296	1004	2.07	51.64	58.9	17.9	16.2	1.80	B

Facility Overall Results

Space Mean Speed, mi/h	58.9	Average Density, veh/mi/ln	16.2
Average Travel Time, min	1.80	Average Density, pc/mi/ln	17.9
Total VMT, veh-mi	1296	Total VHD, veh-h	2.07
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	51.64

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, WB 38th St Frontage		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.55		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	38th St Frontage, from NB I-65	1000	2
2	Weaving	Weaving	38th St Frontage, Between Cold Springs Entrance and Exit to Kessler Blvd	2950	4
3	Weaving	Weaving	38th St Frontage, Between Entrance from Kessler Blvd and NB I-65	2590	4
4	Basic	Basic	38th St Frontage, to Industrial Blvd	1640	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	2286	4700	0.49	65.0	17.6	B

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.971	4286	4752	0.97	56.3	19.0	B

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4281	7720	0.55	57.1	18.7	B

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3605	4700	0.77	62.7	28.7	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1462	1021	2.61	65.28	58.2	19.9	18.1	1.60	C

Facility Overall Results

Space Mean Speed, mi/h	58.2	Average Density, veh/mi/ln	18.1
Average Travel Time, min	1.60	Average Density, pc/mi/ln	19.9
Total VMT, veh-mi	1462	Total VHD, veh-h	2.61
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	65.28

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	Collector-Distributor I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.08		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Collector-Distributor I-70/I-65 SB at Washington St	2010	2
2	Weaving	Weaving	Collector-Distributor I-70/I-65 SB Between E Washington St Entrance and Fletcher Ave Exit	1750	3
3	Basic	Basic	Collector-Distributor I-70/I-65 SB, Slip Ramp to Mainline	1940	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.917	545	2300	0.24	60.0	4.5	A

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.917	2419	2422	1.20	41.6	19.4	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.88	0.943	1938	4600	0.54	59.1	16.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	449	267	1.76	44.06	48.6	13.9	13.3	1.30	F

Facility Overall Results

Space Mean Speed, mi/h	48.6	Average Density, veh/mi/ln	13.3
Average Travel Time, min	1.30	Average Density, pc/mi/ln	13.9

Total VMT, veh-mi	449	Total VHD, veh-h	1.76
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	44.06

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	Main I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70/I-65 SB from North Split	5750	3
2	Weaving	Weaving	I-70/I-65 SB, Entrance from Slip Ramp	1700	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.870	5721	6900	0.88	36.9	51.7	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.870	6385	6857	1.21	44.7	28.6	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1952	1818	17.55	438.78	39.0	44.1	38.6	2.20	F

Facility Overall Results

Space Mean Speed, mi/h	39.0	Average Density, veh/mi/ln	38.6
Average Travel Time, min	2.20	Average Density, pc/mi/ln	44.1
Total VMT, veh-mi	1952	Total VHD, veh-h	17.55
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	438.78

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HCS Freeway Facilities Report

Project Information

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Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	Main I-65 SB, I-70 WB, North Split to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	2
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.53		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	I-70/I-65 SB, to I-70 WB	820	4
2	Basic	Basic	I-65 SB, through South Split	2000	2

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.885	0.847	7672	3983	9200	4000	0.83	1.00	51.1	45.9	37.5	33.3	D

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.935	3654	4600	0.79	59.1	30.9	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	587	570	0.85	21.20	55.2	33.9	30.8	0.60	D

Facility Overall Results

Space Mean Speed, mi/h	55.2	Average Density, veh/mi/ln	30.8
Average Travel Time, min	0.60	Average Density, pc/mi/ln	33.9
Total VMT, veh-mi	587	Total VHD, veh-h	0.85
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	21.20

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, I-70 EB, South Split to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.39		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, through South Split	1950	3
2	Merge	Basic	I-65 NB / I-70 EB, between South Split and Calvary St	1800	5
3	Merge	Merge	I-65 NB / I-70 EB, Entrance Ramp from Calvary St	800	5
4	Diverge	Diverge	I-65 NB / I-70 EB, Exit Ramp to Washington St	800	5
5	Basic	Basic	I-65 NB / I-70 EB, Washington St to South of North Split	2000	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.917	3224	6900	0.47	60.0	17.9	B

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.917	0.877	7478	4254	11500	4400	0.65	0.97	60.0	60.0	24.9	24.9	C

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.893	0.980	8546	1057	11500	2000	0.74	0.53	54.5	53.1	23.9	27.2	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.95	0.95	0.901	0.980	8572	1492	11500	4000	0.75	0.37	56.3	49.9	24.4	15.6	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.893	7011	9200	0.76	59.6	29.4	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2032	1581	0.87	21.82	58.5	24.6	22.2	1.40	C

Facility Overall Results

Space Mean Speed, mi/h	58.5	Average Density, veh/mi/ln	22.2
Average Travel Time, min	1.40	Average Density, pc/mi/ln	24.6
Total VMT, veh-mi	2032	Total VHD, veh-h	0.87
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	21.82

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.13		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, between North Split and Delaware St	1800	3
2	Diverge	Diverge	I-65 NB, Exit Ramp to West St	1500	3
3	Basic	Basic	I-65 NB, between West St Exit Ramp and Illinois St Ent Ramp	700	3
4	Merge	Merge	I-65 NB, Entrance Ramp from Illinois St	1500	3
5	Basic	Basic	I-65 NB, between Entrance Ramp from Illinois St and Entrance Ramp from West St	470	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.917	5967	7050	0.85	60.1	33.1	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.917	0.971	5967	1437	7050	2000	0.85	0.72	56.3	52.2	35.3	34.6	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.901	4524	7050	0.64	63.5	23.3	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.901	1.000	6033	1509	7050	2000	0.86	0.75	54.7	52.6	36.8	33.8	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.926	6032	7050	0.86	59.7	33.7	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1500	1334	2.85	71.13	57.9	33.5	30.6	1.20	D

Facility Overall Results

Space Mean Speed, mi/h	57.9	Average Density, veh/mi/ln	30.6
Average Travel Time, min	1.20	Average Density, pc/mi/ln	33.5
Total VMT, veh-mi	1500	Total VHD, veh-h	2.85
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	71.13

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HCS Freeway Facilities Report

Project Information

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Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.28		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Weaving	Weaving	I-65 NB, between Entrance Ramp from West St and Exit Ramp to 21st St	2300	4
2	Basic	Basic	I-65 NB, at 21st St	970	3
3	Weaving	Weaving	I-65 NB, between 21st St and 29th St	3500	4

Facility Segment Data

Segment 1: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.926	6735	6761	1.20	50.6	33.3	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.943	5883	7050	1.03	28.7	68.4	F

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.943	6671	7164	1.11	43.7	38.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2127	1954	17.11	427.74	42.7	39.8	37.9	1.80	F

Facility Overall Results

Space Mean Speed, mi/h	42.7	Average Density, veh/mi/ln	37.9
Average Travel Time, min	1.80	Average Density, pc/mi/ln	39.8
Total VMT, veh-mi	2127	Total VHD, veh-h	17.11
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	427.74

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/8/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-65 NB, from North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	15
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	8.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-65 NB, at W 29th St	2950	3
2	Merge	Merge	I-65 NB, Entrance Ramp from 30th St	1500	3
3	Basic	Basic	I-65 NB, between 30th St and Dr MLK Jr St	1100	3
4	Merge	Merge	I-65 NB, Entrance Ramp from Dr MLK Jr St	1500	3
5	Basic	Basic	I-65 NB, between from Dr MLK Jr St and 38th St	3200	3
6	Diverge	Diverge	I-65 NB, Exit Ramp to 38th St	2500	3
7	Basic	Basic	I-65 NB, between Exit Ramp to 38th St and Entrance Ramp from 38th St	6930	3
8	Merge	Merge	I-65 NB, Entrance Ramp from 38th St	1500	3
9	Basic	Basic	I-65 NB, between 38th St and Lafayette Rd	6400	3
10	Diverge	Diverge	I-65 NB, Exit Ramp to Lafayette Rd	1500	3
11	Basic	Basic	I-65 NB, at Lafayette Rd	2660	3
12	Merge	Merge	I-65 NB, Entrance Ramp from Lafayette Rd	1500	3
13	Basic	Basic	I-65 NB, between Lafayette Rd and I-465	4990	3
14	Diverge	Diverge	I-65 NB, Exit Ramp to I-465	1500	3
15	Basic	Basic	I-65 NB, at I-465	4700	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.935	6264	7050	0.89	58.3	35.8	E

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.935	0.990	6727	463	7050	2000	0.95	0.23	54.6	53.0	41.1	31.3	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.943	6696	7050	0.95	55.2	40.4	E

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.943	0.990	6946	250	7050	2000	0.99	0.12	54.0	52.6	42.9	32.8	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.943	6959	7050	0.99	53.0	43.8	E

Segment 6: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.943	0.971	6959	2252	7050	4000	0.99	0.56	55.1	50.5	42.1	28.3	D

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.935	4680	7050	0.66	64.6	24.1	C

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.935	0.990	5396	716	7050	2000	0.77	0.36	57.3	55.9	31.4	27.7	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.935	5438	7050	0.77	62.6	29.0	D

Segment 10: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.935	0.980	5438	1483	7050	2000	0.77	0.74	56.4	52.1	32.1	30.3	D

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.926	3921	7050	0.56	64.7	20.1	C

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.926	0.980	4490	569	7050	2000	0.64	0.28	58.4	57.0	25.6	23.9	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.926	4523	7050	0.64	64.8	23.3	C

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.926	0.962	4523	1738	7050	4200	0.64	0.41	58.8	54.6	25.6	16.5	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.909	2769	4700	0.59	65.0	21.3	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	10126	9493	14.44	360.90	59.5	29.9	28.0	8.50	D

Facility Overall Results

Space Mean Speed, mi/h	59.5	Average Density, veh/mi/ln	28.0
Average Travel Time, min	8.50	Average Density, pc/mi/ln	29.9
Total VMT, veh-mi	10126	Total VHD, veh-h	14.44
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	360.90

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, I-465 to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, at I-465	1700	3
2	Merge	Merge	I-70 EB, Entrance Ramp from NB I-465	1500	3
3	Basic	Basic	I-70 EB, between I-465 and Sam Jones Expy	2070	3
4	Diverge	Diverge	I-70 EB, Exit Ramp to Sam Jones Expy	1500	3
5	Basic	Basic	I-70 EB, at Sam Jones Expy	2400	3
6	Merge	Merge	I-70 EB, Entrance Ramp from Sam Jones Expy	1500	3
7	Basic	Basic	I-70 EB, between Sam Jones Expy and Holt Rd	4320	3
8	Diverge	Diverge	I-70 EB, Exit Ramp to Holt Rd	1500	3
9	Basic	Basic	I-70 EB, at Holt Rd	3000	3
10	Merge	Merge	I-70 EB, Entrance Ramp from Holt Rd	1500	3
11	Basic	Basic	I-70 EB, between Holt Rd and Harding St	4700	3
12	Diverge	Diverge	I-70 EB, Exit Ramp to Harding St	1500	3
13	Basic	Basic	I-70 EB, at Harding St	1800	3
14	Merge	Merge	I-70 EB, Entrance Ramp from Harding St	1500	3
15	Basic	Basic	I-70 EB, between Harding St and West St	1550	3
16	Diverge	Diverge	I-70 EB, Exit Ramp to West St	1500	3
17	Basic	Basic	I-70 EB, over West St	650	3
18	Diverge	Diverge	I-70 EB, Exit Ramp to Madison Ave & Illinois St	1000	3
19	Basic	Basic	I-70 EB, between Missouri St and Kenwood Ave	1300	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.847	3443	7050	0.49	65.0	17.7	B

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.847	0.943	3680	237	7050	2000	0.52	0.12	59.4	58.0	20.7	18.4	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.855	3672	7050	0.52	64.7	18.8	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.855	0.862	3672	694	7050	2000	0.52	0.35	57.9	53.7	21.1	21.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.855	2973	7050	0.42	64.7	15.2	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.855	0.935	4077	1104	7050	2000	0.58	0.55	58.7	57.2	23.2	23.1	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	4075	7050	0.58	64.9	20.9	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.877	0.870	4075	459	7050	2000	0.58	0.23	58.4	54.2	23.3	21.2	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	3620	7050	0.51	64.8	18.6	C

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.94	0.94	0.877	0.952	5088	1468	7050	2000	0.72	0.73	57.5	56.0	29.5	26.1	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.893	5120	7050	0.73	63.7	26.8	D

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.893	0.943	5120	466	7050	2000	0.73	0.23	58.3	54.2	29.3	29.5	D

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.893	4628	7050	0.66	64.5	23.8	C

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.893	0.952	5682	1054	7050	2000	0.81	0.53	56.3	54.6	33.6	31.0	D

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.901	5701	7050	0.81	61.5	30.9	D

Segment 16: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.935	5701	481	7050	2000	0.81	0.24	58.3	54.2	32.6	32.0	D

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.901	5201	7050	0.74	63.4	27.4	D

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.962	5201	280	7050	2000	0.74	0.14	58.8	54.6	29.5	29.6	D

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.893	4946	7050	0.70	64.0	25.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	6711	6082	5.54	138.57	61.7	23.8	21.0	6.70	C

Facility Overall Results

Space Mean Speed, mi/h	61.7	Average Density, veh/mi/ln	21.0
Average Travel Time, min	6.70	Average Density, pc/mi/ln	23.8
Total VMT, veh-mi	6711	Total VHD, veh-h	5.54
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	138.57

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/13/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, I-465 to South Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.84		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 EB, Entrance Ramp from Missouri St	650	3
2	Weaving	Weaving	I-70 EB, Entrance Ramp from Madison Ave & Exit to SB I-65	3000	4
3	Basic	Basic	I-70 EB at South Split	780	2

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.893	0.962	4148	1567	7050	2000	0.92	0.78	13.2	50.5	104.7	36.0	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.870	4755	5106	1.54	58.7	20.3	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.885	1099	4700	0.90	64.7	8.5	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1181	1049	8.58	214.57	44.1	29.7	27.0	1.10	F

Facility Overall Results

Space Mean Speed, mi/h	44.1	Average Density, veh/mi/ln	27.0
Average Travel Time, min	1.10	Average Density, pc/mi/ln	29.7

Total VMT, veh-mi	1181	Total VHD, veh-h	8.58
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	214.57

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	10
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.86		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, between North Split and Keystone Way	4840	5
2	Diverge	Diverge	I-70 EB, Exit Ramp to SB Keystone Way	1500	5
3	Diverge	Basic	I-70 EB, Exit Ramp to NB Keystone Way	1460	5
4	Basic	Basic	I-70 EB, at Keystone Way	1170	4
5	Merge	Merge	I-70 EB, Entrance Ramp from Keystone Way	1500	4
6	Basic	Basic	I-70 EB, between Keystone Way and Emerson Ave	3870	4
7	Diverge	Diverge	I-70 EB, Exit Ramp to Emerson Ave	1500	4
8	Basic	Basic	I-70 EB, West of Emerson Ave	1530	4
9	Merge	Merge	I-70 EB, Entrance Ramp from SB Emerson Ave	1420	4
10	Merge	Merge	I-70 EB, Entrance Ramp from NB Emerson Ave	1600	4

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.926	9672	11750	0.93	30.6	63.2	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.926	0.909	9392	384	11750	2000	0.93	0.19	28.4	54.4	66.2	33.6	F

Segment 3: Diverge

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.926	0.935	8751	804	11750	2000	0.90	0.40	22.4	22.4	78.3	78.3	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.926	7862	9400	1.04	28.8	68.3	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.926	0.980	8753	891	9400	2000	1.13	0.45	56.0	53.8	39.1	31.7	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.935	8753	9400	1.13	56.2	38.9	F

Segment 7: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.935	0.952	8753	1415	9400	2000	1.13	0.71	58.3	52.2	37.5	38.7	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.926	7338	9400	0.98	62.3	29.4	D

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.926	0.971	7778	440	9400	2000	1.03	0.22	57.8	56.4	33.6	26.3	F

Segment 10: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.935	0.980	8258	480	9400	2000	1.08	0.24	57.1	55.6	36.2	28.4	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	7851	8898	80.58	2014.48	39.0	51.3	47.6	5.90	F

Facility Overall Results

Space Mean Speed, mi/h	39.0	Average Density, veh/mi/ln	47.6
Average Travel Time, min	5.90	Average Density, pc/mi/ln	51.3
Total VMT, veh-mi	7851	Total VHD, veh-h	80.58

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	2014.48

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB, North Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.23		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 EB, between Emerson Ave and Shadeland (5 Lane)	4415	5
2	Diverge	Diverge	I-70 EB, Exit Ramp to Shadeland Ave	1500	5
3	Basic	Basic	I-70 EB, at Shadeland Ave	5360	3
4	Merge	Merge	I-70 EB, Entrance Ramp from Shadeland Ave	1800	3
5	Merge	Merge	I-70 EB, Entrance Ramp from SB I-465	1500	4
6	Merge	Basic	I-70 EB, Entrance Ramp from NB I-465	1500	5
7	Basic	Basic	I-70 EB, East of I-465	1000	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.935	10129	11750	0.86	59.5	34.1	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.935	0.962	10129	5955	11750	6000	0.86	0.99	57.1	57.1	35.5	35.5	E

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.901	4153	7050	0.59	65.0	21.3	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.96	0.96	0.901	0.971	4393	240	7050	2000	0.62	0.12	58.6	57.3	25.0	22.5	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.901	0.926	6054	1642	9400	4000	0.64	0.41	59.3	57.3	25.5	22.0	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.909	0.833	7693	1647	11750	2000	0.65	0.82	64.5	64.7	23.8	23.8	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.893	7691	11750	0.65	64.7	23.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5149	4722	5.47	136.69	60.8	28.0	25.7	3.20	D

Facility Overall Results

Space Mean Speed, mi/h	60.8	Average Density, veh/mi/ln	25.7
Average Travel Time, min	3.20	Average Density, pc/mi/ln	28.0
Total VMT, veh-mi	5149	Total VHD, veh-h	5.47
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	136.69

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	3/9/2023
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, I-465 to North Split		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	20
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	6.54		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, east of I-465	500	5
2	Diverge	Diverge	I-70 WB, Exit to I-465 NB/SB	1500	5
3	Basic	Basic	I-70 WB, east of I-465	1600	3
4	Diverge	Diverge	I-70 WB, Exit to Shadeland Ave	1500	3
5	Basic	Basic	I-70 WB, west of I-465	1650	3
6	Merge	Merge	I-70 WB, Entrance Ramp From SB I-465	1500	4
7	Basic	Basic	I-70 WB, East of Entrance Ramp From NB I-465	500	4
8	Merge	Merge	I-70 WB, Entrance Ramp from I-465 N	1350	4
9	Merge	Merge	I-70 WB Entrance Ramp from Shadeland Ave	1500	4
10	Basic	Basic	I-70 WB, between Shadeland Entrance and Emerson Exit	4780	4
11	Diverge	Diverge	I-70 WB, Exit Ramp to Emerson Ave	1500	4
12	Basic	Basic	I-70 WB, East of Emerson Ave	1500	4
13	Merge	Merge	I-70 WB, Entrance Ramp From NB Emerson Ave	1500	4
14	Merge	Merge	I-70 WB, Entrance Ramp From SB Emerson Ave	1500	4
15	Basic	Basic	I-70 WB, between Emerson Ave and Keystone Way	4000	4
16	Diverge	Diverge	I-70 WB, Exit Ramp to Keystone Way	1500	4
17	Basic	Basic	I-70 WB, East of Keystone Way	1350	4
18	Merge	Basic	I-70 WB, Entrance Ramp from NB Keystone Way	1450	5
19	Merge	Merge	I-70 WB, Entrance Ramp from SB Keystone Way	1500	5
20	Basic	Basic	I-70 WB, between Keystone Way and North Split	2370	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.870	5948	11750	0.51	65.0	18.3	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.870	0.855	5948	3200	11750	4000	0.51	0.80	53.1	48.5	19.0	22.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.885	2755	7050	0.39	64.0	14.1	B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.885	0.893	2755	160	7050	2000	0.39	0.08	58.9	54.8	15.6	17.3	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.885	2594	7050	0.37	64.5	13.3	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.885	0.917	4937	2343	9400	4000	0.53	0.59	59.3	57.4	20.8	21.4	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.901	4933	9400	0.52	63.9	19.0	C

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.943	5564	631	9400	2000	0.59	0.32	59.7	57.7	23.3	20.6	C

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.901	0.714	7762	2169	9400	2000	0.83	1.08	55.2	51.6	35.2	33.6	D

Segment 10: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		7374		9400		0.78		62.2		29.6		D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.877	0.943	7374	1269	9400	2000	0.78	0.63	58.9	52.5	31.3	33.1	D

Segment 12: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.862		6114		9400		0.65		64.5		23.6		C

Segment 13: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.862	0.971	6496	382	9400	2000	0.69	0.19	59.0	57.5	27.5	22.2	C

Segment 14: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.870	0.962	7303	819	9400	2000	0.78	0.41	58.1	56.3	31.4	26.5	C

Segment 15: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.877		7332		9400		0.78		62.3		29.4		D

Segment 16: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.877	0.962	7332	701	9400	2000	0.78	0.35	60.1	53.7	30.5	32.0	D

Segment 17: Basic

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
1	0.94		0.870		6615		9400		0.70		64.1		25.8		C

Segment 18: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.94	0.94	0.870	0.917	7160	545	11750	2000	0.61	0.27	64.9	65.0	22.0	22.0	C

Segment 19: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	

1	0.94	0.94	0.870	0.935	8114	924	11750	2000	0.69	0.46	59.0	57.0	20.9	24.0	C

Segment 20: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.877	8118	11750	0.69	64.3	25.3	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	9176	8169	9.52	238.01	60.9	25.2	22.1	6.40	C

Facility Overall Results

Space Mean Speed, mi/h	60.9	Average Density, veh/mi/ln	22.1
Average Travel Time, min	6.40	Average Density, pc/mi/ln	25.2
Total VMT, veh-mi	9176	Total VHD, veh-h	9.52
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	238.01

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.52		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at South Split	1600	2
2	Weaving	Weaving	I-70 WB, between I-65 Ramp and Madison Ave	2100	4
3	Basic	Basic	I-70 WB, at Madison Ave	350	3
4	Weaving	Weaving	I-70 WB, Ent from Madison Ave and Exit to Missouri St	1330	4
5	Basic	Basic	I-70 WB, at Kenwood Ave	1050	3
6	Merge	Merge	I-70 WB, Entrance Ramp from Capitol Ave	1600	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.847	3983	4700	0.85	60.0	33.2	D

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.840	5864	7229	0.81	55.5	26.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.862	5635	7050	0.80	61.8	30.4	D

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.862	6321	8144	0.78	47.4	33.3	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.870	5880	7050	0.83	60.6	32.3	D

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.870	0.990	6537	657	7050	2000	0.93	0.33	54.6	52.9	39.9	33.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1876	1571	5.27	131.71	55.0	32.0	27.0	1.70	D

Facility Overall Results

Space Mean Speed, mi/h	55.0	Average Density, veh/mi/ln	27.0
Average Travel Time, min	1.70	Average Density, pc/mi/ln	32.0
Total VMT, veh-mi	1876	Total VHD, veh-h	5.27
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	131.71

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	11
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.39		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Merge	Merge	I-70 WB, Entrance from West St	1500	3
2	Basic	Basic	I-70 WB, between West St and Harding St	1370	3
3	Diverge	Diverge	I-70 WB, Exit to Harding St	1500	3
4	Basic	Basic	I-70 WB, at Harding St	1600	3
5	Merge	Merge	I-70 WB, Entrance from Harding St	1500	3
6	Basic	Basic	I-70 WB, between Harding St and Holt Rd	5200	3
7	Diverge	Diverge	I-70 WB, Exit to Holt Rd	1500	3
8	Basic	Basic	I-70 WB, at Holt Rd	2650	3
9	Merge	Merge	I-70 WB, Entrance Ramp from Holt Rd	1500	3
10	Basic	Basic	I-70 WB, between Holt Rd and Sam Jones Expy	3380	3
11	Diverge	Diverge	I-70 WB, Exit to Sam Jones Expy	1500	3

Facility Segment Data

Segment 1: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.885	0.943	6669	860	7050	2000	1.05	0.43	42.1	49.5	52.8	39.1	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.893	6630	7050	1.04	41.4	53.3	F

Segment 3: Diverge

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.893	0.862	6580	823	7050	2000	1.04	0.41	40.8	53.5	53.7	40.3	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.893	5629	7050	0.93	26.6	70.5	F

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.893	0.962	6565	936	7050	2000	1.06	0.47	54.3	52.2	40.3	34.0	F

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.901	6565	7050	1.07	56.2	38.9	F

Segment 7: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.901	0.893	6565	1584	7050	2000	1.07	0.79	56.2	51.9	38.9	33.4	F

Segment 8: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.901	4981	7050	0.84	64.0	25.9	C

Segment 9: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.901	0.917	5661	680	7050	2000	0.94	0.34	56.4	54.7	33.5	30.5	D

Segment 10: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.901	5661	7050	0.94	61.6	30.6	D

Segment 11: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.901	0.952	5661	1988	7050	2000	0.94	0.99	55.1	51.0	34.2	33.7	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5998	6542	27.58	689.62	50.0	40.6	36.4	5.30	F

Facility Overall Results

Space Mean Speed, mi/h	50.0	Average Density, veh/mi/ln	36.4
Average Travel Time, min	5.30	Average Density, pc/mi/ln	40.6
Total VMT, veh-mi	5998	Total VHD, veh-h	27.58
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	689.62

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB, South Split to I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	2.95		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-70 WB, at Sam Jones Expy	3180	3
2	Merge	Merge	I-70 WB, Entrance Ramp from Sam Jones Expy	1400	3
3	Basic	Basic	I-70 WB, Between Sam Jones Expy and I-465	3770	3
4	Diverge	Diverge	I-70 WB, Exit Ramp to NB I-465	1500	4
5	Diverge	Basic	I-70 WB, Exit Ramp to SB I-465	1200	4
6	Basic	Basic	I-70 WB, West of I-465	4500	3

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.885	4615	7050	0.65	64.7	23.8	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.885	0.909	4894	279	7050	2000	0.69	0.14	58.1	56.9	28.1	24.7	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.893	4858	7050	0.69	64.3	25.2	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.893	0.901	4858	315	9400	2000	0.52	0.16	61.8	54.5	19.7	13.8	B

Segment 5: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.97	0.97	0.885	0.935	4582	376	9400	2000	0.49	0.19	64.6	65.0	17.6	17.6	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.97	0.885	4184	7050	0.59	65.0	21.5	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3004	2898	0.96	24.10	63.7	22.8	20.2	2.80	C

Facility Overall Results

Space Mean Speed, mi/h	63.7	Average Density, veh/mi/ln	20.2
Average Travel Time, min	2.80	Average Density, pc/mi/ln	22.8
Total VMT, veh-mi	3004	Total VHD, veh-h	0.96
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	24.10

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/23/2024
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	South Split, EB I-70 to SB I-65		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.91		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	South Split, EB I-70	1050	2
2	Merge	Merge	South Split, SB I-65 and EB I-70	360	4
3	Merge	Basic	SB I-65, On-ramp from Morris St	1500	5
4	Basic	Basic	SB I-65, south of South Split	1900	5

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.971	3547	4700	0.75	63.0	28.2	D

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.971	0.935	7239	3692	9400	4400	0.77	0.84	53.6	50.5	33.8	39.2	E

Segment 3: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.96	0.96	0.943	0.990	8031	718	11750	2000	0.68	0.36	62.5	64.4	24.9	24.9	C

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.96	0.952	7990	11750	0.68	64.4	24.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS

1	1513	1348	0.91	22.71	62.6	25.8	24.6	0.90	C

Facility Overall Results

Space Mean Speed, mi/h	62.6	Average Density, veh/mi/ln	24.6
Average Travel Time, min	0.90	Average Density, pc/mi/ln	25.8
Total VMT, veh-mi	1513	Total VHD, veh-h	0.91
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	22.71

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/23/2024
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	South Split, NB I-65 to WB I-70		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.06		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Diverge	NB I-65, Off-ramp to Morris St	1500	4
2	Diverge	Diverge	South Split, Off-ramp to NB I-65	1015	4
3	Basic	Basic	South Split, WB I-70	3100	2

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.917	0.990	5380	236	9400	2000	0.57	0.12	61.8	54.7	21.8	18.8	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.95	0.95	0.909	0.917	5171	3224	9400	6600	0.55	0.49	58.3	54.5	22.2	31.8	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.95	0.909	1918	4700	0.41	64.8	14.8	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	832	791	0.69	17.32	61.7	19.2	17.6	1.00	C

Facility Overall Results

Space Mean Speed, mi/h	61.7	Average Density, veh/mi/ln	17.6
Average Travel Time, min	1.00	Average Density, pc/mi/ln	19.2

Total VMT, veh-mi	832	Total VHD, veh-h	0.69
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	17.32

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/24/2024
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 WB C-D near Shadeland Ave and I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.57		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	Collector-Distributor I-70 WB	500	2
2	Weaving	Weaving	Collector-Distributor I-70 WB, I-465 and Shadeland Ave	2000	3
3	Basic	Basic	Collector-Distributor I-70 WB, to Shadeland Ave	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.82	0.935	876	4500	0.19	55.0	8.0	A

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.82	0.943	1809	6315	0.29	50.8	11.9	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.82	0.943	723	2250	0.32	54.4	6.6	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	199	93	0.25	6.21	51.5	10.8	8.6	0.70	A

Facility Overall Results

Space Mean Speed, mi/h	51.5	Average Density, veh/mi/ln	8.6
Average Travel Time, min	0.70	Average Density, pc/mi/ln	10.8
Total VMT, veh-mi	199	Total VHD, veh-h	0.25

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	6.21

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HCS Freeway Facilities Report

Project Information

Analyst	Katherine Martin	Date	1/24/2024
Agency	HNTB Corporation	Analysis Year	2040
Jurisdiction		Time Analyzed	PM Peak
Facility Name		Units	U.S. Customary
Project Description	I-70 EB C-D near Shadeland Ave and I-465		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	4
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.02		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Diverge	Basic	Collector-Distributor I-70 EB, Shadeland Exit Ramp	1380	3
2	Basic	Basic	Collector-Distributor I-70 EB	1000	2
3	Weaving	Weaving	Collector-Distributor I-70 EB, Shadeland Entrance Ramp and Slip ramp to EB I-70	2500	3
4	Basic	Basic	Collector-Distributor I-70 EB	500	3

Facility Segment Data

Segment 1: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.86	0.86	0.962	0.971	5481	1291	6750	2000	0.98	0.65	25.3	25.3	72.3	72.3	F

Segment 2: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.952	4190	4500	1.20	50.7	39.6	F

Segment 3: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.952	5167	5691	1.12	42.9	40.1	F

Segment 4: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.86	0.952	4906	6750	0.90	53.9	29.7	D

Facility Analysis Results

AP	VMT	VMT-Demand	VHD	Total Delay Cost	Speed	Density	Density	TT	LOS

	veh-mi/AP	veh-mi/AP	veh-h/AP	$/AP	mi/h	pc/mi/ln	veh/mi/ln	min	
1	1362	1210	11.38	284.39	37.7	47.8	45.7	1.60	F

Facility Overall Results

Space Mean Speed, mi/h	37.7	Average Density, veh/mi/ln	45.7
Average Travel Time, min	1.60	Average Density, pc/mi/ln	47.8
Total VMT, veh-mi	1362	Total VHD, veh-h	11.38
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	284.39

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INTERSECTION ANALYSIS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	159	0	560	310	351	0	0	1206	236
Future Volume (veh/h)	0	0	0	159	0	560	310	351	0	0	1206	236
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	0	1811	1841	1841	0	0	1870	1841
Adj Flow Rate, veh/h				171	0	64	333	377	0	0	1297	142
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	0	6	4	4	0	0	2	4
Cap, veh/h				262	0	208	423	2797	0	0	3358	1026
Arrive On Green				0.08	0.00	0.08	0.09	0.80	0.00	0.00	0.66	0.66
Sat Flow, veh/h				3401	0	2701	1753	3589	0	0	5274	1560
Grp Volume(v), veh/h				171	0	64	333	377	0	0	1297	142
Grp Sat Flow(s),veh/h/ln				1700	0	1351	1753	1749	0	0	1702	1560
Q Serve(g_s), s				4.6	0.0	2.1	5.3	2.3	0.0	0.0	11.1	3.3
Cycle Q Clear(g_c), s				4.6	0.0	2.1	5.3	2.3	0.0	0.0	11.1	3.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				262	0	208	423	2797	0	0	3358	1026
V/C Ratio(X)				0.65	0.00	0.31	0.79	0.13	0.00	0.00	0.39	0.14
Avail Cap(c_a), veh/h				770	0	611	654	2797	0	0	3358	1026
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.92	0.92	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				42.6	0.0	41.5	9.9	2.1	0.0	0.0	7.5	6.1
Incr Delay (d2), s/veh				2.7	0.0	0.8	3.2	0.1	0.0	0.0	0.3	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.7	0.0	1.3	5.8	1.0	0.0	0.0	6.6	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				45.4	0.0	42.3	13.1	2.2	0.0	0.0	7.8	6.4
LnGrp LOS				D	A	D	B	A	A	A	A	A
Approach Vol, veh/h					235			710			1439	
Approach Delay, s/veh					44.5			7.3			7.7	
Approach LOS					D			A			A	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	82.2		13.5	68.7		12.8
Change Period (Y+Rc), s	* 6.2		* 5.4	* 6.2		5.5
Max Green Setting (Gmax), s	* 62		* 21	* 36		21.5
Max Q Clear Time (g_c+I1), s	4.3		7.3	13.1		6.6
Green Ext Time (p_c), s	2.8		0.9	10.8		0.7

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	0	254	0	0	0	0	567	476	863	520	0
Future Volume (veh/h)	67	0	254	0	0	0	0	567	476	863	520	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	0	1811				0	1841	1885	1885	1856	0
Adj Flow Rate, veh/h	71	0	26				0	603	0	918	553	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	0	6				0	4	1	1	3	0
Cap, veh/h	99	0	90				0	2304		965	2941	0
Arrive On Green	0.06	0.00	0.06				0.00	0.46	0.00	0.32	0.83	0.00
Sat Flow, veh/h	1697	0	1535				0	5191	1598	1795	3618	0
Grp Volume(v), veh/h	71	0	26				0	603	0	918	553	0
Grp Sat Flow(s),veh/h/ln	1697	0	1535				0	1675	1598	1795	1763	0
Q Serve(g_s), s	3.9	0.0	1.5				0.0	7.0	0.0	25.2	2.9	0.0
Cycle Q Clear(g_c), s	3.9	0.0	1.5				0.0	7.0	0.0	25.2	2.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	99	0	90				0	2304		965	2941	0
V/C Ratio(X)	0.72	0.00	0.29				0.00	0.26		0.95	0.19	0.00
Avail Cap(c_a), veh/h	232	0	210				0	2304		1122	2941	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	43.9	0.0	42.8				0.0	15.8	0.0	10.8	1.5	0.0
Incr Delay (d2), s/veh	9.2	0.0	1.8				0.0	0.3	0.0	13.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	0.0	1.1				0.0	4.8	0.0	16.0	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	0.0	44.6				0.0	16.1	0.0	24.7	1.7	0.0
LnGrp LOS	D	A	D				A	B		C	A	A
Approach Vol, veh/h		97						603			1471	
Approach Delay, s/veh		50.9						16.1			16.0	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	35.7	49.8				85.4		9.6				
Change Period (Y+Rc), s	* 5.4	* 6.2				* 6.2		4.0				
Max Green Setting (Gmax), s	* 30	* 28				* 72		13.0				
Max Q Clear Time (g_c+I1), s	27.2	9.0				4.9		5.9				
Green Ext Time (p_c), s	3.1	4.0				4.4		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1760	16	103	1583	58	4	31	264	73	13	152
Future Volume (veh/h)	105	1760	16	103	1583	58	4	31	264	73	13	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1900	1841	1841	1752	1900	1900	1826	1693	1900	1781
Adj Flow Rate, veh/h	119	2000	8	117	1799	30	5	35	26	83	15	17
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	0	4	4	10	0	0	5	14	0	8
Cap, veh/h	438	2783	892	146	1939	573	63	66	54	111	20	108
Arrive On Green	0.50	1.00	1.00	0.08	0.39	0.39	0.03	0.03	0.03	0.07	0.07	0.07
Sat Flow, veh/h	1753	5025	1610	1753	5025	1485	1810	1900	1547	1544	279	1510
Grp Volume(v), veh/h	119	2000	8	117	1799	30	5	35	26	98	0	17
Grp Sat Flow(s),veh/h/ln	1753	1675	1610	1753	1675	1485	1810	1900	1547	1823	0	1510
Q Serve(g_s), s	3.7	0.0	0.0	6.2	32.5	1.2	0.3	1.7	1.6	5.0	0.0	1.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	6.2	32.5	1.2	0.3	1.7	1.6	5.0	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.85		1.00
Lane Grp Cap(c), veh/h	438	2783	892	146	1939	573	63	66	54	131	0	108
V/C Ratio(X)	0.27	0.72	0.01	0.80	0.93	0.05	0.08	0.53	0.48	0.75	0.00	0.16
Avail Cap(c_a), veh/h	438	2783	892	186	1957	578	324	340	277	201	0	167
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.19	0.19	0.19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	0.0	42.8	27.9	18.3	44.4	45.1	45.0	43.3	0.0	41.4
Incr Delay (d2), s/veh	0.1	0.3	0.0	17.5	9.3	0.2	0.5	6.5	6.6	8.4	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.1	0.0	6.0	19.8	0.8	0.2	1.7	1.3	4.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	0.3	0.0	60.3	37.2	18.5	44.9	51.5	51.6	51.6	0.0	42.1
LnGrp LOS	B	A	A	E	D	B	D	D	D	D	A	D
Approach Vol, veh/h		2127			1946			66			115	
Approach Delay, s/veh		1.3			38.3			51.1			50.2	
Approach LOS		A			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.8	59.6		13.3	30.7	43.7		7.3
Change Period (Y+Rc), s	6.9	* 7		6.5	* 7	* 7		4.0
Max Green Setting (Gmax), s	10.1	* 33		10.5	* 6.5	* 37		17.0
Max Q Clear Time (g_c+I1), s	8.2	2.0		7.0	5.7	34.5		3.7
Green Ext Time (p_c), s	0.0	19.1		0.1	0.0	2.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	163	206	253	594	865	195
Future Volume (veh/h)	163	206	253	594	865	195
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	1856	1841	1856	1870	1885	1885
Adj Flow Rate, veh/h	179	40	278	653	951	89
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	3	4	3	2	1	1
Cap, veh/h	246	217	492	2215	1514	675
Arrive On Green	0.14	0.14	0.12	0.62	0.42	0.42
Sat Flow, veh/h	1767	1560	1767	3647	3676	1598
Grp Volume(v), veh/h	179	40	278	653	951	89
Grp Sat Flow(s),veh/h/ln	1767	1560	1767	1777	1791	1598
Q Serve(g_s), s	4.4	1.0	3.4	3.8	9.4	1.5
Cycle Q Clear(g_c), s	4.4	1.0	3.4	3.8	9.4	1.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	246	217	492	2215	1514	675
V/C Ratio(X)	0.73	0.18	0.57	0.29	0.63	0.13
Avail Cap(c_a), veh/h	502	443	609	3670	2744	1224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	17.1	7.4	3.9	10.2	7.9
Incr Delay (d2), s/veh	4.1	0.4	1.0	0.1	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	0.6	1.6	1.3	5.2	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.7	17.5	8.4	4.0	10.6	8.0
LnGrp LOS	C	B	A	A	B	A
Approach Vol, veh/h	219			931	1040	
Approach Delay, s/veh	21.7			5.3	10.4	
Approach LOS	C			A	B	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	33.6		9.0	24.5	11.5
Change Period (Y+Rc), s	5.5		3.5	5.5	5.2
Max Green Setting (Gmax), s	46.5		8.5	34.5	12.8
Max Q Clear Time (g_c+I1), s	5.8		5.4	11.4	6.4
Green Ext Time (p_c), s	5.2		0.3	7.6	0.3

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	11	295	8	6	16	184	661	6	14	638	415
Future Volume (veh/h)	163	11	295	8	6	16	184	661	6	14	638	415
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1707	1885	1900	1900	1767	1870	1856	1900	1900	1885	1885
Adj Flow Rate, veh/h	187	13	70	9	7	3	211	760	6	16	733	191
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	13	1	0	0	9	2	3	0	0	1	1
Cap, veh/h	395	16	348	156	103	26	470	1586	13	402	1245	555
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.11	0.44	0.44	0.02	0.35	0.35
Sat Flow, veh/h	1086	75	1598	163	471	119	1781	3585	28	1810	3582	1598
Grp Volume(v), veh/h	200	0	70	19	0	0	211	374	392	16	733	191
Grp Sat Flow(s),veh/h/ln	1161	0	1598	752	0	0	1781	1763	1850	1810	1791	1598
Q Serve(g_s), s	0.0	0.0	1.6	0.1	0.0	0.0	2.9	6.6	6.6	0.2	7.4	3.9
Cycle Q Clear(g_c), s	7.4	0.0	1.6	7.5	0.0	0.0	2.9	6.6	6.6	0.2	7.4	3.9
Prop In Lane	0.93		1.00	0.47		0.16	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	412	0	348	285	0	0	470	780	819	402	1245	555
V/C Ratio(X)	0.49	0.00	0.20	0.07	0.00	0.00	0.45	0.48	0.48	0.04	0.59	0.34
Avail Cap(c_a), veh/h	508	0	466	399	0	0	780	1225	1286	888	2489	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	0.0	14.0	13.9	0.0	0.0	7.7	8.7	8.7	9.0	11.7	10.6
Incr Delay (d2), s/veh	0.9	0.0	0.3	0.1	0.0	0.0	0.7	0.5	0.4	0.0	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	0.0	0.9	0.2	0.0	0.0	1.5	3.5	3.7	0.1	4.4	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	0.0	14.3	14.0	0.0	0.0	8.3	9.1	9.1	9.1	12.2	11.0
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	B	B
Approach Vol, veh/h		270			19			977			940	
Approach Delay, s/veh		16.5			14.0			8.9			11.9	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	24.9		14.8	8.4	20.8		14.8
Change Period (Y+Rc), s	3.5	5.5		* 5.2	3.5	5.5		* 5.2
Max Green Setting (Gmax), s	12.5	30.5		* 13	12.5	30.5		* 13
Max Q Clear Time (g_c+I1), s	2.3	8.6		9.5	4.9	9.4		9.4
Green Ext Time (p_c), s	0.0	4.9		0.0	0.3	5.9		0.4

Intersection Summary		
HCM 6th Ctrl Delay		11.2
HCM 6th LOS		B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	1546	173	314	1309	20	49	75	275	61	132	64
Future Volume (veh/h)	48	1546	173	314	1309	20	49	75	275	61	132	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1856	1900	1900	1900	1870	1900	1900	1870
Adj Flow Rate, veh/h	52	1662	174	338	1408	13	53	81	296	66	142	45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	2	2	2	3	0	0	0	2	0	0	2
Cap, veh/h	76	1487	154	289	2035	929	176	316	264	222	230	73
Arrive On Green	0.04	0.46	0.46	0.16	0.58	0.58	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1767	3251	336	1781	3526	1610	1215	1900	1585	1022	1383	438
Grp Volume(v), veh/h	52	898	938	338	1408	13	53	81	296	66	0	187
Grp Sat Flow(s),veh/h/ln	1767	1777	1810	1781	1763	1610	1215	1900	1585	1022	0	1821
Q Serve(g_s), s	2.3	36.6	36.6	13.0	22.5	0.3	3.4	3.0	13.3	4.8	0.0	7.6
Cycle Q Clear(g_c), s	2.3	36.6	36.6	13.0	22.5	0.3	11.0	3.0	13.3	7.8	0.0	7.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	76	813	828	289	2035	929	176	316	264	222	0	303
V/C Ratio(X)	0.69	1.10	1.13	1.17	0.69	0.01	0.30	0.26	1.12	0.30	0.00	0.62
Avail Cap(c_a), veh/h	133	813	828	289	2035	929	176	316	264	222	0	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.8	21.7	21.7	33.5	11.9	7.2	36.1	29.0	33.3	32.4	0.0	31.0
Incr Delay (d2), s/veh	6.6	64.1	74.7	106.2	1.1	0.0	0.4	0.2	92.7	0.3	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	39.7	44.1	21.6	12.6	0.2	1.8	2.4	18.3	2.1	0.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	85.8	96.4	139.7	13.0	7.2	36.5	29.2	126.1	32.7	0.0	33.8
LnGrp LOS	D	F	F	F	B	A	D	C	F	C	A	C
Approach Vol, veh/h		1888			1759			430			253	
Approach Delay, s/veh		90.0			37.3			96.8			33.5	
Approach LOS		F			D			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	52.6		19.0	18.0	43.0		19.0				
Change Period (Y+Rc), s	5.0	6.4		5.7	5.0	6.4		5.7				
Max Green Setting (Gmax), s	6.0	43.6		13.3	13.0	36.6		13.3				
Max Q Clear Time (g_c+I1), s	4.3	24.5		15.3	15.0	38.6		9.8				
Green Ext Time (p_c), s	0.0	12.0		0.0	0.0	0.0		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	65.9
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1795	205	63	1349	246	157	388	48	137	339	13
Future Volume (veh/h)	79	1795	205	63	1349	246	157	388	48	137	339	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1841	1826	1737	1826	1811	1856	1841	1781	1826	1841	1737
Adj Flow Rate, veh/h	87	1973	211	69	1482	205	173	426	0	151	373	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	7	4	5	11	5	6	3	4	8	5	4	11
Cap, veh/h	157	1821	193	395	2345	847	235	412		274	468	
Arrive On Green	0.05	0.39	0.39	0.08	0.32	0.32	0.07	0.12	0.00	0.08	0.13	0.00
Sat Flow, veh/h	3319	4614	489	3209	4985	1535	3428	3497	1510	3374	3497	1472
Grp Volume(v), veh/h	87	1428	756	69	1482	205	173	426	0	151	373	0
Grp Sat Flow(s),veh/h/ln	1659	1675	1753	1605	1662	1535	1714	1749	1510	1687	1749	1472
Q Serve(g_s), s	2.4	37.5	37.5	1.9	24.2	2.1	4.7	11.2	0.0	4.1	9.8	0.0
Cycle Q Clear(g_c), s	2.4	37.5	37.5	1.9	24.2	2.1	4.7	11.2	0.0	4.1	9.8	0.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	1322	692	395	2345	847	235	412		274	468	
V/C Ratio(X)	0.55	1.08	1.09	0.17	0.63	0.24	0.74	1.03		0.55	0.80	
Avail Cap(c_a), veh/h	227	1322	692	395	2345	847	235	412		469	670	
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.61	0.61	0.61	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.3	28.8	28.8	39.1	25.5	3.6	43.4	41.9	0.0	42.0	39.9	0.0
Incr Delay (d2), s/veh	1.1	49.3	62.3	0.0	0.8	0.4	10.3	53.1	0.0	0.9	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	32.4	37.0	1.3	14.0	1.8	4.1	12.4	0.0	3.0	7.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	78.1	91.0	39.1	26.3	4.1	53.7	95.0	0.0	42.9	43.1	0.0
LnGrp LOS	D	F	F	D	C	A	D	F		D	D	
Approach Vol, veh/h		2271			1756			599			524	
Approach Delay, s/veh		81.1			24.2			83.1			43.0	
Approach LOS		F			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	44.0	14.5	18.0	11.0	51.5	13.0	19.5
Change Period (Y+Rc), s	* 6.8	* 6.5	* 6.8	* 6.8	* 6.5	* 6.8	* 6.5	* 6.8
Max Green Setting (Gmax), s	* 6.5	* 38	* 13	* 11	* 6.5	* 37	* 6.5	* 18
Max Q Clear Time (g_c+I1), s	13.8	39.5	6.1	13.2	4.4	26.2	6.7	11.8
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	8.7	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	58.1
HCM 6th LOS	E

Notes

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

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	88	835	0	0	1452	39
Future Vol, veh/h	0	0	0	0	0	0	88	835	0	0	1452	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	150	-	-	-	-	100
Veh in Median Storage, #	-	3	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	92	98	92	92	92	98	98	92	92	98	98
Heavy Vehicles, %	0	2	0	2	2	2	2	5	2	2	2	0
Mvmt Flow	0	0	0	0	0	0	90	852	0	0	1482	40

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	-	-	426	1482	0	-	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	5.34	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.12	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	577	227	-	0	0	-	-
Stage 1	0	0	-	-	-	0	0	-	-
Stage 2	0	0	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	-	0	577	227	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	2.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	227	-	-	-	-
HCM Lane V/C Ratio	0.396	-	-	-	-
HCM Control Delay (s)	30.9	-	0	-	-
HCM Lane LOS	D	-	A	-	-
HCM 95th %tile Q(veh)	1.8	-	-	-	-

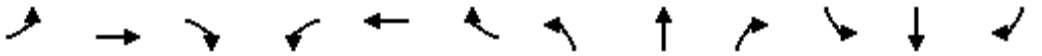
Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	348	0	884	481	971
Future Vol, veh/h	21	348	0	884	481	971
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	300	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	6	2	0	5	2	2
Mvmt Flow	21	355	0	902	491	991

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	942	246	-	0	-	0
Stage 1	491	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Critical Hdwy	6.37	7.14	-	-	-	-
Critical Hdwy Stg 1	6.72	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.71	3.92	-	-	-	-
Pot Cap-1 Maneuver	286	643	0	-	-	0
Stage 1	494	-	0	-	-	0
Stage 2	578	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	286	643	-	-	-	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	494	-	-	-	-	-
Stage 2	578	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	286	643	-
HCM Lane V/C Ratio	-	0.075	0.552	-
HCM Control Delay (s)	-	18.6	17.3	-
HCM Lane LOS	-	C	C	-
HCM 95th %tile Q(veh)	-	0.2	3.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	80	31	48	126	397	22	317	10	44	664	99
Future Volume (veh/h)	137	80	31	48	126	397	22	317	10	44	664	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1826	1870	1900	1826	1826	1722	1841	1826	1826	1870	1826
Adj Flow Rate, veh/h	146	85	9	51	134	136	23	337	9	47	706	60
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	5	2	0	5	5	12	4	5	5	2	5
Cap, veh/h	289	392	41	366	418	373	416	2044	54	651	2087	909
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	1109	1623	172	1323	1735	1547	646	3480	93	1010	3554	1547
Grp Volume(v), veh/h	146	0	94	51	134	136	23	169	177	47	706	60
Grp Sat Flow(s),veh/h/ln	1109	0	1795	1323	1735	1547	646	1749	1824	1010	1777	1547
Q Serve(g_s), s	8.8	0.0	2.9	2.2	4.4	5.1	1.3	3.1	3.1	1.6	7.2	1.2
Cycle Q Clear(g_c), s	13.9	0.0	2.9	5.2	4.4	5.1	8.5	3.1	3.1	4.7	7.2	1.2
Prop In Lane	1.00		0.10	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	289	0	433	366	418	373	416	1027	1071	651	2087	909
V/C Ratio(X)	0.50	0.00	0.22	0.14	0.32	0.36	0.06	0.16	0.17	0.07	0.34	0.07
Avail Cap(c_a), veh/h	529	0	821	652	793	707	416	1027	1071	651	2087	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	0.0	21.3	23.3	21.8	22.1	9.6	6.6	6.6	7.7	7.4	6.2
Incr Delay (d2), s/veh	1.4	0.0	0.2	0.2	0.4	0.6	0.3	0.3	0.3	0.2	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.0	2.2	1.2	3.2	3.3	0.4	1.9	2.0	0.6	4.3	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	0.0	21.5	23.5	22.3	22.7	9.9	6.9	6.9	7.9	7.9	6.3
LnGrp LOS	C	A	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		240			321			369			813	
Approach Delay, s/veh		26.2			22.6			7.1			7.8	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.1		22.9		47.1		22.9				
Change Period (Y+Rc), s		* 6		* 6		* 6		* 6				
Max Green Setting (Gmax), s		* 26		* 32		* 26		* 32				
Max Q Clear Time (g_c+I1), s		10.5		15.9		9.2		7.2				
Green Ext Time (p_c), s		1.9		0.9		5.0		1.8				

Intersection Summary		
HCM 6th Ctrl Delay		12.9
HCM 6th LOS		B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↱	↰		↱			
Traffic Volume (veh/h)	0	117	0	0	764	260	441	0	199	0	0	0
Future Volume (veh/h)	0	117	0	0	764	260	441	0	199	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1826	0	0	1885	1856	1841	0	1841			
Adj Flow Rate, veh/h	0	127	0	0	830	0	479	0	73			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	5	0	0	1	3	4	0	4			
Cap, veh/h	0	1824	0	0	1884		543	0	483			
Arrive On Green	0.00	0.53	0.00	0.00	0.53	0.00	0.31	0.00	0.31			
Sat Flow, veh/h	0	3652	0	0	3676	1572	1753	0	1560			
Grp Volume(v), veh/h	0	127	0	0	830	0	479	0	73			
Grp Sat Flow(s),veh/h/ln	0	1735	0	0	1791	1572	1753	0	1560			
Q Serve(g_s), s	0.0	1.3	0.0	0.0	10.0	0.0	18.2	0.0	2.4			
Cycle Q Clear(g_c), s	0.0	1.3	0.0	0.0	10.0	0.0	18.2	0.0	2.4			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1824	0	0	1884		543	0	483			
V/C Ratio(X)	0.00	0.07	0.00	0.00	0.44		0.88	0.00	0.15			
Avail Cap(c_a), veh/h	0	1824	0	0	1884		809	0	720			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	0.54	0.00	0.54			
Uniform Delay (d), s/veh	0.0	8.2	0.0	0.0	10.2	0.0	22.9	0.0	17.5			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.8	0.0	4.4	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	0.8	0.0	0.0	6.5	0.0	10.9	0.0	1.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.2	0.0	0.0	11.0	0.0	27.4	0.0	17.6			
LnGrp LOS	A	A	A	A	B		C	A	B			
Approach Vol, veh/h		127			830			552				
Approach Delay, s/veh		8.2			11.0			26.1				
Approach LOS		A			B			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	42.6	27.4	42.6
Change Period (Y+Rc), s	* 5.8	5.7	* 5.8
Max Green Setting (Gmax), s	* 26	32.3	* 26
Max Q Clear Time (g_c+I1), s	3.3	20.2	12.0
Green Ext Time (p_c), s	0.7	1.5	5.0

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	232	197	315	288	0	0	0	0	3	628	0
Future Volume (veh/h)	0	232	197	315	288	0	0	0	0	3	628	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1826	1870	1841	0				1900	1870	1900
Adj Flow Rate, veh/h	0	264	60	358	327	0				3	714	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88				0.88	0.88	0.88
Percent Heavy Veh, %	0	5	5	2	4	0				0	2	0
Cap, veh/h	0	403	90	446	705	0				4	857	741
Arrive On Green	0.00	0.14	0.14	0.16	0.38	0.00				0.46	0.46	0.00
Sat Flow, veh/h	0	2909	630	1781	1841	0				8	1862	1610
Grp Volume(v), veh/h	0	161	163	358	327	0				717	0	0
Grp Sat Flow(s),veh/h/ln	0	1735	1713	1781	1841	0				1870	0	1610
Q Serve(g_s), s	0.0	6.1	6.3	11.3	9.3	0.0				23.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.1	6.3	11.3	9.3	0.0				23.5	0.0	0.0
Prop In Lane	0.00		0.37	1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h	0	248	245	446	705	0				860	0	741
V/C Ratio(X)	0.00	0.65	0.67	0.80	0.46	0.00				0.83	0.00	0.00
Avail Cap(c_a), veh/h	0	275	272	446	734	0				860	0	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.89	0.89	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	28.3	28.4	20.5	16.2	0.0				16.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.5	5.3	9.2	0.4	0.0				7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.0	5.1	9.3	6.7	0.0				15.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.9	33.8	29.7	16.6	0.0				23.6	0.0	0.0
LnGrp LOS	A	C	C	C	B	A				C	A	A
Approach Vol, veh/h		324			685						717	
Approach Delay, s/veh		33.3			23.5						23.6	
Approach LOS		C			C						C	

Timer - Assigned Phs	2	3	4			8						
Phs Duration (G+Y+Rc), s	37.7	16.8	15.5			32.3						
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5						
Max Green Setting (Gmax), s	31.1	11.3	11.1			27.9						
Max Q Clear Time (g_c+I1), s	25.5	13.3	8.3			11.3						
Green Ext Time (p_c), s	2.4	0.0	0.5			1.7						

Intersection Summary		
HCM 6th Ctrl Delay		25.4
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	234	0	0	383	0	220	606	398	0	0	0
Future Volume (veh/h)	0	234	0	0	383	0	220	606	398	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1856	0	0	1885	1885	1841	1826	1841			
Adj Flow Rate, veh/h	0	246	0	0	403	0	232	638	186			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	3	0	0	1	1	4	5	4			
Cap, veh/h	103	803	0	0	816	691	719	749	1126			
Arrive On Green	0.00	0.43	0.00	0.00	0.43	0.00	0.41	0.41	0.41			
Sat Flow, veh/h	998	1856	0	0	1885	1598	1753	1826	2745			
Grp Volume(v), veh/h	0	246	0	0	403	0	232	638	186			
Grp Sat Flow(s),veh/h/ln	998	1856	0	0	1885	1598	1753	1826	1373			
Q Serve(g_s), s	0.0	6.1	0.0	0.0	10.8	0.0	6.3	22.2	3.0			
Cycle Q Clear(g_c), s	0.0	6.1	0.0	0.0	10.8	0.0	6.3	22.2	3.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	103	803	0	0	816	691	719	749	1126			
V/C Ratio(X)	0.00	0.31	0.00	0.00	0.49	0.00	0.32	0.85	0.17			
Avail Cap(c_a), veh/h	103	803	0	0	816	691	889	926	1392			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.49	0.00	0.00	1.00	0.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	13.0	0.0	0.0	14.3	0.0	14.0	18.7	13.1			
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	2.1	0.0	0.3	6.5	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	4.2	0.0	0.0	8.2	0.0	4.2	14.9	1.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.5	0.0	0.0	16.5	0.0	14.3	25.2	13.1			
LnGrp LOS	A	B	A	A	B	A	B	C	B			
Approach Vol, veh/h		246			403			1056				
Approach Delay, s/veh		13.5			16.5			20.7				
Approach LOS		B			B			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	35.8	34.2	35.8
Change Period (Y+Rc), s	5.5	5.5	5.5
Max Green Setting (Gmax), s	23.5	35.5	23.5
Max Q Clear Time (g_c+I1), s	8.1	24.2	12.8
Green Ext Time (p_c), s	1.2	4.5	1.8

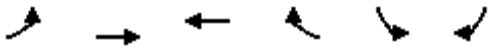
Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	349	137	327	231	228	938
Future Volume (veh/h)	349	137	327	231	228	938
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	1856	1811	1841	1752	1781	1870
Adj Flow Rate, veh/h	371	40	348	100	243	998
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	6	4	10	8	2
Cap, veh/h	417	362	1553	659	621	2136
Arrive On Green	0.24	0.24	0.44	0.44	0.10	0.60
Sat Flow, veh/h	1767	1535	3589	1485	1697	3647
Grp Volume(v), veh/h	371	40	348	100	243	998
Grp Sat Flow(s),veh/h/ln	1767	1535	1749	1485	1697	1777
Q Serve(g_s), s	14.2	1.4	4.3	2.8	5.0	10.9
Cycle Q Clear(g_c), s	14.2	1.4	4.3	2.8	5.0	10.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	417	362	1553	659	621	2136
V/C Ratio(X)	0.89	0.11	0.22	0.15	0.39	0.47
Avail Cap(c_a), veh/h	462	401	1553	659	693	2136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	21.0	12.0	11.6	7.8	7.7
Incr Delay (d2), s/veh	17.0	0.1	0.3	0.5	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.9	2.9	1.7	2.9	6.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.9	21.1	12.3	12.1	8.2	8.5
LnGrp LOS	D	C	B	B	A	A
Approach Vol, veh/h	411		448			1241
Approach Delay, s/veh	40.7		12.3			8.4
Approach LOS	D		B			A

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	47.8		11.0	36.8	22.2
Change Period (Y+Rc), s	5.7		3.8	5.7	5.7
Max Green Setting (Gmax), s	40.3		10.2	26.3	18.3
Max Q Clear Time (g_c+I1), s	12.9		7.0	6.3	16.2
Green Ext Time (p_c), s	8.3		0.2	2.5	0.3

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	252	185	281	319	533	209
Future Volume (veh/h)	252	185	281	319	533	209
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	1737	1826	1870	1796	1885	1870
Adj Flow Rate, veh/h	280	206	312	0	592	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	5	2	7	1	2
Cap, veh/h	556	1799	1160		635	
Arrive On Green	0.13	0.52	0.33	0.00	0.35	0.00
Sat Flow, veh/h	1654	3561	3647	1522	1795	1585
Grp Volume(v), veh/h	280	206	312	0	592	0
Grp Sat Flow(s),veh/h/ln	1654	1735	1777	1522	1795	1585
Q Serve(g_s), s	9.5	2.7	5.8	0.0	28.6	0.0
Cycle Q Clear(g_c), s	9.5	2.7	5.8	0.0	28.6	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	556	1799	1160		635	
V/C Ratio(X)	0.50	0.11	0.27		0.93	
Avail Cap(c_a), veh/h	606	1799	1160		738	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	15.1	11.1	22.4	0.0	28.0	0.0
Incr Delay (d2), s/veh	0.7	0.1	0.6	0.0	17.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.3	1.9	4.5	0.0	21.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.8	11.2	23.0	0.0	45.2	0.0
LnGrp LOS	B	B	C		D	
Approach Vol, veh/h		486	312		592	
Approach Delay, s/veh		13.9	23.0		45.2	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		52.2		37.8	17.3	34.9
Change Period (Y+Rc), s		* 5.5		6.0	* 5.5	* 5.5
Max Green Setting (Gmax), s		* 42		37.0	* 15	* 22
Max Q Clear Time (g_c+I1), s		4.7		30.6	11.5	7.8
Green Ext Time (p_c), s		1.4		1.2	0.3	1.6

Intersection Summary	
HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Notes

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

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

Intersection	
Int Delay, s/veh	24.3

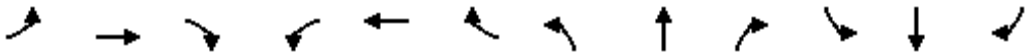
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	668	0	0	369	248	186	3	299	0	0	0
Future Vol, veh/h	63	668	0	0	369	248	186	3	299	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	270	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	20	2	0	0	3	3	10	0	3	0	0	0
Mvmt Flow	71	751	0	0	415	279	209	3	336	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	415	0	-	-	-	0	1101	1308	376
Stage 1	-	-	-	-	-	-	893	893	-
Stage 2	-	-	-	-	-	-	208	415	-
Critical Hdwy	4.5	-	-	-	-	-	7	6.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6	5.5	-
Follow-up Hdwy	2.4	-	-	-	-	-	3.6	4	3.33
Pot Cap-1 Maneuver	1022	-	0	0	-	0	~ 194	161	619
Stage 1	-	-	0	0	-	0	341	363	-
Stage 2	-	-	0	0	-	0	783	596	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1022	-	-	-	-	-	~ 181	0	619
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 181	0	-
Stage 1	-	-	-	-	-	-	317	0	-
Stage 2	-	-	-	-	-	-	783	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.8	0	77.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	181	619	1022	-	-
HCM Lane V/C Ratio	1.173	0.543	0.069	-	-
HCM Control Delay (s)	173.5	17.5	8.8	-	-
HCM Lane LOS	F	C	A	-	-
HCM 95th %tile Q(veh)	11.1	3.3	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	643	235	76	322	37	155	96	62	62	265	147
Future Volume (veh/h)	86	643	235	76	322	37	155	96	62	62	265	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1900	1870	1856	1841	1811	1900	1841	1900	1900	1900
Adj Flow Rate, veh/h	98	731	236	86	366	35	176	109	17	70	301	40
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	0	2	3	4	6	0	4	0	0	0
Cap, veh/h	652	1537	496	328	1908	181	286	532	437	384	899	118
Arrive On Green	0.59	0.59	0.59	1.00	1.00	1.00	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	976	2620	846	581	3253	309	1007	1900	1560	1285	3207	422
Grp Volume(v), veh/h	98	492	475	86	197	204	176	109	17	70	168	173
Grp Sat Flow(s),veh/h/ln	976	1763	1703	581	1763	1800	1007	1900	1560	1285	1805	1824
Q Serve(g_s), s	4.2	14.4	14.4	4.9	0.0	0.0	15.2	3.9	0.7	4.0	6.7	6.8
Cycle Q Clear(g_c), s	4.2	14.4	14.4	19.3	0.0	0.0	21.9	3.9	0.7	7.9	6.7	6.8
Prop In Lane	1.00		0.50	1.00		0.17	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	652	1034	999	328	1034	1056	286	532	437	384	506	511
V/C Ratio(X)	0.15	0.48	0.48	0.26	0.19	0.19	0.61	0.20	0.04	0.18	0.33	0.34
Avail Cap(c_a), veh/h	652	1034	999	328	1034	1056	440	823	676	580	782	790
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.6	10.7	10.7	2.6	0.0	0.0	34.5	24.7	23.6	27.7	25.7	25.8
Incr Delay (d2), s/veh	0.1	0.3	0.4	1.9	0.4	0.4	2.1	0.2	0.0	0.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	8.9	8.7	0.7	0.2	0.2	6.8	3.2	0.5	2.2	5.1	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.7	11.0	11.0	4.5	0.4	0.4	36.6	24.9	23.6	28.0	26.1	26.1
LnGrp LOS	A	B	B	A	A	A	D	C	C	C	C	C
Approach Vol, veh/h		1065			487			302			411	
Approach Delay, s/veh		10.8			1.1			31.7			26.4	
Approach LOS		B			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.8		31.2		58.8		31.2				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		39.0		39.0		39.0		39.0				
Max Q Clear Time (g_c+I1), s		21.3		9.9		16.4		23.9				
Green Ext Time (p_c), s		3.1		2.3		7.5		1.3				

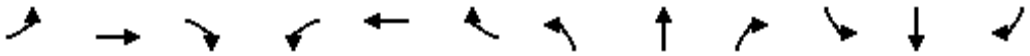
Intersection Summary												
HCM 6th Ctrl Delay			14.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	407	334	15	258	0	0	0	0	66	1333	148
Future Volume (veh/h)	0	407	334	15	258	0	0	0	0	66	1333	148
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1856	1870	1900	1856	0				1841	1885	1870
Adj Flow Rate, veh/h	0	452	331	17	287	0				73	1481	98
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	3	2	0	3	0				4	1	2
Cap, veh/h	0	517	377	52	728	0				99	2105	952
Arrive On Green	0.00	0.27	0.27	0.27	0.27	0.00				0.60	0.60	0.60
Sat Flow, veh/h	0	2038	1418	28	2821	0				165	3503	1585
Grp Volume(v), veh/h	0	409	374	147	157	0				833	721	98
Grp Sat Flow(s),veh/h/ln	0	1763	1600	1161	1604	0				1877	1791	1585
Q Serve(g_s), s	0.0	20.0	20.1	0.9	7.1	0.0				28.6	24.2	2.4
Cycle Q Clear(g_c), s	0.0	20.0	20.1	21.0	7.1	0.0				28.6	24.2	2.4
Prop In Lane	0.00		0.89	0.12		0.00				0.09		1.00
Lane Grp Cap(c), veh/h	0	469	425	353	426	0				1128	1076	952
V/C Ratio(X)	0.00	0.87	0.88	0.42	0.37	0.00				0.74	0.67	0.10
Avail Cap(c_a), veh/h	0	509	462	389	463	0				1128	1076	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.89	0.89	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.6	31.6	26.8	26.9	0.0				12.9	12.0	7.6
Incr Delay (d2), s/veh	0.0	13.3	14.9	0.8	0.5	0.0				4.3	3.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	14.9	14.0	4.6	4.9	0.0				17.7	14.6	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	44.9	46.6	27.6	27.4	0.0				17.2	15.3	7.9
LnGrp LOS	A	D	D	C	C	A				B	B	A
Approach Vol, veh/h		783			304						1652	
Approach Delay, s/veh		45.7			27.5						15.8	
Approach LOS		D			C						B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	60.1	29.9	29.9
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	52.0	26.0	26.0
Max Q Clear Time (g_c+I1), s	30.6	23.0	22.1
Green Ext Time (p_c), s	12.4	0.5	1.8

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	2148	0	0	0	0	0	0	2251	0
Future Volume (vph)	0	0	0	2148	0	0	0	0	0	0	2251	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.6							6.0	
Lane Util. Factor				0.97							0.86	
Frt				1.00							1.00	
Flt Protected				0.95							1.00	
Satd. Flow (prot)				3467							6471	
Flt Permitted				0.95							1.00	
Satd. Flow (perm)				3467							6471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Adj. Flow (vph)	0	0	0	2238	0	0	0	0	0	0	2345	0
RTOR Reduction (vph)	0	0	0	15	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	2223	0	0	0	0	0	0	2345	0
Heavy Vehicles (%)	2%	2%	2%	1%	2%	0%	2%	0%	0%	0%	1%	2%
Turn Type				Prot							NA	
Protected Phases				3							2	
Permitted Phases												
Actuated Green, G (s)				56.4							41.0	
Effective Green, g (s)				56.4							41.0	
Actuated g/C Ratio				0.51							0.37	
Clearance Time (s)				6.6							6.0	
Vehicle Extension (s)				3.0							3.0	
Lane Grp Cap (vph)				1777							2411	
v/s Ratio Prot				c0.64							c0.36	
v/s Ratio Perm												
v/c Ratio				1.25							0.97	
Uniform Delay, d1				26.8							33.9	
Progression Factor				1.00							1.00	
Incremental Delay, d2				117.9							12.9	
Delay (s)				144.7							46.9	
Level of Service				F							D	
Approach Delay (s)		0.0			144.7			0.0			46.9	
Approach LOS		A			F			A			D	

Intersection Summary			
HCM 2000 Control Delay	94.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

702: Dr MLK Jr St & 11th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	8	1725	240	37	221	0	0	423	280
Future Volume (veh/h)	0	0	0	8	1725	240	37	221	0	0	423	280
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1885	1885	1900	1826	0	0	1781	1856
Adj Flow Rate, veh/h				9	1875	243	40	240	0	0	460	283
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	1	1	0	5	0	0	8	3
Cap, veh/h				11	2455	327	105	769	0	0	661	583
Arrive On Green				0.17	0.17	0.17	0.37	0.37	0.00	0.00	0.37	0.37
Sat Flow, veh/h				21	4720	630	164	2158	0	0	1781	1572
Grp Volume(v), veh/h				789	654	684	118	162	0	0	460	283
Grp Sat Flow(s),veh/h/ln				1884	1716	1772	660	1578	0	0	1781	1572
Q Serve(g_s), s				44.3	39.7	40.3	3.7	7.9	0.0	0.0	24.1	15.2
Cycle Q Clear(g_c), s				44.3	39.7	40.3	27.7	7.9	0.0	0.0	24.1	15.2
Prop In Lane				0.01		0.36	0.34		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				980	892	921	288	585	0	0	661	583
V/C Ratio(X)				0.81	0.73	0.74	0.41	0.28	0.00	0.00	0.70	0.49
Avail Cap(c_a), veh/h				1028	936	966	288	585	0	0	661	583
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.44	0.44	0.44	0.98	0.98	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				40.2	38.3	38.6	27.9	24.2	0.0	0.0	29.3	26.5
Incr Delay (d2), s/veh				2.1	1.3	1.3	4.2	1.1	0.0	0.0	6.0	2.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				28.1	23.3	24.3	5.6	5.6	0.0	0.0	16.7	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.3	39.6	39.9	32.1	25.4	0.0	0.0	35.3	29.4
LnGrp LOS				D	D	D	C	C	A	A	D	C
Approach Vol, veh/h					2127			280			743	
Approach Delay, s/veh					40.7			28.2			33.1	
Approach LOS					D			C			C	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	46.8	63.2	46.8
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	38.0	60.0	38.0
Max Q Clear Time (g_c+I1), s	26.1	46.3	29.7
Green Ext Time (p_c), s	3.2	10.9	1.1

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	19	183	90	0	1527	0	0	2672	1827
Future Volume (veh/h)	0	0	0	19	183	90	0	1527	0	0	2672	1827
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1811	1663	0	1856	0	0	1885	1885
Adj Flow Rate, veh/h				20	189	0	0	1574	0	0	2450	1939
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				0	6	16	0	3	0	0	1	1
Cap, veh/h				74	756		0	3662	0	0	2726	2310
Arrive On Green				0.16	0.16	0.00	0.00	1.00	0.00	0.00	0.72	0.72
Sat Flow, veh/h				456	4792	0	0	5400	0	0	3770	3195
Grp Volume(v), veh/h				79	130	0	0	1574	0	0	2450	1939
Grp Sat Flow(s),veh/h/ln				1788	1648	0	0	1689	0	0	1885	1598
Q Serve(g_s), s				4.2	3.8	0.0	0.0	0.0	0.0	0.0	56.5	47.0
Cycle Q Clear(g_c), s				4.2	3.8	0.0	0.0	0.0	0.0	0.0	56.5	47.0
Prop In Lane				0.25		0.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				292	538		0	3662	0	0	2726	2310
V/C Ratio(X)				0.27	0.24		0.00	0.43	0.00	0.00	0.90	0.84
Avail Cap(c_a), veh/h				397	731		0	3662	0	0	2726	2310
HCM Platoon Ratio				1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00	0.00	0.86	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				40.3	40.1	0.0	0.0	0.0	0.0	0.0	12.1	10.7
Incr Delay (d2), s/veh				0.5	0.2	0.0	0.0	0.3	0.0	0.0	5.3	3.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.4	2.8	0.0	0.0	0.2	0.0	0.0	29.1	21.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				40.8	40.3	0.0	0.0	0.3	0.0	0.0	17.3	14.6
LnGrp LOS				D	D		A	A	A	A	B	B
Approach Vol, veh/h					209			1574			4389	
Approach Delay, s/veh					40.5			0.3			16.1	
Approach LOS					D			A			B	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	85.4	24.6	85.4
Change Period (Y+Rc), s	* 5.9	6.6	* 5.9
Max Green Setting (Gmax), s	* 73	24.4	* 73
Max Q Clear Time (g_c+I1), s	58.5	6.2	2.0
Green Ext Time (p_c), s	14.4	1.1	19.8

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	989	31	0	0	0	0	231	0	121	354	0
Future Volume (veh/h)	43	989	31	0	0	0	0	231	0	121	354	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1574				0	1826	1900	1870	1752	0
Adj Flow Rate, veh/h	48	1111	32				0	260	0	136	398	0
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	2	22				0	5	0	2	10	0
Cap, veh/h	56	1368	41				0	517	0	249	496	0
Arrive On Green	0.27	0.27	0.27				0.00	0.28	0.00	0.28	0.28	0.00
Sat Flow, veh/h	205	5050	150				0	1826	0	1119	1752	0
Grp Volume(v), veh/h	436	363	393				0	260	0	136	398	0
Grp Sat Flow(s),veh/h/ln	1860	1702	1843				0	1826	0	1119	1752	0
Q Serve(g_s), s	24.5	21.7	21.7				0.0	13.1	0.0	12.7	23.2	0.0
Cycle Q Clear(g_c), s	24.5	21.7	21.7				0.0	13.1	0.0	25.8	23.2	0.0
Prop In Lane	0.11		0.08				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	504	461	499				0	517	0	249	496	0
V/C Ratio(X)	0.86	0.79	0.79				0.00	0.50	0.00	0.55	0.80	0.00
Avail Cap(c_a), veh/h	541	495	536				0	1096	0	604	1051	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.55	0.00	0.55	0.55	0.00
Uniform Delay (d), s/veh	38.2	37.1	37.2				0.0	32.9	0.0	43.7	36.6	0.0
Incr Delay (d2), s/veh	13.0	7.7	7.2				0.0	1.9	0.0	1.0	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	15.1	16.0				0.0	9.0	0.0	5.9	13.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.2	44.9	44.3				0.0	34.9	0.0	44.7	38.3	0.0
LnGrp LOS	D	D	D				A	C	A	D	D	A
Approach Vol, veh/h		1191						260			534	
Approach Delay, s/veh		47.0						34.9			39.9	
Approach LOS		D						C			D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	37.2	35.8	37.2
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	66.0	32.0	66.0
Max Q Clear Time (g_c+I1), s	27.8	26.5	15.1
Green Ext Time (p_c), s	3.4	3.3	1.7

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	783	324	3	0	0	0	0	733	94	360	2310	0
Future Volume (veh/h)	783	324	3	0	0	0	0	733	94	360	2310	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1856	1900				0	1841	1900	1885	1885	0
Adj Flow Rate, veh/h	842	348	3				0	788	86	387	2484	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	3	0				0	4	0	1	1	0
Cap, veh/h	955	492	4				0	2761	300	449	3088	0
Arrive On Green	0.27	0.27	0.27				0.00	1.00	1.00	1.00	1.00	0.00
Sat Flow, veh/h	3563	1837	16				0	4767	499	639	5316	0
Grp Volume(v), veh/h	842	0	351				0	572	302	387	2484	0
Grp Sat Flow(s),veh/h/ln	1781	0	1853				0	1675	1751	639	1716	0
Q Serve(g_s), s	24.9	0.0	18.8				0.0	0.0	0.0	66.0	0.0	0.0
Cycle Q Clear(g_c), s	24.9	0.0	18.8				0.0	0.0	0.0	66.0	0.0	0.0
Prop In Lane	1.00		0.01				0.00		0.29	1.00		0.00
Lane Grp Cap(c), veh/h	955	0	497				0	2010	1051	449	3088	0
V/C Ratio(X)	0.88	0.00	0.71				0.00	0.28	0.29	0.86	0.80	0.00
Avail Cap(c_a), veh/h	1036	0	539				0	2010	1051	449	3088	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	2.00	2.00	2.00	2.00	1.00
Upstream Filter(I)	0.68	0.00	0.68				0.00	1.00	1.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	38.6	0.0	36.4				0.0	0.0	0.0	0.3	0.0	0.0
Incr Delay (d2), s/veh	6.1	0.0	2.6				0.0	0.4	0.7	1.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	12.8				0.0	0.2	0.4	0.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	39.0				0.0	0.4	0.7	2.0	0.1	0.0
LnGrp LOS	D	A	D				A	A	A	A	A	A
Approach Vol, veh/h		1193						874			2871	
Approach Delay, s/veh		43.0						0.5			0.4	
Approach LOS		D						A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	72.0	35.5	72.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	66.0	32.0	66.0
Max Q Clear Time (g_c+I1), s	68.0	26.9	2.0
Green Ext Time (p_c), s	0.0	2.6	7.2

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

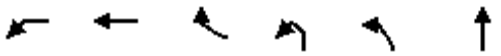
Notes

User approved volume balancing among the lanes for turning movement.



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	247	0	2664	0	0	0
Future Volume (vph)	247	0	2664	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			
Lane Util. Factor	1.00		0.91			
Frt	1.00		1.00			
Flt Protected	0.95		1.00			
Satd. Flow (prot)	1626		5136			
Flt Permitted	0.95		1.00			
Satd. Flow (perm)	1626		5136			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	260	0	2804	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	260	0	2804	0	0	0
Heavy Vehicles (%)	11%	0%	1%	0%	0%	0%
Turn Type	Prot		NA			Perm
Protected Phases	1	6	2			
Permitted Phases						6
Actuated Green, G (s)	22.8		75.2			
Effective Green, g (s)	22.8		75.2			
Actuated g/C Ratio	0.21		0.68			
Clearance Time (s)	6.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	337		3511			
v/s Ratio Prot	c0.16		c0.55			
v/s Ratio Perm						
v/c Ratio	0.77		0.80			
Uniform Delay, d1	41.1		12.1			
Progression Factor	1.00		0.66			
Incremental Delay, d2	10.4		0.9			
Delay (s)	51.6		8.9			
Level of Service	D		A			
Approach Delay (s)		51.6	8.9		0.0	
Approach LOS		D	A		A	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBT	WBR	NBL2	NBL	NBT
Lane Configurations						
Traffic Volume (vph)	167	57	72	350	54	772
Future Volume (vph)	167	57	72	350	54	772
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.0	5.8
Lane Util. Factor	0.97	0.95			1.00	0.95
Frt	1.00	0.92			1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3433	3307			1709	3471
Flt Permitted	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3433	3307			1709	3471
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	174	59	75	365	56	804
RTOR Reduction (vph)	0	63	0	0	103	0
Lane Group Flow (vph)	174	72	0	0	318	804
Heavy Vehicles (%)	2%	0%	0%	6%	3%	4%
Turn Type	Split	NA		Prot	Prot	NA
Protected Phases	4	4		5	5	2
Permitted Phases						
Actuated Green, G (s)	15.0	15.0			64.7	63.9
Effective Green, g (s)	15.0	15.0			64.7	63.9
Actuated g/C Ratio	0.17	0.17			0.72	0.71
Clearance Time (s)	5.3	5.3			5.0	5.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	572	551			1228	2464
v/s Ratio Prot	c0.05	0.02			0.19	c0.23
v/s Ratio Perm						
v/c Ratio	0.30	0.13			0.26	0.33
Uniform Delay, d1	32.9	31.9			4.4	4.9
Progression Factor	0.66	0.53			1.00	1.00
Incremental Delay, d2	0.3	0.1			0.1	0.4
Delay (s)	21.9	17.0			4.5	5.3
Level of Service	C	B			A	A
Approach Delay (s)		19.8				5.0
Approach LOS		B				A

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	65	148	142	91	335	0	0	540	47
Future Volume (veh/h)	0	0	0	65	148	142	91	335	0	0	540	47
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1856	1841	1826	1856	0	0	1885	1900
Adj Flow Rate, veh/h				68	156	17	96	353	0	0	568	44
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				0	3	4	5	3	0	0	1	0
Cap, veh/h				201	391	173	607	2665	0	0	2185	169
Arrive On Green				0.11	0.11	0.11	0.08	1.00	0.00	0.00	0.65	0.65
Sat Flow, veh/h				1810	3526	1560	1739	3618	0	0	3463	260
Grp Volume(v), veh/h				68	156	17	96	353	0	0	301	311
Grp Sat Flow(s),veh/h/ln				1810	1763	1560	1739	1763	0	0	1791	1838
Q Serve(g_s), s				3.1	3.7	0.9	1.5	0.0	0.0	0.0	6.4	6.4
Cycle Q Clear(g_c), s				3.1	3.7	0.9	1.5	0.0	0.0	0.0	6.4	6.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.14
Lane Grp Cap(c), veh/h				201	391	173	607	2665	0	0	1162	1193
V/C Ratio(X)				0.34	0.40	0.10	0.16	0.13	0.00	0.00	0.26	0.26
Avail Cap(c_a), veh/h				603	1175	520	672	2665	0	0	1162	1193
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.92	0.92	0.92	0.95	0.95	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.0	37.2	36.0	4.2	0.0	0.0	0.0	6.7	6.7
Incr Delay (d2), s/veh				0.9	0.6	0.2	0.1	0.1	0.0	0.0	0.5	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				2.6	2.9	0.6	0.8	0.1	0.0	0.0	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.9	37.8	36.2	4.3	0.1	0.0	0.0	7.2	7.2
LnGrp LOS				D	D	D	A	A	A	A	A	A
Approach Vol, veh/h					241			449			612	
Approach Delay, s/veh					37.7			1.0			7.2	
Approach LOS					D			A			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.6	64.4		16.0		74.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	7.6	35.0		30.0		48.0
Max Q Clear Time (g_c+I1), s	3.5	8.4		5.7		2.0
Green Ext Time (p_c), s	0.1	4.0		1.2		2.6

Intersection Summary		
HCM 6th Ctrl Delay		10.7
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	81	214	0	0	0	0	0	1432	205
Future Volume (veh/h)	0	0	0	81	214	0	0	0	0	0	1432	205
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	
Adj Sat Flow, veh/h/ln				1633	1856	0				0	1885	1900
Adj Flow Rate, veh/h				84	223	0				0	1492	208
Peak Hour Factor				0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %				18	3	0				0	1	0
Cap, veh/h				259	618	0				0	2263	311
Arrive On Green				0.17	0.17	0.00				0.00	0.72	0.72
Sat Flow, veh/h				1555	3711	0				0	3257	435
Grp Volume(v), veh/h				84	223	0				0	836	864
Grp Sat Flow(s),veh/h/ln				1555	1856	0				0	1791	1807
Q Serve(g_s), s				4.3	4.8	0.0				0.0	22.4	23.4
Cycle Q Clear(g_c), s				4.3	4.8	0.0				0.0	22.4	23.4
Prop In Lane				1.00		0.00				0.00		0.24
Lane Grp Cap(c), veh/h				259	618	0				0	1282	1293
V/C Ratio(X)				0.32	0.36	0.00				0.00	0.65	0.67
Avail Cap(c_a), veh/h				774	1847	0				0	1282	1293
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				33.0	33.3	0.0				0.0	6.8	7.0
Incr Delay (d2), s/veh				0.7	0.4	0.0				0.0	2.6	2.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.0	3.9	0.0				0.0	12.0	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				33.8	33.6	0.0				0.0	9.4	9.7
LnGrp LOS				C	C	A				A	A	A
Approach Vol, veh/h					307						1700	
Approach Delay, s/veh					33.6						9.6	
Approach LOS					C						A	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	69.8	20.2
Change Period (Y+Rc), s	5.4	* 5.2
Max Green Setting (Gmax), s	34.6	* 45
Max Q Clear Time (g_c+I1), s	25.4	6.8
Green Ext Time (p_c), s	7.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1257	0	0	0	0	0	1063	56	0	0	0
Future Volume (veh/h)	98	1257	0	0	0	0	0	1063	56	0	0	0
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				
Adj Sat Flow, veh/h/ln	1900	1885	0				0	1841	1856			
Adj Flow Rate, veh/h	109	1397	0				0	1181	53			
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90			
Percent Heavy Veh, %	0	1	0				0	4	3			
Cap, veh/h	812	1692	0				0	2643	118			
Arrive On Green	0.45	0.45	0.00				0.00	0.42	0.42			
Sat Flow, veh/h	1810	3770	0				0	6517	280			
Grp Volume(v), veh/h	109	1397	0				0	895	339			
Grp Sat Flow(s),veh/h/ln	1810	1885	0				0	1583	1790			
Q Serve(g_s), s	3.2	29.2	0.0				0.0	12.1	12.1			
Cycle Q Clear(g_c), s	3.2	29.2	0.0				0.0	12.1	12.1			
Prop In Lane	1.00		0.00				0.00		0.16			
Lane Grp Cap(c), veh/h	812	1692	0				0	2005	756			
V/C Ratio(X)	0.13	0.83	0.00				0.00	0.45	0.45			
Avail Cap(c_a), veh/h	929	1935	0				0	2005	756			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.5	21.7	0.0				0.0	18.5	18.5			
Incr Delay (d2), s/veh	0.1	2.7	0.0				0.0	0.7	1.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	2.3	18.6	0.0				0.0	7.8	9.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	24.5	0.0				0.0	19.2	20.4			
LnGrp LOS	B	C	A				A	B	C			
Approach Vol, veh/h		1506						1234				
Approach Delay, s/veh		23.7						19.6				
Approach LOS		C						B				

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	43.8	46.2
Change Period (Y+Rc), s	* 5.8	* 5.8
Max Green Setting (Gmax), s	* 32	* 46
Max Q Clear Time (g_c+I1), s	14.1	31.2
Green Ext Time (p_c), s	8.2	9.2

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	782	524	0	0	0	0	332	75	77	520	0
Future Volume (veh/h)	52	782	524	0	0	0	0	332	75	77	520	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1885				0	1826	1870	1900	1885	0
Adj Flow Rate, veh/h	55	832	339				0	353	58	82	553	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	1				0	5	2	0	1	0
Cap, veh/h	85	1368	438				0	1455	237	564	2122	0
Arrive On Green	0.27	0.27	0.27				0.00	0.49	0.49	0.08	1.00	0.00
Sat Flow, veh/h	309	4991	1598				0	3078	486	1810	3676	0
Grp Volume(v), veh/h	332	555	339				0	204	207	82	553	0
Grp Sat Flow(s),veh/h/ln	1870	1716	1598				0	1735	1738	1810	1791	0
Q Serve(g_s), s	14.1	12.6	17.6				0.0	6.1	6.3	1.9	0.0	0.0
Cycle Q Clear(g_c), s	14.1	12.6	17.6				0.0	6.1	6.3	1.9	0.0	0.0
Prop In Lane	0.17		1.00				0.00		0.28	1.00		0.00
Lane Grp Cap(c), veh/h	513	941	438				0	845	847	564	2122	0
V/C Ratio(X)	0.65	0.59	0.77				0.00	0.24	0.24	0.15	0.26	0.00
Avail Cap(c_a), veh/h	623	1144	533				0	845	847	634	2122	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.47	0.47	0.47				0.00	1.00	1.00	0.97	0.97	0.00
Uniform Delay (d), s/veh	28.8	28.3	30.1				0.0	13.4	13.4	9.6	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.3	2.8				0.0	0.7	0.7	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.1	7.6	9.9				0.0	4.4	4.5	1.3	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	28.6	32.9				0.0	14.1	14.1	9.7	0.3	0.0
LnGrp LOS	C	C	C				A	B	B	A	A	A
Approach Vol, veh/h		1226						411			635	
Approach Delay, s/veh		30.0						14.1			1.5	
Approach LOS		C						B			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	9.5	49.8	30.7	59.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	35.0	30.0	48.0
Max Q Clear Time (g_c+I1), s	13.9	8.3	19.6	2.0
Green Ext Time (p_c), s	0.0	2.6	5.1	4.3

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	170	691	0	0	0	0	0	0	155	1141	0
Future Volume (veh/h)	0	170	691	0	0	0	0	0	0	155	1141	0
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	
Adj Sat Flow, veh/h/ln	0	1870	1885							1752	1885	0
Adj Flow Rate, veh/h	0	200	709							182	1342	0
Peak Hour Factor	0.85	0.85	0.85							0.85	0.85	0.85
Percent Heavy Veh, %	0	2	1							10	1	0
Cap, veh/h	0	995	850							1002	3092	0
Arrive On Green	0.00	0.27	0.27							0.20	0.20	0.00
Sat Flow, veh/h	0	3741	3195							1668	5316	0
Grp Volume(v), veh/h	0	200	709							182	1342	0
Grp Sat Flow(s),veh/h/ln	0	1870	1598							1668	1716	0
Q Serve(g_s), s	0.0	3.7	18.8							8.2	20.6	0.0
Cycle Q Clear(g_c), s	0.0	3.7	18.8							8.2	20.6	0.0
Prop In Lane	0.00		1.00							1.00		0.00
Lane Grp Cap(c), veh/h	0	995	850							1002	3092	0
V/C Ratio(X)	0.00	0.20	0.83							0.18	0.43	0.00
Avail Cap(c_a), veh/h	0	1247	1065							1002	3092	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	0.89	0.89							0.70	0.70	0.00
Uniform Delay (d), s/veh	0.0	25.6	31.2							17.7	22.7	0.0
Incr Delay (d2), s/veh	0.0	0.1	4.3							0.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.0	11.8							5.9	13.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.7	35.4							18.0	23.0	0.0
LnGrp LOS	A	C	D							B	C	A
Approach Vol, veh/h		909									1524	
Approach Delay, s/veh		33.3									22.4	
Approach LOS		C									C	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	60.1	29.9
Change Period (Y+Rc), s	6.0	6.0
Max Green Setting (Gmax), s	48.0	30.0
Max Q Clear Time (g_c+I1), s	22.6	20.8
Green Ext Time (p_c), s	12.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	172	0	0	0	0	0	783	197	0	0	0
Future Volume (veh/h)	148	172	0	0	0	0	0	783	197	0	0	0
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				
Adj Sat Flow, veh/h/ln	1870	1737	0				0	1841	1841			
Adj Flow Rate, veh/h	154	179	0				0	816	151			
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96			
Percent Heavy Veh, %	2	11	0				0	4	4			
Cap, veh/h	576	550	0				0	3939	1113			
Arrive On Green	0.05	0.05	0.00				0.00	0.71	0.71			
Sat Flow, veh/h	3456	3387	0				0	5522	1560			
Grp Volume(v), veh/h	154	179	0				0	816	151			
Grp Sat Flow(s),veh/h/ln	1728	1650	0				0	1841	1560			
Q Serve(g_s), s	3.8	4.7	0.0				0.0	4.5	2.8			
Cycle Q Clear(g_c), s	3.8	4.7	0.0				0.0	4.5	2.8			
Prop In Lane	1.00		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	576	550	0				0	3939	1113			
V/C Ratio(X)	0.27	0.33	0.00				0.00	0.21	0.14			
Avail Cap(c_a), veh/h	1524	1456	0				0	3939	1113			
HCM Platoon Ratio	0.33	0.33	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.94	0.94	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	37.3	37.7	0.0				0.0	4.3	4.1			
Incr Delay (d2), s/veh	0.2	0.3	0.0				0.0	0.1	0.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.0	3.5	0.0				0.0	2.5	1.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.5	38.0	0.0				0.0	4.5	4.3			
LnGrp LOS	D	D	A				A	A	A			
Approach Vol, veh/h		333						967				
Approach Delay, s/veh		37.8						4.4				
Approach LOS		D						A				

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	69.7	20.3
Change Period (Y+Rc), s	5.5	* 5.3
Max Green Setting (Gmax), s	39.5	* 40
Max Q Clear Time (g_c+I1), s	6.5	6.7
Green Ext Time (p_c), s	7.3	1.7

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	20	589	0	0	0	0	0	210	940
Future Volume (veh/h)	0	0	0	20	589	0	0	0	0	0	210	940
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	
Adj Sat Flow, veh/h/ln				1263	1856	0				0	1811	1885
Adj Flow Rate, veh/h				22	662	0				0	236	980
Peak Hour Factor				0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %				43	3	0				0	6	1
Cap, veh/h				34	1092	0				0	1110	979
Arrive On Green				0.22	0.22	0.00				0.00	0.61	0.61
Sat Flow, veh/h				158	5234	0				0	1811	1598
Grp Volume(v), veh/h				257	427	0				0	236	980
Grp Sat Flow(s),veh/h/ln				1848	1689	0				0	1811	1598
Q Serve(g_s), s				8.9	7.9	0.0				0.0	4.1	42.9
Cycle Q Clear(g_c), s				8.9	7.9	0.0				0.0	4.1	42.9
Prop In Lane				0.09		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				398	728	0				0	1110	979
V/C Ratio(X)				0.65	0.59	0.00				0.00	0.21	1.00
Avail Cap(c_a), veh/h				765	1399	0				0	1110	979
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.83	0.83	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				25.0	24.7	0.0				0.0	6.0	13.5
Incr Delay (d2), s/veh				1.5	0.6	0.0				0.0	0.4	28.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				6.8	5.6	0.0				0.0	2.5	26.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.5	25.3	0.0				0.0	6.5	42.4
LnGrp LOS				C	C	A				A	A	F
Approach Vol, veh/h					684						1216	
Approach Delay, s/veh					25.7						35.5	
Approach LOS					C						D	

Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				21.1		48.9						
Change Period (Y+Rc), s				6.0		6.0						
Max Green Setting (Gmax), s				29.0		29.0						
Max Q Clear Time (g_c+I1), s				10.9		44.9						
Green Ext Time (p_c), s				4.2		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	32.0	
HCM 6th LOS	C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	546	323	65	350	0	0	0	0
Future Volume (veh/h)	0	0	0	0	546	323	65	350	0	0	0	0
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				
Adj Sat Flow, veh/h/ln				0	1856	1841	1737	1781	0			
Adj Flow Rate, veh/h				0	600	73	71	385	0			
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %				0	3	4	11	8	0			
Cap, veh/h				0	921	284	619	3682	0			
Arrive On Green				0.00	0.18	0.18	0.68	0.68	0.00			
Sat Flow, veh/h				0	5233	1560	912	5670	0			
Grp Volume(v), veh/h				0	600	73	135	321	0			
Grp Sat Flow(s),veh/h/ln				0	1689	1560	1736	1532	0			
Q Serve(g_s), s				0.0	9.9	3.6	2.4	2.2	0.0			
Cycle Q Clear(g_c), s				0.0	9.9	3.6	2.4	2.2	0.0			
Prop In Lane				0.00		1.00	0.53		0.00			
Lane Grp Cap(c), veh/h				0	921	284	1179	3122	0			
V/C Ratio(X)				0.00	0.65	0.26	0.11	0.10	0.00			
Avail Cap(c_a), veh/h				0	1914	589	1179	3122	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	34.2	31.6	5.0	5.0	0.0			
Incr Delay (d2), s/veh				0.0	0.8	0.5	0.2	0.1	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	7.3	2.5	1.5	1.1	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	35.0	32.1	5.2	5.0	0.0			
LnGrp LOS				A	C	C	A	A	A			
Approach Vol, veh/h					673			456				
Approach Delay, s/veh					34.6			5.1				
Approach LOS					C			A				

Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						67.6		22.4				
Change Period (Y+Rc), s						6.5		6.0				
Max Green Setting (Gmax), s						43.5		34.0				
Max Q Clear Time (g_c+I1), s						4.4		11.9				
Green Ext Time (p_c), s						3.3		4.5				

Intersection Summary		
HCM 6th Ctrl Delay	22.7	
HCM 6th LOS	C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	179	90	259	1506	20	81	236	45	2	257	36
Future Volume (veh/h)	7	179	90	259	1506	20	81	236	45	2	257	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	190	72	276	1602	21	86	251	37	2	273	35
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	1816	665	335	1973	28	143	681	99	21	355	45
Arrive On Green	0.72	0.72	0.72	0.72	0.72	0.72	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	308	2526	925	430	2745	38	1071	3112	453	3	1622	207
Grp Volume(v), veh/h	7	131	131	974	0	925	86	142	146	310	0	0
Grp Sat Flow(s),veh/h/ln	308	1763	1689	1519	0	1695	1071	1777	1789	1831	0	0
Q Serve(g_s), s	2.6	4.0	4.3	89.7	0.0	60.8	7.8	12.2	12.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	63.3	4.0	4.3	93.9	0.0	60.8	36.4	12.2	12.5	28.6	0.0	0.0
Prop In Lane	1.00		0.55	0.28		0.02	1.00		0.25	0.01		0.11
Lane Grp Cap(c), veh/h	158	1267	1214	1117	0	1218	143	389	392	421	0	0
V/C Ratio(X)	0.04	0.10	0.11	0.87	0.00	0.76	0.60	0.36	0.37	0.74	0.00	0.00
Avail Cap(c_a), veh/h	158	1267	1214	1117	0	1218	172	438	441	472	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.3	7.7	7.7	22.0	0.0	15.7	75.1	59.7	59.8	66.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.2	0.2	7.7	0.0	2.8	4.1	0.6	0.6	5.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	2.9	3.0	43.7	0.0	31.7	7.4	9.5	9.8	20.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	7.8	7.9	29.8	0.0	18.5	79.1	60.2	60.4	71.4	0.0	0.0
LnGrp LOS	D	A	A	C	A	B	E	E	E	E	A	A
Approach Vol, veh/h		269			1899			374			310	
Approach Delay, s/veh		8.6			24.3			64.6			71.4	
Approach LOS		A			C			E			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	135.0	45.0	135.0	45.0
Change Period (Y+Rc), s	5.6	5.6	5.6	5.6
Max Green Setting (Gmax), s	124.4	44.4	124.4	44.4
Max Q Clear Time (g_c+I1), s	65.3	30.6	95.9	38.4
Green Ext Time (p_c), s	1.9	1.5	19.3	1.0

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	748	19	121	2256	101	0	152	23	75	135	77
Future Volume (veh/h)	0	748	19	121	2256	101	0	152	23	75	135	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	813	18	132	2452	105	0	165	18	82	147	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	3	3	3	3	3	0	2	2	2	2	2
Cap, veh/h	0	2688	59	366	2627	112	0	199	22	187	443	376
Arrive On Green	0.00	0.53	0.53	1.00	1.00	1.00	0.00	0.12	0.12	0.04	0.24	0.24
Sat Flow, veh/h	0	5267	113	655	4983	212	0	1657	181	1781	1870	1585
Grp Volume(v), veh/h	0	538	293	132	1656	901	0	0	183	82	147	51
Grp Sat Flow(s),veh/h/ln	0	1689	1835	655	1689	1817	0	0	1838	1781	1870	1585
Q Serve(g_s), s	0.0	8.1	8.1	5.0	0.0	0.0	0.0	0.0	8.8	3.5	5.9	2.3
Cycle Q Clear(g_c), s	0.0	8.1	8.1	13.1	0.0	0.0	0.0	0.0	8.8	3.5	5.9	2.3
Prop In Lane	0.00		0.06	1.00		0.12	0.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	0	1780	967	366	1780	958	0	0	221	187	443	376
V/C Ratio(X)	0.00	0.30	0.30	0.36	0.93	0.94	0.00	0.00	0.83	0.44	0.33	0.14
Avail Cap(c_a), veh/h	0	2075	1128	424	2075	1117	0	0	235	187	457	387
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.86	0.86	0.86	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.0	12.0	1.1	0.0	0.0	0.0	0.0	38.7	31.9	28.4	27.1
Incr Delay (d2), s/veh	0.0	0.4	0.8	0.5	6.5	12.3	0.0	0.0	20.3	1.6	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	5.3	6.0	0.1	2.9	5.9	0.0	0.0	8.8	2.8	4.7	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.4	12.8	1.6	6.5	12.3	0.0	0.0	59.0	33.5	28.9	27.2
LnGrp LOS	A	B	B	A	A	B	A	A	E	C	C	C
Approach Vol, veh/h		831			2689			183			280	
Approach Delay, s/veh		12.5			8.2			59.0			29.9	
Approach LOS		B			A			E			C	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	53.6	10.5	17.3	53.6	27.8
Change Period (Y+Rc), s	* 6.2	6.5	6.5	* 6.2	6.5
Max Green Setting (Gmax), s	* 55	4.0	11.5	* 55	22.0
Max Q Clear Time (g_c+I1), s	15.1	5.5	10.8	10.1	7.9
Green Ext Time (p_c), s	32.4	0.0	0.1	6.5	0.8

Intersection Summary	
HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	533	688	1007	2360	0	0	0	0	0	0	0
Future Volume (veh/h)	0	533	688	1007	2360	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1796	1856	1811	1870	0				1900	1900	1900
Adj Flow Rate, veh/h	0	542	425	1083	2538	0				0	0	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	7	3	6	2	0				0	0	0
Cap, veh/h	0	2171	1901	907	4788	0				0	4	2
Arrive On Green	0.00	1.00	1.00	0.54	1.00	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	3593	3145	3346	5274	0				0	3705	1610
Grp Volume(v), veh/h	0	542	425	1083	2538	0				0	0	0
Grp Sat Flow(s),veh/h/ln	0	1796	1572	1673	1702	0				0	1805	1610
Q Serve(g_s), s	0.0	0.0	0.0	24.4	0.0	0.0				0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	24.4	0.0	0.0				0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h	0	2171	1901	907	4788	0				0	4	2
V/C Ratio(X)	0.00	0.25	0.22	1.19	0.53	0.00				0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2171	1901	907	4788	0				0	477	213
HCM Platoon Ratio	1.00	1.67	1.67	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.97	0.97	0.57	0.57	0.00				0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	20.6	0.0	0.0				0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	93.7	0.2	0.0				0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.1	0.1	25.0	0.2	0.0				0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.3	0.3	114.3	0.2	0.0				0.0	0.0	0.0
LnGrp LOS	A	A	A	F	A	A				A	A	A
Approach Vol, veh/h		967			3621						0	
Approach Delay, s/veh		0.3			34.4						0.0	
Approach LOS		A			C							

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	30.0	60.0		0.0		90.0
Change Period (Y+Rc), s	5.6	5.6		6.1		5.6
Max Green Setting (Gmax), s	24.4	36.4		11.9		66.4
Max Q Clear Time (g_c+I1), s	26.4	2.0		0.0		2.0
Green Ext Time (p_c), s	0.0	6.3		0.0		45.2

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	550	0	0	2262	15	999	95	828	0	0	0
Future Volume (veh/h)	0	550	0	0	2262	15	999	95	828	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1811	0	0	1841	1752	1870	1826	1841			
Adj Flow Rate, veh/h	0	625	0	0	2570	9	1135	108	536			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88			
Percent Heavy Veh, %	0	6	0	0	4	10	2	5	4			
Cap, veh/h	0	2827	0	0	3621	849	1516	518	885			
Arrive On Green	0.00	0.19	0.00	0.00	0.57	0.57	0.28	0.28	0.28			
Sat Flow, veh/h	0	5270	0	0	6590	1485	5344	1826	3120			
Grp Volume(v), veh/h	0	625	0	0	2570	9	1135	108	536			
Grp Sat Flow(s),veh/h/ln	0	1648	0	0	1583	1485	1781	1826	1560			
Q Serve(g_s), s	0.0	9.6	0.0	0.0	26.3	0.2	17.4	4.1	13.4			
Cycle Q Clear(g_c), s	0.0	9.6	0.0	0.0	26.3	0.2	17.4	4.1	13.4			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2827	0	0	3621	849	1516	518	885			
V/C Ratio(X)	0.00	0.22	0.00	0.00	0.71	0.01	0.75	0.21	0.61			
Avail Cap(c_a), veh/h	0	2827	0	0	3621	849	1847	631	1078			
HCM Platoon Ratio	1.00	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.83	0.00	0.00	0.38	0.38	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	19.5	0.0	0.0	13.9	8.3	29.3	24.5	27.9			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.5	0.0	1.4	0.2	0.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	7.1	0.0	0.0	11.5	0.1	11.9	3.2	8.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.7	0.0	0.0	14.3	8.3	30.7	24.7	28.5			
LnGrp LOS	A	B	A	A	B	A	C	C	C			
Approach Vol, veh/h		625			2579			1779				
Approach Delay, s/veh		19.7			14.3			29.7				
Approach LOS		B			B			C				

Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	57.6				57.6		32.4					
Change Period (Y+Rc), s	6.1				6.1		6.9					
Max Green Setting (Gmax), s	45.9				45.9		31.1					
Max Q Clear Time (g_c+I1), s	28.3				11.6		19.4					
Green Ext Time (p_c), s	15.7				4.9		6.2					

Intersection Summary												
HCM 6th Ctrl Delay			20.5									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	810	586	0	1903	12	741	42	23	0	0	0
Future Volume (veh/h)	0	810	586	0	1903	12	741	42	23	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1826	1841	0	1841	1707	1841	1841	1796			
Adj Flow Rate, veh/h	0	931	358	0	2187	14	907	0	0			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	0	5	4	0	4	13	4	4	7			
Cap, veh/h	0	1922	864	0	2855	18	1057	555	0			
Arrive On Green	0.00	1.00	1.00	0.00	0.55	0.55	0.30	0.00	0.00			
Sat Flow, veh/h	0	3561	1560	0	5318	33	3506	1841	0			
Grp Volume(v), veh/h	0	931	358	0	1422	779	907	0	0			
Grp Sat Flow(s),veh/h/ln	0	1735	1560	0	1675	1835	1753	1841	0			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	29.6	29.6	21.9	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	29.6	29.6	21.9	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		0.02	1.00		0.00			
Lane Grp Cap(c), veh/h	0	1922	864	0	1856	1017	1057	555	0			
V/C Ratio(X)	0.00	0.48	0.41	0.00	0.77	0.77	0.86	0.00	0.00			
Avail Cap(c_a), veh/h	0	1922	864	0	1856	1017	1461	767	0			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.88	0.88	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	15.5	15.6	29.6	0.0	0.0			
Incr Delay (d2), s/veh	0.0	0.8	1.3	0.0	2.0	3.6	3.9	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	0.4	0.6	0.0	16.1	18.0	14.6	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.8	1.3	0.0	17.5	19.1	33.6	0.0	0.0			
LnGrp LOS	A	A	A	A	B	B	C	A	A			
Approach Vol, veh/h		1289			2201			907				
Approach Delay, s/veh		0.9			18.1			33.6				
Approach LOS		A			B			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	56.4	33.6	56.4
Change Period (Y+Rc), s	6.5	6.5	6.5
Max Green Setting (Gmax), s	39.5	37.5	39.5
Max Q Clear Time (g_c+I1), s	2.0	23.9	31.6
Green Ext Time (p_c), s	10.1	3.2	6.9

Intersection Summary	
HCM 6th Ctrl Delay	16.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	114	7	4	248	0	3	0	1	214	23	305
Future Volume (veh/h)	0	114	7	4	248	0	3	0	1	214	23	305
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1900	1900	1841	0	1900	1900	1900	1826	1900	1900
Adj Flow Rate, veh/h	0	121	5	4	264	0	3	0	0	245	0	53
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	3	0	0	4	0	0	0	0	5	0	0
Cap, veh/h	0	518	21	39	511	0	90	0	0	522	0	241
Arrive On Green	0.00	0.15	0.15	0.15	0.15	0.00	0.05	0.00	0.00	0.15	0.00	0.15
Sat Flow, veh/h	0	3544	142	15	3493	0	1809	0	0	3478	0	1610
Grp Volume(v), veh/h	0	61	65	144	124	0	3	0	0	245	0	53
Grp Sat Flow(s),veh/h/ln	0	1763	1830	1833	1591	0	1810	0	0	1739	0	1610
Q Serve(g_s), s	0.0	3.1	3.1	0.0	7.2	0.0	0.2	0.0	0.0	6.4	0.0	2.9
Cycle Q Clear(g_c), s	0.0	3.1	3.1	7.2	7.2	0.0	0.2	0.0	0.0	6.4	0.0	2.9
Prop In Lane	0.00		0.08	0.03		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	264	275	312	239	0	90	0	0	522	0	241
V/C Ratio(X)	0.00	0.23	0.24	0.46	0.52	0.00	0.03	0.00	0.00	0.47	0.00	0.22
Avail Cap(c_a), veh/h	0	529	549	584	477	0	262	0	0	1339	0	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	37.4	37.4	39.2	39.2	0.0	45.2	0.0	0.0	38.9	0.0	37.4
Incr Delay (d2), s/veh	0.0	0.4	0.4	4.8	7.9	0.0	0.1	0.0	0.0	0.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.4	2.6	6.6	6.0	0.0	0.1	0.0	0.0	5.0	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	37.9	37.9	44.0	47.1	0.0	45.3	0.0	0.0	39.5	0.0	37.8
LnGrp LOS	A	D	D	D	D	A	D	A	A	D	A	D
Approach Vol, veh/h		126			268			3			298	
Approach Delay, s/veh		37.9			45.4			45.3			39.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	21.0	10.5	21.0	20.5
Change Period (Y+Rc), s	6.0	5.5	6.0	5.5
Max Green Setting (Gmax), s	30.0	14.5	30.0	38.5
Max Q Clear Time (g_c+I1), s	5.1	2.2	9.2	8.4
Green Ext Time (p_c), s	0.6	0.0	1.4	1.0

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

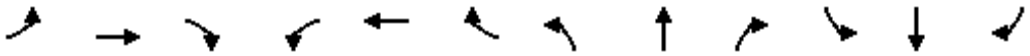
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	465	103	0	0	122	296	0	0	0	0	0	0
Future Vol, veh/h	465	103	0	0	122	296	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	200	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	4	7	0	0	10	7	0	0	0	0	0	0
Mvmt Flow	511	113	0	0	134	325	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	134	0	-	-	-	0	1202	1269	57
Stage 1	-	-	-	-	-	-	1135	1135	-
Stage 2	-	-	-	-	-	-	67	134	-
Critical Hdwy	4.18	-	-	-	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.24	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1434	-	0	0	-	-	180	170	1004
Stage 1	-	-	0	0	-	-	273	280	-
Stage 2	-	-	0	0	-	-	954	789	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1434	-	-	-	-	-	116	0	1004
Mov Cap-2 Maneuver	-	-	-	-	-	-	116	0	-
Stage 1	-	-	-	-	-	-	176	0	-
Stage 2	-	-	-	-	-	-	954	0	-

Approach	EB	WB	NB
HCM Control Delay, s	7.3	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	-	1434	-	-	-
HCM Lane V/C Ratio	-	0.356	-	-	-
HCM Control Delay (s)	0	8.9	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	-	1.6	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	0	0	296	383	461	85	578	0	0	404	194
Future Volume (veh/h)	7	0	0	296	383	461	85	578	0	0	404	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1870	1900	1856	1752	1856	0	0	1767	1870
Adj Flow Rate, veh/h	7	0	0	308	399	345	89	602	0	0	421	105
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	0	3	10	3	0	0	9	2
Cap, veh/h	0	0	0	262	350	322	250	1590	0	0	1532	379
Arrive On Green	0.00	0.00	0.00	0.26	0.26	0.26	0.57	0.57	0.00	0.00	0.57	0.57
Sat Flow, veh/h		0		990	1324	1218	323	2853	0	0	2755	659
Grp Volume(v), veh/h		0.0		576	0	476	339	352	0	0	264	262
Grp Sat Flow(s),veh/h/ln				1851	0	1681	1488	1604	0	0	1678	1648
Q Serve(g_s), s				18.5	0.0	18.5	1.5	8.4	0.0	0.0	5.6	5.6
Cycle Q Clear(g_c), s				18.5	0.0	18.5	7.1	8.4	0.0	0.0	5.6	5.6
Prop In Lane				0.53		0.72	0.26		0.00	0.00		0.40
Lane Grp Cap(c), veh/h				489	0	444	919	921	0	0	964	946
V/C Ratio(X)				1.18	0.00	1.07	0.37	0.38	0.00	0.00	0.27	0.28
Avail Cap(c_a), veh/h				489	0	444	919	921	0	0	964	946
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				25.8	0.0	25.8	7.8	8.1	0.0	0.0	7.5	7.5
Incr Delay (d2), s/veh				99.4	0.0	63.3	1.1	1.2	0.0	0.0	0.7	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				31.4	0.0	21.8	4.6	4.9	0.0	0.0	3.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				125.2	0.0	89.0	8.9	9.3	0.0	0.0	8.2	8.3
LnGrp LOS				F	A	F	A	A	A	A	A	A
Approach Vol, veh/h					1052			691			526	
Approach Delay, s/veh					108.8			9.1			8.2	
Approach LOS					F			A			A	

Timer - Assigned Phs	2				6		8					
Phs Duration (G+Y+Rc), s	46.0				46.0		24.0					
Change Period (Y+Rc), s	* 5.8				* 5.8		5.5					
Max Green Setting (Gmax), s	* 27				* 26		18.5					
Max Q Clear Time (g_c+I1), s	10.4				7.6		20.5					
Green Ext Time (p_c), s	4.2				3.1		0.0					

Intersection Summary		
HCM 6th Ctrl Delay	55.1	
HCM 6th LOS	E	

Notes

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

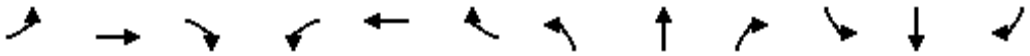
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑	↱	↰	↑↑					↱
Traffic Vol, veh/h	0	332	110	118	578	0	0	0	0	0
Future Vol, veh/h	0	332	110	118	578	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	None	-	-
Storage Length	-	-	80	220	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	0	5	7	1	2	0	0	0	0	0
Mvmt Flow	0	373	124	133	649	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	-	0	0	373	0	0	-	325
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.12	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.21	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	1189	-	0	0	677
Stage 1	0	-	-	-	-	0	0	-
Stage 2	0	-	-	-	-	0	0	-
Platoon blocked, %		-	-		-			
Mov Cap-1 Maneuver	-	-	-	1189	-	-	-	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay, s	0	1.4	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SELn1
Capacity (veh/h)	-	-	1189	-	-
HCM Lane V/C Ratio	-	-	0.112	-	-
HCM Control Delay (s)	-	-	8.4	-	0
HCM Lane LOS	-	-	A	-	A
HCM 95th %tile Q(veh)	-	-	0.4	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	326	0	0	0	0	259	119	30	0	0	0
Future Volume (veh/h)	7	326	0	0	0	0	259	119	30	0	0	0
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				
Adj Sat Flow, veh/h/ln	1900	1811	0				1885	1900	1826			
Adj Flow Rate, veh/h	7	333	0				264	121	20			
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98			
Percent Heavy Veh, %	0	6	0				1	0	5			
Cap, veh/h	10	501	0				861	395	1058			
Arrive On Green	0.14	0.14	0.00				0.68	0.68	0.68			
Sat Flow, veh/h	69	3549	0				1260	577	1547			
Grp Volume(v), veh/h	182	158	0				385	0	20			
Grp Sat Flow(s),veh/h/ln	1808	1721	0				1837	0	1547			
Q Serve(g_s), s	6.7	6.0	0.0				5.9	0.0	0.3			
Cycle Q Clear(g_c), s	6.7	6.0	0.0				5.9	0.0	0.3			
Prop In Lane	0.04		0.00				0.69		1.00			
Lane Grp Cap(c), veh/h	262	249	0				1256	0	1058			
V/C Ratio(X)	0.70	0.63	0.00				0.31	0.00	0.02			
Avail Cap(c_a), veh/h	516	492	0				1256	0	1058			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.5	28.2	0.0				4.4	0.0	3.5			
Incr Delay (d2), s/veh	3.3	2.6	0.0				0.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	5.4	4.6	0.0				3.3	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	30.8	0.0				5.1	0.0	3.6			
LnGrp LOS	C	C	A				A	A	A			
Approach Vol, veh/h		340						405				
Approach Delay, s/veh		31.3						5.0				
Approach LOS		C						A				

Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		53.9		16.1								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		38.0		20.0								
Max Q Clear Time (g_c+I1), s		7.9		8.7								
Green Ext Time (p_c), s		2.7		1.4								

Intersection Summary												
HCM 6th Ctrl Delay			17.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	538	0	957	127	643	0	0	979	275
Future Volume (veh/h)	0	0	0	538	0	957	127	643	0	0	979	275
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1722	1900	1811	1292	1796	0	0	1796	1796
Adj Flow Rate, veh/h				572	0	952	135	684	0	0	1041	65
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				12	0	6	41	7	0	0	7	7
Cap, veh/h				1605	0	751	130	1325	0	0	763	340
Arrive On Green				0.49	0.00	0.49	0.03	0.13	0.00	0.00	0.22	0.22
Sat Flow, veh/h				3280	0	1535	1231	3503	0	0	3503	1522
Grp Volume(v), veh/h				572	0	952	135	684	0	0	1041	65
Grp Sat Flow(s),veh/h/ln				1640	0	1535	1231	1706	0	0	1706	1522
Q Serve(g_s), s				9.2	0.0	41.6	9.0	15.9	0.0	0.0	19.0	2.9
Cycle Q Clear(g_c), s				9.2	0.0	41.6	9.0	15.9	0.0	0.0	19.0	2.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1605	0	751	130	1325	0	0	763	340
V/C Ratio(X)				0.36	0.00	1.27	1.04	0.52	0.00	0.00	1.36	0.19
Avail Cap(c_a), veh/h				1605	0	751	130	1325	0	0	763	340
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.61	0.61	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				13.4	0.0	21.7	41.0	29.6	0.0	0.0	33.0	26.8
Incr Delay (d2), s/veh				0.1	0.0	130.8	71.3	0.9	0.0	0.0	172.5	1.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.8	0.0	78.1	8.6	10.8	0.0	0.0	39.7	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				13.6	0.0	152.5	112.3	30.5	0.0	0.0	205.5	28.0
LnGrp LOS				B	A	F	F	C	A	A	F	C
Approach Vol, veh/h					1524			819			1106	
Approach Delay, s/veh					100.3			44.0			195.0	
Approach LOS					F			D			F	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	38.0	47.0	14.0	24.0
Change Period (Y+Rc), s	5.0	* 5.4	5.0	5.0
Max Green Setting (Gmax), s	33.0	* 42	9.0	19.0
Max Q Clear Time (g_c+I1), s	17.9	43.6	11.0	21.0
Green Ext Time (p_c), s	4.2	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	117.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	0	156	0	0	0	0	435	588	701	800	0
Future Volume (veh/h)	353	0	156	0	0	0	0	435	588	701	800	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1826	1900	1515				0	1618	1515	1796	1752	0
Adj Flow Rate, veh/h	376	0	40				0	463	0	746	851	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	0	26				0	19	26	7	10	0
Cap, veh/h	411	0	381				0	937		523	2189	0
Arrive On Green	0.24	0.00	0.24				0.00	0.20	0.00	0.10	0.22	0.00
Sat Flow, veh/h	1739	0	1610				0	3156	1284	1711	3416	0
Grp Volume(v), veh/h	376	0	40				0	463	0	746	851	0
Grp Sat Flow(s),veh/h/ln	1739	0	1610				0	1537	1284	1711	1664	0
Q Serve(g_s), s	17.9	0.0	1.7				0.0	11.3	0.0	26.0	18.6	0.0
Cycle Q Clear(g_c), s	17.9	0.0	1.7				0.0	11.3	0.0	26.0	18.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	411	0	381				0	937		523	2189	0
V/C Ratio(X)	0.91	0.00	0.11				0.00	0.49		1.43	0.39	0.00
Avail Cap(c_a), veh/h	430	0	398				0	937		523	2193	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.67	0.67	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.75	0.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	31.6	0.0	25.4				0.0	28.0	0.0	38.2	18.7	0.0
Incr Delay (d2), s/veh	23.4	0.0	0.1				0.0	1.4	0.0	192.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.1	0.0	1.1				0.0	7.5	0.0	53.3	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	0.0	25.5				0.0	29.4	0.0	230.8	18.7	0.0
LnGrp LOS	E	A	C				A	C		F	B	A
Approach Vol, veh/h		416						463			1597	
Approach Delay, s/veh		52.2						29.4			117.8	
Approach LOS		D						C			F	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	30.0	30.9	24.1	60.9
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5
Max Green Setting (Gmax), s	26.0	25.0	21.0	* 56
Max Q Clear Time (g_c+I1), s	28.0	13.3	19.9	20.6
Green Ext Time (p_c), s	0.0	2.4	0.2	7.2

Intersection Summary	
HCM 6th Ctrl Delay	90.2
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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	404	144	319	539	211	129	169	361	447	255	118
Future Volume (veh/h)	78	404	144	319	539	211	129	169	361	447	255	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1648	1396	1663	1693	1796	1574	1737	1322	1722	1781	1559
Adj Flow Rate, veh/h	82	425	108	336	567	70	136	178	126	471	268	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	17	34	16	14	7	22	11	39	12	8	23
Cap, veh/h	176	509	128	273	430	387	463	520	348	615	1334	521
Arrive On Green	0.05	0.21	0.21	0.10	0.25	0.25	0.09	0.27	0.27	0.07	0.13	0.13
Sat Flow, veh/h	1781	2477	624	1584	1693	1522	1499	1892	1267	1640	3385	1321
Grp Volume(v), veh/h	82	267	266	336	567	70	136	154	150	471	268	35
Grp Sat Flow(s),veh/h/ln	1781	1566	1536	1584	1693	1522	1499	1650	1509	1640	1692	1321
Q Serve(g_s), s	3.0	13.9	14.1	8.5	21.6	3.1	5.4	6.3	6.8	15.7	6.0	2.0
Cycle Q Clear(g_c), s	3.0	13.9	14.1	8.5	21.6	3.1	5.4	6.3	6.8	15.7	6.0	2.0
Prop In Lane	1.00		0.41	1.00		1.00	1.00		0.84	1.00		1.00
Lane Grp Cap(c), veh/h	176	321	315	273	430	387	463	453	414	615	1334	521
V/C Ratio(X)	0.47	0.83	0.84	1.23	1.32	0.18	0.29	0.34	0.36	0.77	0.20	0.07
Avail Cap(c_a), veh/h	263	378	370	273	430	387	642	453	414	615	1334	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	26.4	32.4	32.5	28.6	31.7	24.8	19.1	24.7	24.8	18.0	25.0	23.3
Incr Delay (d2), s/veh	1.9	12.8	14.2	131.1	159.0	0.2	0.3	2.0	2.4	5.4	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	10.4	10.5	18.9	41.7	2.0	3.4	4.8	4.8	11.9	4.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.3	45.1	46.7	159.7	190.7	25.0	19.4	26.7	27.3	23.4	25.3	23.5
LnGrp LOS	C	D	D	F	F	C	B	C	C	C	C	C
Approach Vol, veh/h		615			973			440			774	
Approach Delay, s/veh		43.6			168.1			24.6			24.1	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	39.2	12.0	23.0	21.0	29.0	7.9	27.1
Change Period (Y+Rc), s	3.5	5.7	3.5	5.5	3.5	5.7	3.5	5.5
Max Green Setting (Gmax), s	7.5	20.3	8.5	20.5	17.5	20.3	8.5	20.5
Max Q Clear Time (g_c+I1), s	7.4	8.0	10.5	16.1	17.7	8.8	5.0	23.6
Green Ext Time (p_c), s	0.2	1.4	0.0	1.3	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	78.5
HCM 6th LOS	E



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	94	446	342	66	427	829
Future Volume (vph)	94	446	342	66	427	829
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	6.0
Lane Util. Factor	0.95			0.95	0.97	1.00
Frt	0.88			1.00	1.00	0.85
Flt Protected	1.00			0.96	0.95	1.00
Satd. Flow (prot)	2806			3173	3183	1495
Flt Permitted	1.00			0.54	0.95	1.00
Satd. Flow (perm)	2806			1801	3183	1495
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	99	469	360	69	449	873
RTOR Reduction (vph)	249	0	0	0	0	653
Lane Group Flow (vph)	319	0	0	429	449	220
Heavy Vehicles (%)	2%	15%	10%	5%	10%	8%
Turn Type	NA		pm+pt	NA	Prot	Prot
Protected Phases	2		1	6	4	4
Permitted Phases			6			
Actuated Green, G (s)	37.5			47.8	20.2	20.2
Effective Green, g (s)	37.5			47.8	20.2	20.2
Actuated g/C Ratio	0.47			0.60	0.25	0.25
Clearance Time (s)	6.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1315			1170	803	377
v/s Ratio Prot	0.11			c0.03	0.14	c0.15
v/s Ratio Perm				c0.19		
v/c Ratio	0.24			0.37	0.56	0.58
Uniform Delay, d1	12.7			8.3	26.0	26.2
Progression Factor	1.00			1.00	1.23	6.21
Incremental Delay, d2	0.4			0.2	0.7	2.0
Delay (s)	13.2			8.5	32.6	164.9
Level of Service	B			A	C	F
Approach Delay (s)	13.2			8.5	120.0	
Approach LOS	B			A	F	

Intersection Summary			
HCM 2000 Control Delay	73.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	326	757	410	815	590	153
Future Volume (veh/h)	326	757	410	815	590	153
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	1767	1796	1500	1796	1693	1530
Adj Flow Rate, veh/h	354	0	446	886	641	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	9	7	27	7	14	25
Cap, veh/h	404		395	2107	1871	
Arrive On Green	0.24	0.00	0.05	0.20	0.40	0.00
Sat Flow, veh/h	1682	1522	2771	3503	4773	1296
Grp Volume(v), veh/h	354	0	446	886	641	0
Grp Sat Flow(s),veh/h/ln	1682	1522	1386	1706	1540	1296
Q Serve(g_s), s	16.2	0.0	11.4	18.1	7.7	0.0
Cycle Q Clear(g_c), s	16.2	0.0	11.4	18.1	7.7	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	404		395	2107	1871	
V/C Ratio(X)	0.88		1.13	0.42	0.34	
Avail Cap(c_a), veh/h	715		395	2107	1871	
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.3	0.0	38.1	19.4	16.4	0.0
Incr Delay (d2), s/veh	6.1	0.0	85.4	0.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.4	0.0	14.3	13.0	4.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.4	0.0	123.5	20.0	16.9	0.0
LnGrp LOS	D		F	C	B	
Approach Vol, veh/h	354			1332	641	
Approach Delay, s/veh	35.4			54.7	16.9	
Approach LOS	D			D	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		54.8		25.2	17.0	37.8
Change Period (Y+Rc), s		5.4		6.0	5.6	5.4
Max Green Setting (Gmax), s		34.6		34.0	11.4	17.6
Max Q Clear Time (g_c+I1), s		20.1		18.2	13.4	9.7
Green Ext Time (p_c), s		5.1		1.0	0.0	2.5

Intersection Summary		
HCM 6th Ctrl Delay	41.3	
HCM 6th LOS	D	

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	0	554	1	0	0	372	799	7	7	994	363
Future Volume (veh/h)	385	0	554	1	0	0	372	799	7	7	994	363
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1900	1826	1900	1900	1900	1441	1618	1604	1900	1752	1678
Adj Flow Rate, veh/h	438	0	0	1	0	0	423	908	8	8	1130	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	7	0	5	0	0	0	31	19	20	0	10	15
Cap, veh/h	546	0		113	0	0	488	1731	15	274	1421	
Arrive On Green	0.16	0.00	0.00	0.06	0.00	0.00	0.18	0.55	0.55	0.59	0.59	0.00
Sat Flow, veh/h	3421	0	1547	1809	0	0	2662	3123	28	619	4782	1422
Grp Volume(v), veh/h	438	0	0	1	0	0	423	447	469	8	1130	0
Grp Sat Flow(s),veh/h/ln	1711	0	1547	1810	0	0	1331	1537	1613	619	1594	1422
Q Serve(g_s), s	9.9	0.0	0.0	0.0	0.0	0.0	12.3	14.6	14.6	0.4	14.5	0.0
Cycle Q Clear(g_c), s	9.9	0.0	0.0	0.0	0.0	0.0	12.3	14.6	14.6	0.4	14.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	546	0		113	0	0	488	852	894	274	1421	
V/C Ratio(X)	0.80	0.00		0.01	0.00	0.00	0.87	0.52	0.52	0.03	0.80	
Avail Cap(c_a), veh/h	770	0		113	0	0	536	852	894	274	1421	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.4	0.0	0.0	35.2	0.0	0.0	31.7	11.2	11.2	11.5	14.4	0.0
Incr Delay (d2), s/veh	4.1	0.0	0.0	0.0	0.0	0.0	13.2	2.3	2.2	0.2	4.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	0.0	0.0	0.0	0.0	0.0	8.3	8.6	8.9	0.1	6.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	0.0	0.0	35.2	0.0	0.0	44.9	13.5	13.4	11.7	19.0	0.0
LnGrp LOS	D	A		D	A	A	D	B	B	B	B	
Approach Vol, veh/h		438			1			1339			1138	
Approach Delay, s/veh		36.5			35.2			23.4			19.0	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	50.2	18.8	20.6	29.7	11.0
Change Period (Y+Rc), s	5.9	6.0	5.9	5.9	6.0
Max Green Setting (Gmax), s	39.1	18.0	16.1	17.1	5.0
Max Q Clear Time (g_c+I1), s	16.6	11.9	14.3	16.5	2.0
Green Ext Time (p_c), s	6.4	0.9	0.3	0.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	35	33	42	133	0	0	0	0	76	741	20
Future Volume (veh/h)	0	35	33	42	133	0	0	0	0	76	741	20
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1648	1292	1441	1856	0				1870	1796	1900
Adj Flow Rate, veh/h	0	41	3	49	155	0				88	862	22
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	17	41	31	3	0				2	7	0
Cap, veh/h	0	269	19	147	320	0				353	3697	97
Arrive On Green	0.00	0.09	0.09	0.18	0.18	0.00				0.80	0.80	0.80
Sat Flow, veh/h	0	3043	214	1049	3618	0				441	4621	121
Grp Volume(v), veh/h	0	21	23	49	155	0				354	296	322
Grp Sat Flow(s),veh/h/ln	0	1566	1610	1049	1763	0				1774	1635	1774
Q Serve(g_s), s	0.0	1.4	1.4	4.8	4.3	0.0				5.5	4.9	4.9
Cycle Q Clear(g_c), s	0.0	1.4	1.4	6.2	4.3	0.0				5.5	4.9	4.9
Prop In Lane	0.00		0.13	1.00		0.00				0.25		0.07
Lane Grp Cap(c), veh/h	0	142	146	147	320	0				1419	1308	1420
V/C Ratio(X)	0.00	0.15	0.15	0.33	0.48	0.00				0.25	0.23	0.23
Avail Cap(c_a), veh/h	0	384	395	309	865	0				1419	1308	1420
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.71	0.71	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	46.1	46.1	44.1	42.7	0.0				2.7	2.7	2.7
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.9	0.8	0.0				0.4	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	1.0	1.1	2.2	3.3	0.0				2.8	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.6	46.6	45.0	43.5	0.0				3.2	3.1	3.1
LnGrp LOS	A	D	D	D	D	A				A	A	A
Approach Vol, veh/h		44			204						972	
Approach Delay, s/veh		46.6			43.9						3.1	
Approach LOS		D			D						A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	94.0	16.0	16.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	71.0	27.0	27.0
Max Q Clear Time (g_c+I1), s	7.5	3.4	8.2
Green Ext Time (p_c), s	7.5	0.2	1.0

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	96	0	0	68	191	83	3015	57	0	0	0
Future Volume (veh/h)	23	96	0	0	68	191	83	3015	57	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1722	1841	0	0	1663	1841	1781	1870	1796			
Adj Flow Rate, veh/h	24	102	0	0	72	201	88	3207	60			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	12	4	0	0	16	4	8	2	7			
Cap, veh/h	71	323	0	0	268	239	122	4781	91			
Arrive On Green	0.17	0.17	0.00	0.00	0.17	0.17	0.24	0.24	0.24			
Sat Flow, veh/h	130	1988	0	0	1663	1409	170	6630	127			
Grp Volume(v), veh/h	47	79	0	0	72	201	965	1514	875			
Grp Sat Flow(s),veh/h/ln	442	1591	0	0	1580	1409	1862	1609	1848			
Q Serve(g_s), s	1.1	4.8	0.0	0.0	4.4	15.2	52.4	46.7	47.1			
Cycle Q Clear(g_c), s	16.3	4.8	0.0	0.0	4.4	15.2	52.4	46.7	47.1			
Prop In Lane	0.51		0.00	0.00		1.00	0.09		0.07			
Lane Grp Cap(c), veh/h	125	270	0	0	268	239	1343	2320	1332			
V/C Ratio(X)	0.38	0.29	0.00	0.00	0.27	0.84	0.72	0.65	0.66			
Avail Cap(c_a), veh/h	227	391	0	0	388	346	1343	2320	1332			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33			
Upstream Filter(I)	0.98	0.98	0.00	0.00	1.00	1.00	0.29	0.29	0.29			
Uniform Delay (d), s/veh	42.0	39.9	0.0	0.0	39.7	44.2	31.7	29.5	29.6			
Incr Delay (d2), s/veh	1.8	0.6	0.0	0.0	0.5	11.7	1.0	0.4	0.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	2.4	3.4	0.0	0.0	3.1	10.1	30.9	24.1	27.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	40.5	0.0	0.0	40.3	55.9	32.7	29.9	30.4			
LnGrp LOS	D	D	A	A	D	E	C	C	C			
Approach Vol, veh/h		126			273			3355				
Approach Delay, s/veh		41.7			51.8			30.8				
Approach LOS		D			D			C				

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	85.3	24.7	24.7
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	71.0	27.0	27.0
Max Q Clear Time (g_c+I1), s	54.4	18.3	17.2
Green Ext Time (p_c), s	15.8	0.4	1.1

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	147	1	22	144	0	0	0	0	92	148	50
Future Volume (veh/h)	0	147	1	22	144	0	0	0	0	92	148	50
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1781	418	1900	1841	0				1856	1767	1470
Adj Flow Rate, veh/h	0	171	1	26	167	0				107	172	9
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86				0.86	0.86	0.86
Percent Heavy Veh, %	0	8	100	0	4	0				3	9	29
Cap, veh/h	0	2427	14	950	2460	0				252	478	177
Arrive On Green	0.00	0.70	0.70	0.70	0.70	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	3539	20	1232	3589	0				1767	3357	1246
Grp Volume(v), veh/h	0	84	88	26	167	0				107	172	9
Grp Sat Flow(s),veh/h/ln	0	1692	1778	1232	1749	0				1767	1678	1246
Q Serve(g_s), s	0.0	1.1	1.1	0.5	1.0	0.0				3.9	3.2	0.4
Cycle Q Clear(g_c), s	0.0	1.1	1.1	1.6	1.0	0.0				3.9	3.2	0.4
Prop In Lane	0.00		0.01	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1190	1250	950	2460	0				252	478	177
V/C Ratio(X)	0.00	0.07	0.07	0.03	0.07	0.00				0.43	0.36	0.05
Avail Cap(c_a), veh/h	0	1190	1250	950	2460	0				649	1232	457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.96	0.96	0.99	0.99	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	3.2	3.2	3.5	3.2	0.0				27.4	27.1	25.9
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.1	0.1	0.0				1.1	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.5	0.5	0.2	0.5	0.0				3.0	2.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	3.3	3.3	3.5	3.3	0.0				28.5	27.6	26.1
LnGrp LOS	A	A	A	A	A	A				C	C	C
Approach Vol, veh/h		172			193						288	
Approach Delay, s/veh		3.3			3.3						27.9	
Approach LOS		A			A						C	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	54.7	15.3	54.7
Change Period (Y+Rc), s	5.5	* 5.3	5.5
Max Green Setting (Gmax), s	33.5	* 26	33.5
Max Q Clear Time (g_c+I1), s	3.6	5.9	3.1
Green Ext Time (p_c), s	1.1	1.3	1.0

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	163	0	0	144	114	3	505	66	0	0	0
Future Volume (veh/h)	75	163	0	0	144	114	3	505	66	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1544	1900	0	0	1856	1648	1900	1856	1870			
Adj Flow Rate, veh/h	86	187	0	0	166	85	3	580	15			
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	24	0	0	0	3	17	0	3	2			
Cap, veh/h	620	1441	0	0	1522	744	5	950	289			
Arrive On Green	1.00	1.00	0.00	0.00	0.66	0.66	0.18	0.18	0.18			
Sat Flow, veh/h	808	2259	0	0	2388	1121	25	5206	1585			
Grp Volume(v), veh/h	137	136	0	0	126	125	219	364	15			
Grp Sat Flow(s),veh/h/ln	1338	1643	0	0	1763	1654	1854	1689	1585			
Q Serve(g_s), s	0.1	0.0	0.0	0.0	1.8	1.9	7.7	6.9	0.5			
Cycle Q Clear(g_c), s	2.1	0.0	0.0	0.0	1.8	1.9	7.7	6.9	0.5			
Prop In Lane	0.63		0.00	0.00		0.68	0.01		1.00			
Lane Grp Cap(c), veh/h	971	1090	0	0	1169	1097	338	616	289			
V/C Ratio(X)	0.14	0.12	0.00	0.00	0.11	0.11	0.65	0.59	0.05			
Avail Cap(c_a), veh/h	971	1090	0	0	1169	1097	601	1095	514			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.99	0.99	0.00	0.00	0.73	0.73	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	4.3	4.3	26.5	26.2	23.6			
Incr Delay (d2), s/veh	0.3	0.2	0.0	0.0	0.1	0.2	2.1	0.9	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.1	0.1	0.0	0.0	1.0	1.0	6.2	4.9	0.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.2	0.0	0.0	4.4	4.4	28.6	27.1	23.7			
LnGrp LOS	A	A	A	A	A	A	C	C	C			
Approach Vol, veh/h		273			251			598				
Approach Delay, s/veh		0.3			4.4			27.6				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		51.9				51.9		18.1				
Change Period (Y+Rc), s		5.5				5.5		5.3				
Max Green Setting (Gmax), s		36.5				36.5		22.7				
Max Q Clear Time (g_c+I1), s		3.9				4.1		9.7				
Green Ext Time (p_c), s		1.6				1.8		3.1				
Intersection Summary												
HCM 6th Ctrl Delay			15.8									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	229	27	45	235	292	20	266	45	26	14	15
Future Volume (veh/h)	33	229	27	45	235	292	20	266	45	26	14	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1870	1737	1707	1811	1885	1693	1870	1752	1900	1737	1900
Adj Flow Rate, veh/h	38	266	17	52	273	59	23	309	43	30	16	11
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	2	11	13	6	1	14	2	10	0	11	0
Cap, veh/h	80	468	31	101	438	287	154	1986	271	700	600	412
Arrive On Green	0.18	0.18	0.18	0.30	0.30	0.30	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	172	2606	174	259	2437	1598	159	2891	395	903	873	600
Grp Volume(v), veh/h	158	0	163	147	178	59	197	0	178	30	0	27
Grp Sat Flow(s),veh/h/ln	1281	0	1671	1131	1566	1598	1814	0	1631	903	0	1473
Q Serve(g_s), s	2.7	0.0	8.0	4.0	8.8	2.5	0.0	0.0	3.4	1.0	0.0	0.5
Cycle Q Clear(g_c), s	11.6	0.0	8.0	12.0	8.8	2.5	3.3	0.0	3.4	4.5	0.0	0.5
Prop In Lane	0.24		0.10	0.35		1.00	0.12		0.24	1.00		0.41
Lane Grp Cap(c), veh/h	280	0	300	257	281	287	1291	0	1121	700	0	1012
V/C Ratio(X)	0.56	0.00	0.54	0.57	0.63	0.21	0.15	0.00	0.16	0.04	0.00	0.03
Avail Cap(c_a), veh/h	679	0	724	625	678	692	1291	0	1121	700	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.00	0.99	0.79	0.79	0.79	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.2	0.0	33.6	29.7	28.9	26.7	4.9	0.0	4.9	5.7	0.0	4.5
Incr Delay (d2), s/veh	1.8	0.0	1.5	1.6	1.9	0.3	0.3	0.0	0.3	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	6.0	4.8	5.6	1.7	2.1	0.0	1.9	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	35.1	31.3	30.8	27.0	5.2	0.0	5.2	5.8	0.0	4.5
LnGrp LOS	D	A	D	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		321			384			375			57	
Approach Delay, s/veh		35.5			30.4			5.2			5.2	
Approach LOS		D			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.8	22.2	67.8	22.2
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	39.0	39.0	39.0	39.0
Max Q Clear Time (g_c+I1), s	5.4	13.6	6.5	14.0
Green Ext Time (p_c), s	2.4	2.0	0.3	2.2

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	229	72	159	254	46	357	847	604	19	159	24
Future Volume (veh/h)	14	229	72	159	254	46	357	847	604	19	159	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1870	1870	1796	1870	1900	1856	1885	1885	1900	1811	1811
Adj Flow Rate, veh/h	15	241	32	167	267	41	376	892	361	20	167	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	7	2	0	3	1	1	0	6	6
Cap, veh/h	31	354	46	301	315	48	732	2001	848	285	1506	98
Arrive On Green	0.02	0.11	0.11	0.09	0.20	0.20	0.08	0.53	0.53	0.02	0.46	0.46
Sat Flow, veh/h	1810	3158	414	3319	1583	243	1767	3770	1598	1810	3279	214
Grp Volume(v), veh/h	15	134	139	167	0	308	376	892	361	20	87	91
Grp Sat Flow(s),veh/h/ln	1810	1777	1796	1659	0	1827	1767	1885	1598	1810	1721	1772
Q Serve(g_s), s	0.7	6.5	6.7	4.3	0.0	14.6	7.0	13.1	6.4	0.5	2.6	2.6
Cycle Q Clear(g_c), s	0.7	6.5	6.7	4.3	0.0	14.6	7.0	13.1	6.4	0.5	2.6	2.6
Prop In Lane	1.00		0.23	1.00		0.13	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	31	199	201	301	0	363	732	2001	848	285	790	814
V/C Ratio(X)	0.48	0.67	0.69	0.55	0.00	0.85	0.51	0.45	0.43	0.07	0.11	0.11
Avail Cap(c_a), veh/h	141	529	535	301	0	544	732	2001	848	414	790	814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.88	0.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	38.4	38.4	39.2	0.0	34.7	12.5	13.0	3.4	12.7	13.9	13.9
Incr Delay (d2), s/veh	8.7	3.2	3.3	2.0	0.0	7.1	0.6	0.7	1.6	0.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	5.4	5.6	3.3	0.0	11.2	2.4	9.2	7.0	0.4	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	41.5	41.8	41.1	0.0	41.8	13.1	13.7	5.0	12.8	14.1	14.1
LnGrp LOS	D	D	D	D	A	D	B	B	A	B	B	B
Approach Vol, veh/h		288			475			1629			198	
Approach Delay, s/veh		42.2			41.6			11.6			14.0	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	53.8	14.4	16.3	12.0	47.3	6.6	24.1
Change Period (Y+Rc), s	4.0	6.0	* 6.2	* 6.2	5.0	6.0	5.0	* 6.2
Max Green Setting (Gmax), s	8.0	27.0	* 7	* 27	7.0	27.0	7.0	* 27
Max Q Clear Time (g_c+I1), s	2.5	15.1	6.3	8.7	9.0	4.6	2.7	16.6
Green Ext Time (p_c), s	0.0	5.9	0.0	1.4	0.0	0.9	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	585	252	33	366	0	0	0	0	84	448	91
Future Volume (veh/h)	0	585	252	33	366	0	0	0	0	84	448	91
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1870	1900	1856	0				1900	1885	1811
Adj Flow Rate, veh/h	0	622	177	35	389	0				89	477	97
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	1	2	0	3	0				0	1	6
Cap, veh/h	0	844	240	68	778	0				1003	2389	474
Arrive On Green	0.00	0.10	0.10	0.31	0.31	0.00				0.55	0.55	0.55
Sat Flow, veh/h	0	2847	782	70	2621	0				1810	4307	855
Grp Volume(v), veh/h	0	404	395	203	221	0				89	378	196
Grp Sat Flow(s),veh/h/ln	0	1791	1744	1002	1604	0				1810	1716	1731
Q Serve(g_s), s	0.0	19.7	19.8	1.8	10.0	0.0				2.1	5.0	5.1
Cycle Q Clear(g_c), s	0.0	19.7	19.8	21.6	10.0	0.0				2.1	5.0	5.1
Prop In Lane	0.00		0.45	0.17		0.00				1.00		0.49
Lane Grp Cap(c), veh/h	0	549	535	354	492	0				1003	1903	960
V/C Ratio(X)	0.00	0.74	0.74	0.57	0.45	0.00				0.09	0.20	0.20
Avail Cap(c_a), veh/h	0	1035	1008	741	927	0				1003	1903	960
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.84	0.84	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	36.9	36.9	25.1	25.1	0.0				9.4	10.0	10.1
Incr Delay (d2), s/veh	0.0	1.6	1.7	1.5	0.6	0.0				0.2	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	14.3	14.1	6.2	6.8	0.0				1.5	3.3	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	38.6	38.6	26.5	25.7	0.0				9.6	10.3	10.6
LnGrp LOS	A	D	D	C	C	A				A	B	B
Approach Vol, veh/h		799			424						663	
Approach Delay, s/veh		38.6			26.1						10.3	
Approach LOS		D			C						B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	56.4	33.6	33.6
Change Period (Y+Rc), s	6.5	6.0	6.0
Max Green Setting (Gmax), s	25.5	52.0	52.0
Max Q Clear Time (g_c+I1), s	7.1	21.8	23.6
Green Ext Time (p_c), s	3.8	5.8	2.9

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	461	243	0	0	0	0	0	611	147
Future Volume (veh/h)	0	0	0	461	243	0	0	0	0	0	611	147
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	
Adj Sat Flow, veh/h/ln				1737	1707	0				0	1767	1752
Adj Flow Rate, veh/h				490	259	0				0	650	0
Peak Hour Factor				0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %				11	13	0				0	9	10
Cap, veh/h				1714	884	0				0	947	
Arrive On Green				0.17	0.17	0.00				0.00	0.09	0.00
Sat Flow, veh/h				3309	1707	0				0	3445	1485
Grp Volume(v), veh/h				490	259	0				0	650	0
Grp Sat Flow(s),veh/h/ln				1654	1707	0				0	1678	1485
Q Serve(g_s), s				7.1	7.3	0.0				0.0	10.3	0.0
Cycle Q Clear(g_c), s				7.1	7.3	0.0				0.0	10.3	0.0
Prop In Lane				1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				1714	884	0				0	947	
V/C Ratio(X)				0.29	0.29	0.00				0.00	0.69	
Avail Cap(c_a), veh/h				1714	884	0				0	1373	
HCM Platoon Ratio				0.33	0.33	1.00				1.00	0.33	0.33
Upstream Filter(I)				0.88	0.88	0.00				0.00	0.97	0.00
Uniform Delay (d), s/veh				13.9	14.0	0.0				0.0	22.6	0.0
Incr Delay (d2), s/veh				0.4	0.7	0.0				0.0	0.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.7	5.2	0.0				0.0	7.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				14.3	14.7	0.0				0.0	23.5	0.0
LnGrp LOS				B	B	A				A	C	
Approach Vol, veh/h					749						650	
Approach Delay, s/veh					14.5						23.5	
Approach LOS					B						C	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	34.0	21.0
Change Period (Y+Rc), s	5.5	5.5
Max Green Setting (Gmax), s	21.5	22.5
Max Q Clear Time (g_c+I1), s	9.3	12.3
Green Ext Time (p_c), s	2.8	3.2

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	356	1007	255	1722	0	0	0	0
Future Volume (veh/h)	0	0	0	0	356	1007	255	1722	0	0	0	0
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				
Adj Sat Flow, veh/h/ln				0	1767	1885	1707	1856	0			
Adj Flow Rate, veh/h				0	379	1038	271	1832	0			
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %				0	9	1	13	3	0			
Cap, veh/h				0	696	1108	660	2056	0			
Arrive On Green				0.00	0.39	0.39	0.41	0.41	0.00			
Sat Flow, veh/h				0	1767	2812	1626	5233	0			
Grp Volume(v), veh/h				0	379	1038	271	1832	0			
Grp Sat Flow(s),veh/h/ln				0	1767	1406	1626	1689	0			
Q Serve(g_s), s				0.0	9.1	19.5	6.5	18.5	0.0			
Cycle Q Clear(g_c), s				0.0	9.1	19.5	6.5	18.5	0.0			
Prop In Lane				0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h				0	696	1108	660	2056	0			
V/C Ratio(X)				0.00	0.54	0.94	0.41	0.89	0.00			
Avail Cap(c_a), veh/h				0	696	1108	665	2072	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.70	0.70	0.00			
Uniform Delay (d), s/veh				0.0	12.8	16.0	11.7	15.2	0.0			
Incr Delay (d2), s/veh				0.0	3.0	15.5	0.3	3.8	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	6.6	12.2	3.7	10.2	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	15.9	31.5	11.9	19.0	0.0			
LnGrp LOS				A	B	C	B	B	A			
Approach Vol, veh/h					1417			2103				
Approach Delay, s/veh					27.3			18.1				
Approach LOS					C			B				
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						27.2		27.8				
Change Period (Y+Rc), s						5.5		5.5				
Max Green Setting (Gmax), s						21.5		22.5				
Max Q Clear Time (g_c+I1), s						21.5		20.5				
Green Ext Time (p_c), s						0.0		1.8				

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	502	205	0	0	0	0	0	0	231	718	0
Future Volume (veh/h)	0	502	205	0	0	0	0	0	0	231	718	0
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	
Adj Sat Flow, veh/h/ln	0	1841	1648							1767	1722	0
Adj Flow Rate, veh/h	0	584	0							269	835	0
Peak Hour Factor	0.86	0.86	0.86							0.86	0.86	0.86
Percent Heavy Veh, %	0	4	17							9	12	0
Cap, veh/h	0	2265								588	1143	0
Arrive On Green	0.00	0.45	0.00							0.12	0.12	0.00
Sat Flow, veh/h	0	5191	1397							1682	3358	0
Grp Volume(v), veh/h	0	584	0							269	835	0
Grp Sat Flow(s),veh/h/ln	0	1675	1397							1682	1636	0
Q Serve(g_s), s	0.0	4.0	0.0							8.2	13.6	0.0
Cycle Q Clear(g_c), s	0.0	4.0	0.0							8.2	13.6	0.0
Prop In Lane	0.00		1.00							1.00		0.00
Lane Grp Cap(c), veh/h	0	2265								588	1143	0
V/C Ratio(X)	0.00	0.26								0.46	0.73	0.00
Avail Cap(c_a), veh/h	0	2265								688	1339	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	0.00							0.84	0.84	0.00
Uniform Delay (d), s/veh	0.0	9.4	0.0							19.5	21.8	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0							0.5	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	2.3	0.0							6.1	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.7	0.0							19.9	23.3	0.0
LnGrp LOS	A	A								B	C	A
Approach Vol, veh/h		584									1104	
Approach Delay, s/veh		9.7									22.5	
Approach LOS		A									C	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	30.3	24.7
Change Period (Y+Rc), s	5.5	5.5
Max Green Setting (Gmax), s	21.5	22.5
Max Q Clear Time (g_c+I1), s	6.0	15.6
Green Ext Time (p_c), s	3.6	3.6

Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Notes

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



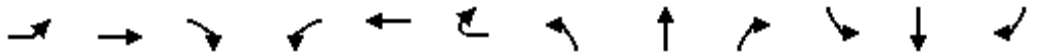
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	518	273	0	0	0	0	0	1493	399	0	0	0
Future Volume (veh/h)	518	273	0	0	0	0	0	1493	399	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1856	1826	0				0	1841	1574			
Adj Flow Rate, veh/h	582	307	0				0	1678	0			
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89			
Percent Heavy Veh, %	3	5	0				0	4	22			
Cap, veh/h	1382	736	0				0	1995				
Arrive On Green	0.13	0.13	0.00				0.00	0.40	0.00			
Sat Flow, veh/h	3428	1826	0				0	5191	1334			
Grp Volume(v), veh/h	582	307	0				0	1678	0			
Grp Sat Flow(s),veh/h/ln	1714	1826	0				0	1675	1334			
Q Serve(g_s), s	8.6	8.5	0.0				0.0	16.6	0.0			
Cycle Q Clear(g_c), s	8.6	8.5	0.0				0.0	16.6	0.0			
Prop In Lane	1.00		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	1382	736	0				0	1995				
V/C Ratio(X)	0.42	0.42	0.00				0.00	0.84				
Avail Cap(c_a), veh/h	1382	736	0				0	2056				
HCM Platoon Ratio	0.33	0.33	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00				0.00	0.52	0.00			
Uniform Delay (d), s/veh	18.0	17.9	0.0				0.0	15.0	0.0			
Incr Delay (d2), s/veh	0.9	1.7	0.0				0.0	1.7	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	6.6	7.2	0.0				0.0	8.4	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	19.6	0.0				0.0	16.7	0.0			
LnGrp LOS	B	B	A				A	B				
Approach Vol, veh/h		889						1678				
Approach Delay, s/veh		19.1						16.7				
Approach LOS		B						B				

Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						27.7		27.3				
Change Period (Y+Rc), s						5.5		5.5				
Max Green Setting (Gmax), s						21.5		22.5				
Max Q Clear Time (g_c+I1), s						10.6		18.6				
Green Ext Time (p_c), s						3.2		3.2				

Intersection Summary												
HCM 6th Ctrl Delay			17.6									
HCM 6th LOS			B									

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	113	50	69	406	376	151	1272	161	193	422	315
Future Volume (vph)	138	113	50	69	406	376	151	1272	161	193	422	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.5	5.0	5.0	6.5	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1337	3034	1252	1656	3505	1509	1719	3374	1404	1703	3112	1553
Flt Permitted	0.29	1.00	1.00	0.67	1.00	1.00	0.48	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	414	3034	1252	1174	3505	1509	860	3374	1404	150	3112	1553
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	152	124	55	76	446	413	166	1398	177	212	464	346
RTOR Reduction (vph)	0	0	44	0	0	234	0	0	139	0	0	307
Lane Group Flow (vph)	152	124	11	76	446	179	166	1398	38	212	464	39
Heavy Vehicles (%)	35%	19%	29%	9%	3%	7%	5%	7%	15%	6%	16%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Over	pm+pt	NA	custom
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)	32.1	21.4	21.4	28.5	19.6	19.6	54.2	45.5	8.9	58.8	47.8	10.7
Effective Green, g (s)	32.1	21.4	21.4	28.5	19.6	19.6	54.2	45.5	8.9	58.8	47.8	10.7
Actuated g/C Ratio	0.29	0.19	0.19	0.26	0.18	0.18	0.49	0.41	0.08	0.53	0.43	0.10
Clearance Time (s)	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.5	5.0	5.0	6.5	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	210	590	243	343	624	268	491	1395	113	235	1352	151
v/s Ratio Prot	c0.07	0.04		0.02	0.13		0.03	c0.41	0.03	c0.09	0.15	0.03
v/s Ratio Perm	c0.14		0.01	0.04		0.12	0.14			0.39		
v/c Ratio	0.72	0.21	0.04	0.22	0.71	0.67	0.34	1.00	0.34	0.90	0.34	0.26
Uniform Delay, d1	31.6	37.2	36.0	31.6	42.6	42.2	15.7	32.2	47.8	30.4	20.7	46.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.08	0.96	2.18
Incremental Delay, d2	11.7	0.2	0.1	0.3	3.9	6.2	0.4	24.6	1.8	29.6	0.6	0.8
Delay (s)	43.2	37.4	36.1	32.0	46.5	48.3	16.1	56.9	49.5	62.6	20.5	100.8
Level of Service	D	D	D	C	D	D	B	E	D	E	C	F
Approach Delay (s)		39.8			46.1			52.2			56.4	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	50.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	23.2
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	0	50	23	2	5	127	1507	23	1	1605	18
Future Volume (veh/h)	9	0	50	23	2	5	127	1507	23	1	1605	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1515	1900	1900	1530	1781	1841	1826	1900	1856	1900
Adj Flow Rate, veh/h	10	0	5	24	2	0	135	1603	23	1	1707	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	26	0	0	25	8	4	5	0	3	0
Cap, veh/h	209	0	133	189	13	0	164	2591	37	2	2252	1029
Arrive On Green	0.08	0.00	0.08	0.08	0.08	0.00	0.10	0.73	0.73	0.00	0.64	0.64
Sat Flow, veh/h	1437	0	1610	1302	154	0	1697	3530	51	1810	3526	1610
Grp Volume(v), veh/h	10	0	5	26	0	0	135	793	833	1	1707	10
Grp Sat Flow(s),veh/h/ln	1437	0	1610	1456	0	0	1697	1749	1832	1810	1763	1610
Q Serve(g_s), s	0.0	0.0	0.2	1.2	0.0	0.0	6.6	18.8	18.8	0.0	28.8	0.2
Cycle Q Clear(g_c), s	0.4	0.0	0.2	1.4	0.0	0.0	6.6	18.8	18.8	0.0	28.8	0.2
Prop In Lane	1.00		1.00	0.92		0.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	209	0	133	201	0	0	164	1284	1345	2	2252	1029
V/C Ratio(X)	0.05	0.00	0.04	0.13	0.00	0.00	0.82	0.62	0.62	0.47	0.76	0.01
Avail Cap(c_a), veh/h	421	0	369	416	0	0	164	1284	1345	175	2252	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.44	0.44	0.44	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	0.0	35.9	36.5	0.0	0.0	37.7	5.5	5.5	42.4	10.7	5.6
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.3	0.0	0.0	14.0	1.0	1.0	110.6	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	0.2	0.9	0.0	0.0	5.3	7.8	8.1	0.2	15.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	36.0	36.7	0.0	0.0	51.7	6.5	6.5	153.0	13.2	5.6
LnGrp LOS	D	A	D	D	A	A	D	A	A	F	B	A
Approach Vol, veh/h		15			26			1761			1718	
Approach Delay, s/veh		36.1			36.7			9.9			13.2	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.9	67.6		12.5	13.0	59.5		12.5
Change Period (Y+Rc), s	* 4.8	5.2		5.5	* 4.8	5.2		5.5
Max Green Setting (Gmax), s	* 8.2	41.8		19.5	* 8.2	41.8		19.5
Max Q Clear Time (g_c+I1), s	2.0	20.8		3.4	8.6	30.8		2.4
Green Ext Time (p_c), s	0.0	12.6		0.1	0.0	8.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

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



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Traffic Volume (veh/h)	320	0	429	0	1203	301	0	502	599	0	0
Future Volume (veh/h)	320	0	429	0	1203	301	0	502	599	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1811	1811	1796	0	1767	1781	0	1826	1796		
Adj Flow Rate, veh/h	372	372	0	0	1399	0	0	584	0		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86		
Percent Heavy Veh, %	6	6	7	0	9	8	0	5	7		
Cap, veh/h	417	417		0	2117		0	2188			
Arrive On Green	0.24	0.24	0.00	0.00	0.63	0.00	0.00	0.63	0.00		
Sat Flow, veh/h	1725	1725	1522	0	3445	1510	0	3561	1522		
Grp Volume(v), veh/h	372	372	0	0	1399	0	0	584	0		
Grp Sat Flow(s),veh/h/ln	1725	1725	1522	0	1678	1510	0	1735	1522		
Q Serve(g_s), s	18.8	18.8	0.0	0.0	23.8	0.0	0.0	6.7	0.0		
Cycle Q Clear(g_c), s	18.8	18.8	0.0	0.0	23.8	0.0	0.0	6.7	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	417	417		0	2117		0	2188			
V/C Ratio(X)	0.89	0.89		0.00	0.66		0.00	0.27			
Avail Cap(c_a), veh/h	652	652		0	2117		0	2188			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.41	0.00		
Uniform Delay (d), s/veh	33.0	33.0	0.0	0.0	10.5	0.0	0.0	7.4	0.0		
Incr Delay (d2), s/veh	9.8	9.8	0.0	0.0	1.6	0.0	0.0	0.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	13.6	13.6	0.0	0.0	12.8	0.0	0.0	3.8	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	42.8	42.8	0.0	0.0	12.2	0.0	0.0	7.5	0.0		
LnGrp LOS	D	D		A	B		A	A			
Approach Vol, veh/h	372	372			1399			584			
Approach Delay, s/veh	42.8	42.8			12.2			7.5			
Approach LOS	D	D			B			A			

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	62.3	62.3	27.7
Change Period (Y+Rc), s	5.5	5.5	6.0
Max Green Setting (Gmax), s	44.5	44.5	34.0
Max Q Clear Time (g_c+I1), s	25.8	8.7	20.8
Green Ext Time (p_c), s	10.5	4.5	1.0

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

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

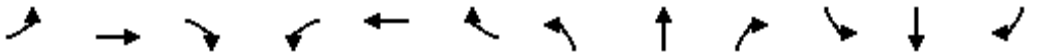
Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	453	0	0	916	0	586	231	218	603	0
Future Vol, veh/h	0	0	453	0	0	916	0	586	231	218	603	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	0	-	-	0	-	-	300	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	9	0	0	11	0	5	7	6	6	0
Mvmt Flow	0	0	521	0	0	1053	0	674	266	251	693	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	-	-	347	-	0	0	674	0	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.08	-	-	-	4.22	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.39	-	-	-	2.26	-	-
Pot Cap-1 Maneuver	0	0	629	0	-	-	887	-	0
Stage 1	0	0	-	0	-	-	-	-	0
Stage 2	0	0	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	629	-	-	-	887	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.3	0	2.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	629	887	-
HCM Lane V/C Ratio	-	-	0.828	0.282	-
HCM Control Delay (s)	-	-	32.3	10.6	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	8.8	1.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	12	28	10	11	78	26	604	6	148	650	275
Future Volume (veh/h)	100	12	28	10	11	78	26	604	6	148	650	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1633	1767	1544	1737	1752	1589	1648	1856	1900	1678	1841	1781
Adj Flow Rate, veh/h	111	13	12	11	12	15	29	671	6	164	722	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	18	9	24	11	10	21	17	3	0	15	4	8
Cap, veh/h	229	24	15	298	97	121	110	2287	20	521	2418	
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.69	0.69	0.69	0.69	0.69	0.00
Sat Flow, veh/h	987	178	113	1287	708	885	78	3309	29	684	3497	1510
Grp Volume(v), veh/h	136	0	0	11	0	27	360	0	346	164	722	0
Grp Sat Flow(s),veh/h/ln	1278	0	0	1287	0	1593	1733	0	1683	684	1749	1510
Q Serve(g_s), s	6.3	0.0	0.0	0.0	0.0	1.0	0.0	0.0	5.6	8.6	5.6	0.0
Cycle Q Clear(g_c), s	7.3	0.0	0.0	0.5	0.0	1.0	5.2	0.0	5.6	14.2	5.6	0.0
Prop In Lane	0.82		0.09	1.00		0.56	0.08		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	269	0	0	298	0	219	1254	0	1164	521	2418	
V/C Ratio(X)	0.51	0.00	0.00	0.04	0.00	0.12	0.29	0.00	0.30	0.31	0.30	
Avail Cap(c_a), veh/h	586	0	0	599	0	592	1254	0	1164	521	2418	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.4	0.0	0.0	26.2	0.0	26.5	4.1	0.0	4.2	7.0	4.2	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.0	0.0	0.3	0.6	0.0	0.7	1.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	0.0	0.0	0.3	0.0	0.7	2.9	0.0	2.8	2.2	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	0.0	26.3	0.0	26.7	4.7	0.0	4.9	8.5	4.5	0.0
LnGrp LOS	C	A	A	C	A	C	A	A	A	A	A	
Approach Vol, veh/h		136			38			706			886	
Approach Delay, s/veh		30.9			26.6			4.8			5.3	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.4		15.6		54.4		15.6				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		32.0		26.0		32.0		26.0				
Max Q Clear Time (g_c+I1), s		7.6		9.3		16.2		3.0				
Green Ext Time (p_c), s		4.8		0.6		5.8		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			7.5									
HCM 6th LOS			A									

Notes

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



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Traffic Volume (veh/h)	326	0	431	0	1292	532	0	670	760	0	0
Future Volume (veh/h)	326	0	431	0	1292	532	0	670	760	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1856	1856	1841	0	1811	1826	0	1826	1796		
Adj Flow Rate, veh/h	343	343	0	0	1360	0	0	705	0		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	3	3	4	0	6	5	0	5	7		
Cap, veh/h	441	441		0	3754		0	3785			
Arrive On Green	0.13	0.13	0.00	0.00	1.00	0.00	0.00	0.76	0.00		
Sat Flow, veh/h	3428	3428	1560	0	5107	1547	0	5149	1522		
Grp Volume(v), veh/h	343	343	0	0	1360	0	0	705	0		
Grp Sat Flow(s),veh/h/ln	1714	1714	1560	0	1648	1547	0	1662	1522		
Q Serve(g_s), s	9.7	9.7	0.0	0.0	0.0	0.0	0.0	4.0	0.0		
Cycle Q Clear(g_c), s	9.7	9.7	0.0	0.0	0.0	0.0	0.0	4.0	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	441	441		0	3754		0	3785			
V/C Ratio(X)	0.78	0.78		0.00	0.36		0.00	0.19			
Avail Cap(c_a), veh/h	1731	1731		0	3754		0	3785			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	42.2	42.2	0.0	0.0	0.0	0.0	0.0	3.4	0.0		
Incr Delay (d2), s/veh	3.0	3.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	7.4	7.4	0.0	0.0	0.2	0.0	0.0	1.7	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	45.2	45.2	0.0	0.0	0.3	0.0	0.0	3.5	0.0		
LnGrp LOS	D	D		A	A		A	A			
Approach Vol, veh/h	343	343			1360			705			
Approach Delay, s/veh	45.2	45.2			0.3			3.5			
Approach LOS	D	D			A			A			

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	81.6	81.6	18.4
Change Period (Y+Rc), s	* 5.7	* 5.7	5.5
Max Green Setting (Gmax), s	* 38	* 38	50.5
Max Q Clear Time (g_c+I1), s	2.0	6.0	11.7
Green Ext Time (p_c), s	12.1	5.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Notes

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

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



Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (veh/h)	682	0	466	0	1145	471	0	732	270	0	0
Future Volume (veh/h)	682	0	466	0	1145	471	0	732	270	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1752	1752	1841	0	1856	1856	0	1856	1767		
Adj Flow Rate, veh/h	741	741	0	0	1245	0	0	796	0		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	10	10	4	0	3	3	0	3	9		
Cap, veh/h	861	861		0	2151		0	3090			
Arrive On Green	0.27	0.27	0.00	0.00	0.61	0.00	0.00	1.00	0.00		
Sat Flow, veh/h	3237	3237	1560	0	3618	1572	0	5233	1497		
Grp Volume(v), veh/h	741	741	0	0	1245	0	0	796	0		
Grp Sat Flow(s),veh/h/ln	1618	1618	1560	0	1763	1572	0	1689	1497		
Q Serve(g_s), s	21.8	21.8	0.0	0.0	21.3	0.0	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	21.8	21.8	0.0	0.0	21.3	0.0	0.0	0.0	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	861	861		0	2151		0	3090			
V/C Ratio(X)	0.86	0.86		0.00	0.58		0.00	0.26			
Avail Cap(c_a), veh/h	1612	1612		0	2151		0	3090			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	34.9	34.9	0.0	0.0	11.8	0.0	0.0	0.0	0.0		
Incr Delay (d2), s/veh	2.7	2.7	0.0	0.0	1.1	0.0	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	13.2	13.2	0.0	0.0	12.1	0.0	0.0	0.1	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	37.6	37.6	0.0	0.0	12.9	0.0	0.0	0.2	0.0		
LnGrp LOS	D	D		A	B		A	A			
Approach Vol, veh/h	741	741			1245			796			
Approach Delay, s/veh	37.6	37.6			12.9			0.2			
Approach LOS	D	D			B			A			

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	67.2	32.8	67.2
Change Period (Y+Rc), s	6.2	6.2	6.2
Max Green Setting (Gmax), s	37.8	49.8	37.8
Max Q Clear Time (g_c+I1), s	23.3	23.8	2.0
Green Ext Time (p_c), s	7.3	2.8	6.0

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	376	48	543	56	22	18	509	1636	99	8	543	304
Future Volume (veh/h)	376	48	543	56	22	18	509	1636	99	8	543	304
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1693	1870	1203	1381	1589	1811	1826	1767	1648	1722	1707
Adj Flow Rate, veh/h	418	53	0	62	24	1	566	1818	102	9	603	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	7	14	2	47	35	21	6	5	9	17	12	13
Cap, veh/h	402	351		158	219	113	631	2216	124	141	1324	
Arrive On Green	0.18	0.21	0.00	0.06	0.08	0.08	0.25	0.61	0.61	0.01	0.28	0.00
Sat Flow, veh/h	1711	1693	1585	1146	2624	1346	3346	4830	270	1570	4701	1447
Grp Volume(v), veh/h	418	53	0	62	24	1	566	1250	670	9	603	0
Grp Sat Flow(s),veh/h/ln	1711	1693	1585	1146	1312	1346	1673	1662	1777	1570	1567	1447
Q Serve(g_s), s	14.6	2.1	0.0	4.3	0.7	0.0	13.1	23.5	23.6	0.3	8.5	0.0
Cycle Q Clear(g_c), s	14.6	2.1	0.0	4.3	0.7	0.0	13.1	23.5	23.6	0.3	8.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	402	351		158	219	113	631	1525	815	141	1324	
V/C Ratio(X)	1.04	0.15		0.39	0.11	0.01	0.90	0.82	0.82	0.06	0.46	
Avail Cap(c_a), veh/h	402	351		185	282	145	632	1525	815	361	1324	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.1	26.0	0.0	37.4	33.9	24.1	29.2	13.0	13.0	20.7	23.7	0.0
Incr Delay (d2), s/veh	55.4	0.2	0.0	1.6	0.2	0.0	15.6	5.1	9.1	0.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.6	1.4	0.0	2.2	0.4	0.0	9.8	10.4	12.2	0.2	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.5	26.2	0.0	38.9	34.1	24.2	44.8	18.1	22.2	20.9	24.8	0.0
LnGrp LOS	F	C		D	C	C	D	B	C	C	C	
Approach Vol, veh/h		471			87			2486			612	
Approach Delay, s/veh		79.7			37.4			25.3			24.8	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	42.1	10.1	22.0	20.0	27.9	20.0	12.1
Change Period (Y+Rc), s	* 4.9	* 5.4	* 5.4	* 5.4	* 4.9	* 5.4	* 5.4	* 5.4
Max Green Setting (Gmax), s	* 1.8	* 24	* 6.6	* 17	* 15	* 21	* 15	* 8.6
Max Q Clear Time (g_c+I1), s	2.3	25.6	6.3	4.1	15.1	10.5	16.6	2.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	2.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

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

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	421	433	317	1904	1033	120
Future Volume (veh/h)	421	433	317	1904	1033	120
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	1767	1796	1841	1841	1811	1381
Adj Flow Rate, veh/h	463	0	348	2092	1135	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	9	7	4	4	6	35
Cap, veh/h	563		443	3449	3074	
Arrive On Green	0.17	0.00	0.26	1.00	0.99	0.00
Sat Flow, veh/h	3264	2679	3401	5191	6484	1171
Grp Volume(v), veh/h	463	0	348	2092	1135	0
Grp Sat Flow(s),veh/h/ln	1632	1340	1700	1675	1558	1171
Q Serve(g_s), s	10.9	0.0	7.6	0.0	0.3	0.0
Cycle Q Clear(g_c), s	10.9	0.0	7.6	0.0	0.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	563		443	3449	3074	
V/C Ratio(X)	0.82		0.78	0.61	0.37	
Avail Cap(c_a), veh/h	743		808	3449	3074	
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.22	0.22	1.00	0.00
Uniform Delay (d), s/veh	31.9	0.0	28.5	0.0	0.3	0.0
Incr Delay (d2), s/veh	5.7	0.0	0.7	0.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	3.8	0.1	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.6	0.0	29.2	0.2	0.6	0.0
LnGrp LOS	D		C	A	A	
Approach Vol, veh/h	463			2440	1135	
Approach Delay, s/veh	37.6			4.3	0.6	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.4		19.6	15.4	45.0
Change Period (Y+Rc), s		5.5		* 5.8	5.0	5.5
Max Green Setting (Gmax), s		50.5		* 18	19.0	26.5
Max Q Clear Time (g_c+I1), s		2.0		12.9	9.6	2.3
Green Ext Time (p_c), s		25.3		0.8	0.8	8.1

Intersection Summary	
HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

Notes

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	202	256	118	169	292	336	167	1635	151	239	946	277
Future Volume (veh/h)	202	256	118	169	292	336	167	1635	151	239	946	277
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1841	1870	1856	1856	1856	1870	1826	1841	1841	1811	1856
Adj Flow Rate, veh/h	222	281	55	186	321	281	184	1797	146	263	1040	217
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	5	4	2	3	3	3	2	5	4	4	6	3
Cap, veh/h	207	439	85	210	529	398	271	1981	161	350	1782	754
Arrive On Green	0.12	0.15	0.15	0.12	0.15	0.15	0.08	0.33	0.33	0.14	0.48	0.48
Sat Flow, veh/h	1739	2924	564	1767	3526	1572	3456	5965	485	3401	4944	1572
Grp Volume(v), veh/h	222	166	170	186	321	281	184	1419	524	263	1040	217
Grp Sat Flow(s),veh/h/ln	1739	1749	1739	1767	1763	1572	1728	1570	1739	1700	1648	1572
Q Serve(g_s), s	9.5	7.2	7.3	8.3	6.8	12.0	4.1	23.0	23.0	6.0	12.2	5.7
Cycle Q Clear(g_c), s	9.5	7.2	7.3	8.3	6.8	12.0	4.1	23.0	23.0	6.0	12.2	5.7
Prop In Lane	1.00		0.32	1.00		1.00	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	207	262	261	210	529	398	271	1565	578	350	1782	754
V/C Ratio(X)	1.08	0.63	0.65	0.89	0.61	0.71	0.68	0.91	0.91	0.75	0.58	0.29
Avail Cap(c_a), veh/h	207	262	261	210	529	398	462	1565	578	485	1782	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.89
Uniform Delay (d), s/veh	35.3	31.9	32.0	34.7	31.8	27.2	35.9	25.5	25.5	33.5	16.5	10.0
Incr Delay (d2), s/veh	84.0	4.9	5.6	33.3	2.0	5.7	3.0	9.2	20.4	3.8	1.3	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.0	5.9	6.1	9.2	5.3	9.1	3.3	14.5	18.0	4.5	7.2	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.2	36.9	37.6	68.0	33.8	32.8	38.9	34.7	46.0	37.4	17.7	10.9
LnGrp LOS	F	D	D	E	C	C	D	C	D	D	B	B
Approach Vol, veh/h		558			788			2127			1520	
Approach Delay, s/veh		69.9			41.5			37.8			20.2	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	35.4	14.0	18.0	14.8	33.2	14.0	18.0
Change Period (Y+Rc), s	* 6.3	* 6.6	4.5	6.0	* 6.6	* 6.6	4.5	6.0
Max Green Setting (Gmax), s	* 6	* 24	9.5	12.0	* 11	* 24	9.5	12.0
Max Q Clear Time (g_c+I1), s	16.1	14.2	10.3	9.3	8.0	25.0	11.5	14.0
Green Ext Time (p_c), s	0.2	5.6	0.0	0.5	0.3	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	399	0	982	360	622	0	0	1096	170
Future Volume (veh/h)	0	0	0	399	0	982	360	622	0	0	1096	170
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1885	1856	1885	0	0	1870	1900
Adj Flow Rate, veh/h				407	0	678	367	635	0	0	1118	63
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %				2	0	1	3	1	0	0	2	0
Cap, veh/h				966	0	786	424	2182	0	0	2186	689
Arrive On Green				0.28	0.00	0.28	0.13	0.61	0.00	0.00	0.43	0.43
Sat Flow, veh/h				3456	0	2812	1767	3676	0	0	5274	1610
Grp Volume(v), veh/h				407	0	678	367	635	0	0	1118	63
Grp Sat Flow(s),veh/h/ln				1728	0	1406	1767	1791	0	0	1702	1610
Q Serve(g_s), s				10.1	0.0	24.0	11.6	8.8	0.0	0.0	16.8	2.4
Cycle Q Clear(g_c), s				10.1	0.0	24.0	11.6	8.8	0.0	0.0	16.8	2.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				966	0	786	424	2182	0	0	2186	689
V/C Ratio(X)				0.42	0.00	0.86	0.87	0.29	0.00	0.00	0.51	0.09
Avail Cap(c_a), veh/h				1168	0	951	424	2182	0	0	2186	689
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.55	0.55	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				30.9	0.0	35.9	17.5	9.7	0.0	0.0	22.0	17.9
Incr Delay (d2), s/veh				0.3	0.0	7.1	10.2	0.2	0.0	0.0	0.9	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				7.6	0.0	13.8	8.4	5.6	0.0	0.0	11.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				31.2	0.0	43.0	27.8	9.9	0.0	0.0	22.8	18.1
LnGrp LOS				C	A	D	C	A	A	A	C	B
Approach Vol, veh/h					1085			1002			1181	
Approach Delay, s/veh					38.6			16.5			22.6	
Approach LOS					D			B			C	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	70.2		19.0	51.2		34.8
Change Period (Y+Rc), s	* 6.2		* 5.4	* 6.2		5.5
Max Green Setting (Gmax), s	* 58		* 14	* 39		35.5
Max Q Clear Time (g_c+I1), s	10.8		13.6	18.8		26.0
Green Ext Time (p_c), s	5.1		0.0	8.4		3.3

Intersection Summary		
HCM 6th Ctrl Delay		26.0
HCM 6th LOS		C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	0	427	0	0	0	0	1160	389	503	711	0
Future Volume (veh/h)	120	0	427	0	0	0	0	1160	389	503	711	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	0	1856				0	1870	1885	1870	1885	0
Adj Flow Rate, veh/h	126	0	271				0	1221	0	529	748	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	3				0	2	1	2	1	0
Cap, veh/h	354	0	310				0	2186		560	2477	0
Arrive On Green	0.20	0.00	0.20				0.00	0.43	0.00	0.21	0.69	0.00
Sat Flow, veh/h	1795	0	1572				0	5274	1598	1781	3676	0
Grp Volume(v), veh/h	126	0	271				0	1221	0	529	748	0
Grp Sat Flow(s),veh/h/ln	1795	0	1572				0	1702	1598	1781	1791	0
Q Serve(g_s), s	6.4	0.0	17.6				0.0	18.9	0.0	19.7	8.5	0.0
Cycle Q Clear(g_c), s	6.4	0.0	17.6				0.0	18.9	0.0	19.7	8.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	354	0	310				0	2186		560	2477	0
V/C Ratio(X)	0.36	0.00	0.88				0.00	0.56		0.94	0.30	0.00
Avail Cap(c_a), veh/h	573	0	502				0	2186		599	2477	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	0.00	0.80	0.80	0.00
Uniform Delay (d), s/veh	36.4	0.0	40.9				0.0	22.6	0.0	21.8	6.3	0.0
Incr Delay (d2), s/veh	0.6	0.0	9.7				0.0	1.0	0.0	19.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	0.0	12.1				0.0	12.1	0.0	21.9	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	0.0	50.6				0.0	23.6	0.0	41.8	6.6	0.0
LnGrp LOS	D	A	D				A	C		D	A	A
Approach Vol, veh/h		397						1221			1277	
Approach Delay, s/veh		46.3						23.6			21.1	
Approach LOS		D						C			C	

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	27.7	51.1				78.8		26.2				
Change Period (Y+Rc), s	* 5.4	* 6.2				* 6.2		5.5				
Max Green Setting (Gmax), s	* 25	* 30				* 60		33.5				
Max Q Clear Time (g_c+I1), s	21.7	20.9				10.5		19.6				
Green Ext Time (p_c), s	0.6	5.3				6.3		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	2226	52	227	2361	24	53	46	300	65	33	155
Future Volume (veh/h)	101	2226	52	227	2361	24	53	46	300	65	33	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1856	1900	1885	1856	1722	1856	1856	1885	1841	1767	1841
Adj Flow Rate, veh/h	103	2271	21	232	2409	12	50	52	25	66	34	14
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	3	0	1	3	12	3	3	1	4	9	4
Cap, veh/h	276	2402	764	264	2364	681	84	89	76	84	43	116
Arrive On Green	0.05	0.16	0.16	0.15	0.47	0.47	0.05	0.05	0.05	0.07	0.07	0.07
Sat Flow, veh/h	1795	5066	1610	1795	5066	1459	1767	1856	1598	1129	581	1560
Grp Volume(v), veh/h	103	2271	21	232	2409	12	50	52	25	100	0	14
Grp Sat Flow(s),veh/h/ln	1795	1689	1610	1795	1689	1459	1767	1856	1598	1710	0	1560
Q Serve(g_s), s	5.8	46.6	1.2	13.3	49.0	0.5	2.9	2.9	1.6	6.0	0.0	0.9
Cycle Q Clear(g_c), s	5.8	46.6	1.2	13.3	49.0	0.5	2.9	2.9	1.6	6.0	0.0	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	0.66		1.00
Lane Grp Cap(c), veh/h	276	2402	764	264	2364	681	84	89	76	128	0	116
V/C Ratio(X)	0.37	0.95	0.03	0.88	1.02	0.02	0.59	0.59	0.33	0.78	0.00	0.12
Avail Cap(c_a), veh/h	276	2402	764	309	2364	681	210	221	190	171	0	156
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	42.9	23.8	43.9	28.0	15.1	49.0	49.0	48.4	47.7	0.0	45.4
Incr Delay (d2), s/veh	0.1	1.1	0.0	21.4	23.5	0.0	6.5	6.1	2.5	15.3	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	23.6	0.8	11.9	32.3	0.3	2.6	2.7	1.2	5.6	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	44.0	23.8	65.3	51.5	15.1	55.5	55.0	50.8	63.1	0.0	45.8
LnGrp LOS	D	D	C	E	F	B	E	E	D	E	A	D
Approach Vol, veh/h		2395			2653			127			114	
Approach Delay, s/veh		43.9			52.5			54.4			61.0	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	22.4	56.8		14.3	23.2	56.0		11.5
Change Period (Y+Rc), s	6.9	* 7		6.5	* 7	* 7		6.5
Max Green Setting (Gmax), s	18.1	* 37		10.5	* 6.5	* 49		12.5
Max Q Clear Time (g_c+I1), s	15.3	48.6		8.0	7.8	51.0		4.9
Green Ext Time (p_c), s	0.2	0.0		0.1	0.0	0.0		0.2

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	463	273	287	880	707	234
Future Volume (veh/h)	463	273	287	880	707	234
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	1885	1900	1885	1885
Adj Flow Rate, veh/h	487	85	302	926	744	78
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	1	0	1	1
Cap, veh/h	548	488	463	1816	1059	472
Arrive On Green	0.31	0.31	0.15	0.50	0.30	0.30
Sat Flow, veh/h	1781	1585	1795	3705	3676	1598
Grp Volume(v), veh/h	487	85	302	926	744	78
Grp Sat Flow(s),veh/h/ln	1781	1585	1795	1805	1791	1598
Q Serve(g_s), s	14.7	2.2	6.0	9.7	10.4	2.0
Cycle Q Clear(g_c), s	14.7	2.2	6.0	9.7	10.4	2.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	548	488	463	1816	1059	472
V/C Ratio(X)	0.89	0.17	0.65	0.51	0.70	0.17
Avail Cap(c_a), veh/h	624	555	567	2522	1552	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	14.3	11.6	9.4	17.7	14.8
Incr Delay (d2), s/veh	13.5	0.2	1.9	0.2	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	1.3	3.9	5.6	7.1	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.2	14.5	13.6	9.6	18.6	14.9
LnGrp LOS	C	B	B	A	B	B
Approach Vol, veh/h	572			1228	822	
Approach Delay, s/veh	29.5			10.6	18.2	
Approach LOS	C			B	B	

Timer - Assigned Phs	2		5	6	8
Phs Duration (G+Y+Rc), s	33.9		11.7	22.2	22.6
Change Period (Y+Rc), s	5.5		3.5	5.5	5.2
Max Green Setting (Gmax), s	39.5		11.5	24.5	19.8
Max Q Clear Time (g_c+I1), s	11.7		8.0	12.4	16.7
Green Ext Time (p_c), s	7.5		0.3	4.3	0.7

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	8	277	9	13	24	196	865	0	14	692	276
Future Volume (veh/h)	299	8	277	9	13	24	196	865	0	14	692	276
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1900	1870	1648	1900	1900	1885	1900	1900	1900	1885	1885
Adj Flow Rate, veh/h	308	8	74	9	13	6	202	892	0	14	713	116
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	0	2	17	0	0	1	0	0	0	1	1
Cap, veh/h	365	6	486	92	112	31	423	1457	0	297	1119	499
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.11	0.40	0.00	0.01	0.31	0.31
Sat Flow, veh/h	739	19	1585	0	366	100	1795	3705	0	1810	3582	1598
Grp Volume(v), veh/h	316	0	74	28	0	0	202	892	0	14	713	116
Grp Sat Flow(s),veh/h/ln	759	0	1585	466	0	0	1795	1805	0	1810	1791	1598
Q Serve(g_s), s	0.0	0.0	1.7	0.0	0.0	0.0	3.5	10.1	0.0	0.3	8.8	2.8
Cycle Q Clear(g_c), s	15.8	0.0	1.7	15.8	0.0	0.0	3.5	10.1	0.0	0.3	8.8	2.8
Prop In Lane	0.97		1.00	0.32		0.21	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	371	0	486	235	0	0	423	1457	0	297	1119	499
V/C Ratio(X)	0.85	0.00	0.15	0.12	0.00	0.00	0.48	0.61	0.00	0.05	0.64	0.23
Avail Cap(c_a), veh/h	371	0	486	235	0	0	565	2137	0	605	2120	946
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	0.0	13.0	13.9	0.0	0.0	10.2	12.2	0.0	12.1	15.2	13.1
Incr Delay (d2), s/veh	17.2	0.0	0.1	0.2	0.0	0.0	0.8	0.4	0.0	0.1	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.2	0.0	1.0	0.4	0.0	0.0	2.2	6.2	0.0	0.2	5.7	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.0	13.1	14.1	0.0	0.0	11.0	12.6	0.0	12.1	15.8	13.4
LnGrp LOS	D	A	B	B	A	A	B	B	A	B	B	B
Approach Vol, veh/h		390			28			1094			843	
Approach Delay, s/veh		32.6			14.1			12.3			15.4	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	26.3		21.0	8.9	21.6		21.0
Change Period (Y+Rc), s	3.5	5.5		* 5.2	3.5	5.5		* 5.2
Max Green Setting (Gmax), s	9.5	30.5		* 16	9.5	30.5		* 16
Max Q Clear Time (g_c+I1), s	2.3	12.1		17.8	5.5	10.8		17.8
Green Ext Time (p_c), s	0.0	6.1		0.0	0.2	5.3		0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	2091	55	286	1556	64	39	191	488	31	3	13
Future Volume (veh/h)	31	2091	55	286	1556	64	39	191	488	31	3	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1885	1870	1870	1900	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	32	2134	54	292	1588	36	40	195	498	32	3	3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	0	1	2	2	0	1	1	0	0	0
Cap, veh/h	58	1678	42	180	1913	853	396	408	345	186	188	188
Arrive On Green	0.03	0.47	0.47	0.10	0.54	0.54	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1810	3570	90	1795	3554	1585	1432	1885	1598	763	872	872
Grp Volume(v), veh/h	32	1066	1122	292	1588	36	40	195	498	32	0	6
Grp Sat Flow(s),veh/h/ln	1810	1791	1869	1795	1777	1585	1432	1885	1598	763	0	1743
Q Serve(g_s), s	1.4	37.6	37.6	8.0	29.8	0.9	1.8	7.2	17.3	3.1	0.0	0.2
Cycle Q Clear(g_c), s	1.4	37.6	37.6	8.0	29.8	0.9	2.0	7.2	17.3	10.3	0.0	0.2
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	58	842	878	180	1913	853	396	408	345	186	0	377
V/C Ratio(X)	0.56	1.27	1.28	1.63	0.83	0.04	0.10	0.48	1.44	0.17	0.00	0.02
Avail Cap(c_a), veh/h	113	842	878	180	1913	853	396	408	345	186	0	377
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.2	21.2	21.2	36.0	15.4	8.7	25.5	27.4	31.4	31.9	0.0	24.7
Incr Delay (d2), s/veh	3.1	129.3	133.6	305.9	3.3	0.0	0.0	0.3	214.4	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	64.9	69.2	30.0	17.0	0.5	1.1	5.8	41.9	1.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	150.5	154.8	341.9	18.7	8.8	25.5	27.7	245.8	32.1	0.0	24.7
LnGrp LOS	D	F	F	F	B	A	C	C	F	C	A	C
Approach Vol, veh/h		2220			1916			733			38	
Approach Delay, s/veh		151.1			67.8			175.7			30.9	
Approach LOS		F			E			F			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	44.0		23.0	7.5	49.5		23.0				
Change Period (Y+Rc), s	5.0	6.4		5.7	5.0	6.4		5.7				
Max Green Setting (Gmax), s	8.0	37.6		17.3	5.0	40.6		17.3				
Max Q Clear Time (g_c+I1), s	10.3	39.6		19.3	3.4	31.8		12.3				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	7.1		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	121.3	
HCM 6th LOS	F	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	1670	399	192	1897	410	340	673	108	379	721	100
Future Volume (veh/h)	135	1670	399	192	1897	410	340	673	108	379	721	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1826	1870	1885	1841	1885	1885	1885	1900	1870	1870	1900
Adj Flow Rate, veh/h	141	1740	376	200	1976	373	354	701	0	395	751	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	5	2	1	4	1	1	1	0	2	2	0
Cap, veh/h	202	1470	313	285	1914	819	416	621		455	669	
Arrive On Green	0.06	0.36	0.36	0.11	0.51	0.51	0.12	0.17	0.00	0.13	0.19	0.00
Sat Flow, veh/h	3483	4115	877	3483	5025	1598	3483	3582	1610	3456	3554	1610
Grp Volume(v), veh/h	141	1400	716	200	1976	373	354	701	0	395	751	0
Grp Sat Flow(s),veh/h/ln	1742	1662	1668	1742	1675	1598	1742	1791	1610	1728	1777	1610
Q Serve(g_s), s	4.2	37.5	37.5	5.8	40.0	3.4	10.5	18.2	0.0	11.8	19.8	0.0
Cycle Q Clear(g_c), s	4.2	37.5	37.5	5.8	40.0	3.4	10.5	18.2	0.0	11.8	19.8	0.0
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	1187	596	285	1914	819	416	621		455	669	
V/C Ratio(X)	0.70	1.18	1.20	0.70	1.03	0.46	0.85	1.13		0.87	1.12	
Avail Cap(c_a), veh/h	249	1187	596	285	1914	819	448	621		467	669	
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.32	0.32	0.32	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.5	33.8	33.8	45.6	25.9	3.7	45.3	43.4	0.0	44.7	42.6	0.0
Incr Delay (d2), s/veh	4.0	90.0	105.9	2.1	21.3	0.6	12.7	77.2	0.0	15.1	73.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	42.7	46.7	4.0	21.8	2.8	9.0	22.2	0.0	10.0	23.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	123.7	139.6	47.7	47.2	4.3	58.0	120.6	0.0	59.8	116.0	0.0
LnGrp LOS	D	F	F	D	F	A	E	F		E	F	
Approach Vol, veh/h		2257			2549			1055			1146	
Approach Delay, s/veh		124.3			40.9			99.6			96.6	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.4	44.0	20.6	25.0	12.6	46.8	19.0	26.6
Change Period (Y+Rc), s	* 6.8	* 6.5	* 6.8	* 6.8	* 6.5	* 6.8	* 6.5	* 6.8
Max Green Setting (Gmax), s	* 8.5	* 38	* 14	* 18	* 7.5	* 38	* 14	* 19
Max Q Clear Time (g_c+I1), s	7.8	39.5	13.8	20.2	6.2	42.0	12.5	21.8
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	85.7
HCM 6th LOS	F

Notes

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

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

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	186	1535	0	0	1374	42
Future Vol, veh/h	0	0	0	0	0	0	186	1535	0	0	1374	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	150	-	-	-	-	100
Veh in Median Storage, #	-	3	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	92	98	92	92	92	98	98	92	92	98	98
Heavy Vehicles, %	0	2	0	2	2	2	2	0	2	2	2	0
Mvmt Flow	0	0	0	0	0	0	190	1566	0	0	1402	43

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	-	-	783	1402	0	-	-	-	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	5.34	-	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	3.12	-	-	-	-	-
Pot Cap-1 Maneuver	0	0	337	249	-	0	0	-	-
Stage 1	0	0	-	-	-	0	0	-	-
Stage 2	0	0	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	-	0	337	249	-	-	-	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	5.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	SBT	SBR
Capacity (veh/h)	249	-	-	-	-
HCM Lane V/C Ratio	0.762	-	-	-	-
HCM Control Delay (s)	54.4	-	0	-	-
HCM Lane LOS	F	-	A	-	-
HCM 95th %tile Q(veh)	5.5	-	-	-	-

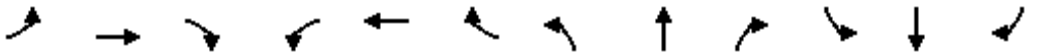
Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	333	0	1693	618	766
Future Vol, veh/h	32	333	0	1693	618	766
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	300	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	4	3	0	0	1	3
Mvmt Flow	33	340	0	1728	631	782

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1495	316	-	0	-	0
Stage 1	631	-	-	-	-	-
Stage 2	864	-	-	-	-	-
Critical Hdwy	6.33	7.16	-	-	-	-
Critical Hdwy Stg 1	6.68	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.69	3.93	-	-	-	-
Pot Cap-1 Maneuver	138	578	0	-	-	0
Stage 1	411	-	0	-	-	0
Stage 2	359	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	138	578	-	-	-	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	359	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	138	578	-
HCM Lane V/C Ratio	-	0.237	0.588	-
HCM Control Delay (s)	-	39	19.7	-
HCM Lane LOS	-	E	C	-
HCM 95th %tile Q(veh)	-	0.9	3.8	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	107	22	61	172	622	31	906	23	47	748	136
Future Volume (veh/h)	98	107	22	61	172	622	31	906	23	47	748	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1856	1900	1767	1900	1870	1870	1870	1900
Adj Flow Rate, veh/h	103	113	10	64	181	622	33	954	22	49	787	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	0	3	0	9	0	2	2	2	0
Cap, veh/h	156	750	66	622	781	696	232	1391	32	198	1371	621
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	678	1694	150	1288	1763	1572	610	3607	83	576	3554	1610
Grp Volume(v), veh/h	103	0	123	64	181	622	33	477	499	49	787	68
Grp Sat Flow(s),veh/h/ln	678	0	1843	1288	1763	1572	610	1805	1885	576	1777	1610
Q Serve(g_s), s	5.5	0.0	2.8	2.2	4.5	25.5	3.2	15.5	15.5	5.4	12.2	1.9
Cycle Q Clear(g_c), s	31.0	0.0	2.8	5.0	4.5	25.5	15.4	15.5	15.5	20.9	12.2	1.9
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	156	0	816	622	781	696	232	696	727	198	1371	621
V/C Ratio(X)	0.66	0.00	0.15	0.10	0.23	0.89	0.14	0.69	0.69	0.25	0.57	0.11
Avail Cap(c_a), veh/h	156	0	816	622	781	696	232	696	727	198	1371	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	0.0	11.6	13.1	12.1	18.0	23.0	18.0	18.0	26.7	17.0	13.8
Incr Delay (d2), s/veh	9.9	0.0	0.1	0.1	0.2	13.9	1.3	5.4	5.2	3.0	1.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	0.0	1.9	1.1	2.9	16.3	0.9	11.2	11.6	1.6	8.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.0	11.7	13.2	12.3	31.9	24.3	23.4	23.2	29.7	18.7	14.1
LnGrp LOS	D	A	B	B	B	C	C	C	C	C	B	B
Approach Vol, veh/h		226			867			1009			904	
Approach Delay, s/veh		26.2			26.4			23.3			19.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.0		37.0		33.0		37.0				
Change Period (Y+Rc), s		* 6		* 6		* 6		* 6				
Max Green Setting (Gmax), s		* 27		* 31		* 27		* 31				
Max Q Clear Time (g_c+I1), s		17.5		33.0		22.9		27.5				
Green Ext Time (p_c), s		4.5		0.0		2.2		1.8				

Intersection Summary		
HCM 6th Ctrl Delay		23.1
HCM 6th LOS		C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↱	↰		↱			
Traffic Volume (veh/h)	0	159	0	0	525	459	634	0	331	0	0	0
Future Volume (veh/h)	0	159	0	0	525	459	634	0	331	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	0	0	1870	1900	1885	0	1885			
Adj Flow Rate, veh/h	0	169	0	0	559	0	674	0	158			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	2	0	0	2	0	1	0	1			
Cap, veh/h	0	1491	0	0	1491		747	0	665			
Arrive On Green	0.00	0.42	0.00	0.00	0.42	0.00	0.42	0.00	0.42			
Sat Flow, veh/h	0	3741	0	0	3647	1610	1795	0	1598			
Grp Volume(v), veh/h	0	169	0	0	559	0	674	0	158			
Grp Sat Flow(s),veh/h/ln	0	1777	0	0	1777	1610	1795	0	1598			
Q Serve(g_s), s	0.0	2.0	0.0	0.0	7.6	0.0	24.6	0.0	4.5			
Cycle Q Clear(g_c), s	0.0	2.0	0.0	0.0	7.6	0.0	24.6	0.0	4.5			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1491	0	0	1491		747	0	665			
V/C Ratio(X)	0.00	0.11	0.00	0.00	0.37		0.90	0.00	0.24			
Avail Cap(c_a), veh/h	0	1491	0	0	1491		1008	0	897			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	0.36	0.00	0.36			
Uniform Delay (d), s/veh	0.0	12.4	0.0	0.0	14.0	0.0	19.1	0.0	13.2			
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.7	0.0	3.5	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	1.4	0.0	0.0	5.3	0.0	13.0	0.0	2.7			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.5	0.0	0.0	14.7	0.0	22.6	0.0	13.3			
LnGrp LOS	A	B	A	A	B		C	A	B			
Approach Vol, veh/h		169			559			832				
Approach Delay, s/veh		12.5			14.7			20.9				
Approach LOS		B			B			C				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	35.2	34.8	35.2
Change Period (Y+Rc), s	* 5.8	5.7	* 5.8
Max Green Setting (Gmax), s	* 19	39.3	* 19
Max Q Clear Time (g_c+I1), s	4.0	26.6	9.6
Green Ext Time (p_c), s	0.8	2.6	2.6

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	318	199	142	438	0	0	0	0	5	278	0
Future Volume (veh/h)	0	318	199	142	438	0	0	0	0	5	278	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1841	1870	1870	0				1900	1870	1900
Adj Flow Rate, veh/h	0	338	61	151	466	0				5	296	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	4	2	2	0				0	2	0
Cap, veh/h	0	453	81	306	598	0				16	961	842
Arrive On Green	0.00	0.15	0.15	0.09	0.32	0.00				0.52	0.52	0.00
Sat Flow, veh/h	0	3106	538	1781	1870	0				31	1838	1610
Grp Volume(v), veh/h	0	198	201	151	466	0				301	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1774	1781	1870	0				1869	0	1610
Q Serve(g_s), s	0.0	7.5	7.6	4.7	15.8	0.0				6.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.5	7.6	4.7	15.8	0.0				6.4	0.0	0.0
Prop In Lane	0.00		0.30	1.00		0.00				0.02		1.00
Lane Grp Cap(c), veh/h	0	267	266	306	598	0				977	0	842
V/C Ratio(X)	0.00	0.74	0.75	0.49	0.78	0.00				0.31	0.00	0.00
Avail Cap(c_a), veh/h	0	353	352	312	695	0				977	0	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.90	0.90	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	28.4	28.5	21.2	21.6	0.0				9.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.7	6.4	1.1	4.4	0.0				0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	6.2	6.4	3.5	11.3	0.0				4.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.2	34.9	22.3	26.0	0.0				9.7	0.0	0.0
LnGrp LOS	A	C	C	C	C	A				A	A	A
Approach Vol, veh/h		399			617						301	
Approach Delay, s/veh		34.6			25.1						9.7	
Approach LOS		C			C						A	

Timer - Assigned Phs	2	3	4			8
Phs Duration (G+Y+Rc), s	42.1	11.9	16.0			27.9
Change Period (Y+Rc), s	5.5	5.5	5.5			5.5
Max Green Setting (Gmax), s	33.0	6.6	13.9			26.0
Max Q Clear Time (g_c+I1), s	8.4	6.7	9.6			17.8
Green Ext Time (p_c), s	1.8	0.0	0.9			1.8

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	318	0	0	263	0	317	941	661	0	0	0
Future Volume (veh/h)	3	318	0	0	263	0	317	941	661	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1856	0	0	1870	1900	1885	1885	1885			
Adj Flow Rate, veh/h	3	335	0	0	277	0	334	991	555			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	0	3	0	0	2	0	1	1	1			
Cap, veh/h	255	489	0	0	493	425	1040	1092	1628			
Arrive On Green	0.26	0.26	0.00	0.00	0.26	0.00	0.58	0.58	0.58			
Sat Flow, veh/h	1120	1856	0	0	1870	1610	1795	1885	2812			
Grp Volume(v), veh/h	3	335	0	0	277	0	334	991	555			
Grp Sat Flow(s),veh/h/ln	1120	1856	0	0	1870	1610	1795	1885	1406			
Q Serve(g_s), s	0.2	11.4	0.0	0.0	9.0	0.0	6.7	32.7	7.2			
Cycle Q Clear(g_c), s	9.1	11.4	0.0	0.0	9.0	0.0	6.7	32.7	7.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	255	489	0	0	493	425	1040	1092	1628			
V/C Ratio(X)	0.01	0.68	0.00	0.00	0.56	0.00	0.32	0.91	0.34			
Avail Cap(c_a), veh/h	255	489	0	0	493	425	1090	1145	1707			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	1.00	0.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	26.2	23.2	0.0	0.0	22.3	0.0	7.6	13.1	7.7			
Incr Delay (d2), s/veh	0.1	5.1	0.0	0.0	4.6	0.0	0.2	10.3	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.1	8.4	0.0	0.0	7.8	0.0	4.0	20.4	3.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	28.2	0.0	0.0	26.8	0.0	7.8	23.3	7.8			
LnGrp LOS	C	C	A	A	C	A	A	C	A			
Approach Vol, veh/h		338			277			1880				
Approach Delay, s/veh		28.2			26.8			16.0				
Approach LOS		C			C			B				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	24.0	46.0	24.0
Change Period (Y+Rc), s	5.5	5.5	5.5
Max Green Setting (Gmax), s	16.5	42.5	16.5
Max Q Clear Time (g_c+I1), s	13.4	34.7	11.0
Green Ext Time (p_c), s	0.6	5.9	0.7

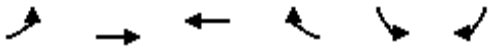
Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	245	168	568	344	302	855
Future Volume (veh/h)	245	168	568	344	302	855
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	1811	1752	1841	1841	1856	1811
Adj Flow Rate, veh/h	261	39	604	251	321	910
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	10	4	4	3	6
Cap, veh/h	312	269	1705	761	549	2258
Arrive On Green	0.18	0.18	0.49	0.49	0.11	0.66
Sat Flow, veh/h	1725	1485	3589	1560	1767	3532
Grp Volume(v), veh/h	261	39	604	251	321	910
Grp Sat Flow(s),veh/h/ln	1725	1485	1749	1560	1767	1721
Q Serve(g_s), s	10.2	1.5	7.5	6.9	5.7	8.7
Cycle Q Clear(g_c), s	10.2	1.5	7.5	6.9	5.7	8.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	312	269	1705	761	549	2258
V/C Ratio(X)	0.84	0.15	0.35	0.33	0.59	0.40
Avail Cap(c_a), veh/h	451	388	1705	761	604	2258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	24.1	11.1	11.0	7.1	5.6
Incr Delay (d2), s/veh	8.7	0.2	0.6	1.2	1.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	1.0	4.9	4.2	3.3	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.3	24.3	11.7	12.1	8.3	6.2
LnGrp LOS	D	C	B	B	A	A
Approach Vol, veh/h	300		855			1231
Approach Delay, s/veh	34.8		11.8			6.7
Approach LOS	C		B			A

Timer - Assigned Phs	2			5	6	8
Phs Duration (G+Y+Rc), s	51.6			11.8	39.8	18.4
Change Period (Y+Rc), s	5.7			3.8	5.7	5.7
Max Green Setting (Gmax), s	40.3			10.2	26.3	18.3
Max Q Clear Time (g_c+I1), s	10.7			7.7	9.5	12.2
Green Ext Time (p_c), s	7.5			0.3	4.7	0.5

Intersection Summary	
HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	248	363	251	308	577	165
Future Volume (veh/h)	248	363	251	308	577	165
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	1811	1885	1767	1796	1885	1811
Adj Flow Rate, veh/h	270	395	273	0	627	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	1	9	7	1	6
Cap, veh/h	566	1790	1057		669	
Arrive On Green	0.12	0.50	0.31	0.00	0.37	0.00
Sat Flow, veh/h	1725	3676	3445	1522	1795	1535
Grp Volume(v), veh/h	270	395	273	0	627	0
Grp Sat Flow(s),veh/h/ln	1725	1791	1678	1522	1795	1535
Q Serve(g_s), s	9.0	5.6	5.5	0.0	30.3	0.0
Cycle Q Clear(g_c), s	9.0	5.6	5.5	0.0	30.3	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	566	1790	1057		669	
V/C Ratio(X)	0.48	0.22	0.26		0.94	
Avail Cap(c_a), veh/h	592	1790	1057		758	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	15.9	12.7	23.0	0.0	27.2	0.0
Incr Delay (d2), s/veh	0.5	0.2	0.6	0.0	18.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	4.0	4.0	0.0	22.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.5	12.9	23.6	0.0	45.2	0.0
LnGrp LOS	B	B	C		D	
Approach Vol, veh/h		665	273		627	
Approach Delay, s/veh		14.3	23.6		45.2	
Approach LOS		B	C		D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		50.5		39.5	16.6	33.8
Change Period (Y+Rc), s		* 5.5		6.0	* 5.5	* 5.5
Max Green Setting (Gmax), s		* 41		38.0	* 13	* 23
Max Q Clear Time (g_c+I1), s		7.6		32.3	11.0	7.5
Green Ext Time (p_c), s		2.8		1.2	0.1	1.5

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

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

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

Intersection	
Int Delay, s/veh	29.4

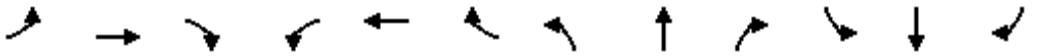
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	154	769	0	0	430	654	139	4	238	0	0	0
Future Vol, veh/h	154	769	0	0	430	654	139	4	238	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	270	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	1	0	0	3	0	22	0	3	0	0	0
Mvmt Flow	160	801	0	0	448	681	145	4	248	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	448	0	-	-	-	0	1345	1569	401
Stage 1	-	-	-	-	-	-	1121	1121	-
Stage 2	-	-	-	-	-	-	224	448	-
Critical Hdwy	4.14	-	-	-	-	-	7.24	6.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.24	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.24	5.5	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.72	4	3.33
Pot Cap-1 Maneuver	1109	-	0	0	-	0	~ 120	112	596
Stage 1	-	-	0	0	-	0	234	284	-
Stage 2	-	-	0	0	-	0	735	576	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1109	-	-	-	-	-	~ 103	0	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 103	0	-
Stage 1	-	-	-	-	-	-	200	0	-
Stage 2	-	-	-	-	-	-	735	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.5	0	130.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	103	596	1109	-	-
HCM Lane V/C Ratio	1.446	0.416	0.145	-	-
HCM Control Delay (s)	$ 321.5	15.3	8.8	-	-
HCM Lane LOS	F	C	A	-	-
HCM 95th %tile Q(veh)	10.9	2	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	815	37	29	537	38	467	226	198	90	48	77
Future Volume (veh/h)	115	815	37	29	537	38	467	226	198	90	48	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1900	1900	1885	1900	1900	1885	1900	1885	1856	1796
Adj Flow Rate, veh/h	125	886	37	32	584	34	508	246	158	98	52	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	0	0	1	0	0	1	0	1	3	7
Cap, veh/h	422	1558	65	240	1541	90	616	789	674	408	878	539
Arrive On Green	0.45	0.45	0.45	0.90	0.90	0.90	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	812	3476	145	615	3440	200	1331	1885	1610	989	2098	1289
Grp Volume(v), veh/h	125	453	470	32	304	314	508	246	158	98	43	44
Grp Sat Flow(s),veh/h/ln	812	1777	1844	615	1791	1849	1331	1885	1610	989	1763	1624
Q Serve(g_s), s	9.5	17.0	17.0	2.5	2.4	2.4	33.2	7.9	5.7	6.6	1.3	1.5
Cycle Q Clear(g_c), s	11.9	17.0	17.0	19.5	2.4	2.4	34.7	7.9	5.7	14.5	1.3	1.5
Prop In Lane	1.00		0.08	1.00		0.11	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	422	796	826	240	803	829	616	789	674	408	738	680
V/C Ratio(X)	0.30	0.57	0.57	0.13	0.38	0.38	0.83	0.31	0.23	0.24	0.06	0.06
Avail Cap(c_a), veh/h	422	796	826	240	803	829	635	817	698	422	764	704
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	18.4	18.4	8.2	2.7	2.7	26.0	17.5	16.9	22.3	15.6	15.6
Incr Delay (d2), s/veh	0.4	1.0	0.9	1.1	1.3	1.3	8.5	0.2	0.2	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	11.1	11.5	0.5	1.7	1.7	16.9	6.0	3.7	2.8	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	19.4	19.3	9.3	4.0	4.0	34.5	17.7	17.0	22.6	15.6	15.7
LnGrp LOS	B	B	B	A	A	A	C	B	B	C	B	B
Approach Vol, veh/h		1048			650			912			185	
Approach Delay, s/veh		19.2			4.2			27.0			19.4	
Approach LOS		B			A			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.3		43.7		46.3		43.7				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		39.0		39.0		39.0		39.0				
Max Q Clear Time (g_c+I1), s		21.5		16.5		19.0		36.7				
Green Ext Time (p_c), s		3.9		0.9		6.9		1.0				

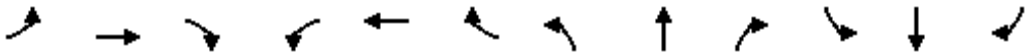
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	818	271	15	378	0	0	0	0	105	724	179
Future Volume (veh/h)	0	818	271	15	378	0	0	0	0	105	724	179
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1870	1767	1885	0				1900	1870	1856
Adj Flow Rate, veh/h	0	870	253	16	402	0				112	770	90
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	1	2	9	1	0				0	2	3
Cap, veh/h	0	913	265	46	925	0				235	1699	839
Arrive On Green	0.00	0.33	0.33	0.33	0.33	0.00				0.53	0.53	0.53
Sat Flow, veh/h	0	2832	795	8	2861	0				440	3185	1572
Grp Volume(v), veh/h	0	569	554	206	212	0				470	412	90
Grp Sat Flow(s),veh/h/ln	0	1791	1742	1153	1630	0				1848	1777	1572
Q Serve(g_s), s	0.0	27.9	28.0	1.7	9.0	0.0				14.3	12.7	2.5
Cycle Q Clear(g_c), s	0.0	27.9	28.0	29.7	9.0	0.0				14.3	12.7	2.5
Prop In Lane	0.00		0.46	0.08		0.00				0.24		1.00
Lane Grp Cap(c), veh/h	0	597	581	428	543	0				986	948	839
V/C Ratio(X)	0.00	0.95	0.95	0.48	0.39	0.00				0.48	0.43	0.11
Avail Cap(c_a), veh/h	0	597	581	428	543	0				986	948	839
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.83	0.83	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	29.3	29.3	23.3	23.0	0.0				13.1	12.8	10.4
Incr Delay (d2), s/veh	0.0	22.6	23.4	0.8	0.5	0.0				1.7	1.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.1	20.7	5.9	6.2	0.0				10.0	8.8	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	51.9	52.7	24.1	23.4	0.0				14.8	14.2	10.7
LnGrp LOS	A	D	D	C	C	A				B	B	B
Approach Vol, veh/h		1123			418						972	
Approach Delay, s/veh		52.3			23.8						14.2	
Approach LOS		D			C						B	

Timer - Assigned Phs	2	4			8			
Phs Duration (G+Y+Rc), s	54.0	36.0			36.0			
Change Period (Y+Rc), s	6.0	6.0			6.0			
Max Green Setting (Gmax), s	48.0	30.0			30.0			
Max Q Clear Time (g_c+I1), s	16.3	31.7			30.0			
Green Ext Time (p_c), s	6.9	0.0			0.0			

Intersection Summary								
HCM 6th Ctrl Delay	32.8							
HCM 6th LOS	C							



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1435	0	0	0	0	0	0	1054	0
Future Volume (vph)	0	0	0	1435	0	0	0	0	0	0	1054	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.6							6.0	
Lane Util. Factor				0.97							0.86	
Frt				1.00							1.00	
Flt Protected				0.95							1.00	
Satd. Flow (prot)				3400							6408	
Flt Permitted				0.95							1.00	
Satd. Flow (perm)				3400							6408	
Peak-hour factor, PHF	0.92	0.92	0.92	0.97	0.92	0.97	0.92	0.97	0.97	0.97	0.97	0.92
Adj. Flow (vph)	0	0	0	1479	0	0	0	0	0	0	1087	0
RTOR Reduction (vph)	0	0	0	42	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1437	0	0	0	0	0	0	1087	0
Heavy Vehicles (%)	2%	2%	2%	3%	2%	0%	2%	0%	0%	0%	2%	2%
Turn Type				Prot							NA	
Protected Phases				3							2	
Permitted Phases												
Actuated Green, G (s)				52.0							45.4	
Effective Green, g (s)				52.0							45.4	
Actuated g/C Ratio				0.47							0.41	
Clearance Time (s)				6.6							6.0	
Vehicle Extension (s)				3.0							3.0	
Lane Grp Cap (vph)				1607							2644	
v/s Ratio Prot				c0.42							c0.17	
v/s Ratio Perm												
v/c Ratio				0.89							0.41	
Uniform Delay, d1				26.5							22.8	
Progression Factor				1.00							1.00	
Incremental Delay, d2				6.8							0.5	
Delay (s)				33.3							23.3	
Level of Service				C							C	
Approach Delay (s)		0.0			33.3			0.0			23.3	
Approach LOS		A			C			A			C	

Intersection Summary			
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

702: Dr MLK Jr St & 11th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	11	964	366	67	452	0	0	507	296
Future Volume (veh/h)	0	0	0	11	964	366	67	452	0	0	507	296
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1870	1767	1900	1841	0	0	1856	1870
Adj Flow Rate, veh/h				12	1026	301	71	481	0	0	539	260
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	2	9	0	4	0	0	3	2
Cap, veh/h				17	1496	458	152	1177	0	0	953	814
Arrive On Green				0.12	0.12	0.12	0.51	0.51	0.00	0.00	0.51	0.51
Sat Flow, veh/h				44	3963	1215	214	2376	0	0	1856	1585
Grp Volume(v), veh/h				508	421	409	249	303	0	0	539	260
Grp Sat Flow(s),veh/h/ln				1868	1702	1652	915	1591	0	0	1856	1585
Q Serve(g_s), s				28.8	26.0	26.0	9.8	12.6	0.0	0.0	21.9	10.5
Cycle Q Clear(g_c), s				28.8	26.0	26.0	31.7	12.6	0.0	0.0	21.9	10.5
Prop In Lane				0.02		0.74	0.29		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				705	642	623	512	817	0	0	953	814
V/C Ratio(X)				0.72	0.66	0.66	0.49	0.37	0.00	0.00	0.57	0.32
Avail Cap(c_a), veh/h				1019	928	901	512	817	0	0	953	814
HCM Platoon Ratio				0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.70	0.70	0.70	0.76	0.76	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				42.6	41.3	41.4	21.0	16.1	0.0	0.0	18.4	15.6
Incr Delay (d2), s/veh				1.0	0.8	0.8	2.5	1.0	0.0	0.0	2.4	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				19.8	16.7	16.3	8.7	7.8	0.0	0.0	14.9	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				43.6	42.1	42.2	23.5	17.1	0.0	0.0	20.8	16.6
LnGrp LOS				D	D	D	C	B	A	A	C	B
Approach Vol, veh/h					1339			552			799	
Approach Delay, s/veh					42.7			20.0			19.4	
Approach LOS					D			B			B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	62.5	62.5	47.5
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	38.0	38.0	60.0
Max Q Clear Time (g_c+I1), s	23.9	33.7	30.8
Green Ext Time (p_c), s	3.9	1.4	10.7

Intersection Summary	
HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	40	280	385	0	3040	0	0	1267	1095
Future Volume (veh/h)	0	0	0	40	280	385	0	3040	0	0	1267	1095
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1870	1900	0	1885	0	0	1870	1826
Adj Flow Rate, veh/h				41	289	0	0	3134	0	0	1283	1000
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				0	2	0	0	1	0	0	2	5
Cap, veh/h				100	758		0	3720	0	0	2704	2237
Arrive On Green				0.16	0.16	0.00	0.00	0.96	0.00	0.00	0.72	0.72
Sat Flow, veh/h				610	4803	0	0	5486	0	0	3741	3095
Grp Volume(v), veh/h				124	206	0	0	3134	0	0	1283	1000
Grp Sat Flow(s),veh/h/ln				1840	1702	0	0	1716	0	0	1870	1547
Q Serve(g_s), s				6.6	5.9	0.0	0.0	13.7	0.0	0.0	15.9	14.6
Cycle Q Clear(g_c), s				6.6	5.9	0.0	0.0	13.7	0.0	0.0	15.9	14.6
Prop In Lane				0.33		0.00	0.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				301	557		0	3720	0	0	2704	2237
V/C Ratio(X)				0.41	0.37		0.00	0.84	0.00	0.00	0.47	0.45
Avail Cap(c_a), veh/h				442	817		0	3720	0	0	2704	2237
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00	0.00	0.41	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				41.2	41.0	0.0	0.0	0.9	0.0	0.0	6.4	6.2
Incr Delay (d2), s/veh				0.9	0.4	0.0	0.0	1.0	0.0	0.0	0.6	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.5	4.5	0.0	0.0	2.2	0.0	0.0	9.6	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				42.1	41.4	0.0	0.0	1.9	0.0	0.0	7.0	6.9
LnGrp LOS				D	D		A	A	A	A	A	A
Approach Vol, veh/h					330			3134			2283	
Approach Delay, s/veh					41.7			1.9			7.0	
Approach LOS					D			A			A	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	85.4	24.6	85.4
Change Period (Y+Rc), s	* 5.9	6.6	* 5.9
Max Green Setting (Gmax), s	* 71	26.4	* 71
Max Q Clear Time (g_c+I1), s	17.9	8.6	15.7
Green Ext Time (p_c), s	25.4	1.8	50.0

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1611	52	0	0	0	0	400	1	112	335	0
Future Volume (veh/h)	112	1611	52	0	0	0	0	400	1	112	335	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1752				0	1856	1900	1885	1841	0
Adj Flow Rate, veh/h	119	1714	52				0	426	1	119	356	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	1	10				0	3	0	1	4	0
Cap, veh/h	144	2208	69				0	646	2	215	643	0
Arrive On Green	0.44	0.44	0.44				0.00	0.35	0.35	0.12	0.12	0.00
Sat Flow, veh/h	323	4963	155				0	1850	4	968	1841	0
Grp Volume(v), veh/h	688	574	623				0	0	427	119	356	0
Grp Sat Flow(s),veh/h/ln	1869	1716	1857				0	0	1855	968	1841	0
Q Serve(g_s), s	35.6	30.7	30.8				0.0	0.0	21.4	13.4	20.1	0.0
Cycle Q Clear(g_c), s	35.6	30.7	30.8				0.0	0.0	21.4	34.8	20.1	0.0
Prop In Lane	0.17		0.08				0.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	831	763	826				0	0	647	215	643	0
V/C Ratio(X)	0.83	0.75	0.75				0.00	0.00	0.66	0.55	0.55	0.00
Avail Cap(c_a), veh/h	918	842	912				0	0	742	264	736	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	0.52	0.76	0.76	0.00
Uniform Delay (d), s/veh	26.8	25.5	25.5				0.0	0.0	30.3	57.7	40.6	0.0
Incr Delay (d2), s/veh	5.9	3.5	3.3				0.0	0.0	2.8	1.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	23.4	18.8	20.0				0.0	0.0	13.7	6.3	14.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	29.0	28.8				0.0	0.0	33.0	59.3	41.1	0.0
LnGrp LOS	C	C	C				A	A	C	E	D	A
Approach Vol, veh/h		1885						427			475	
Approach Delay, s/veh		30.3						33.0			45.7	
Approach LOS		C						C			D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	44.4	54.9	44.4
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	44.0	54.0	44.0
Max Q Clear Time (g_c+I1), s	36.8	37.6	23.4
Green Ext Time (p_c), s	1.6	11.3	2.6

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1387	493	1	0	0	0	0	1521	74	118	1188	0
Future Volume (veh/h)	1387	493	1	0	0	0	0	1521	74	118	1188	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1900				0	1885	1870	1900	1856	0
Adj Flow Rate, veh/h	1460	519	1				0	1601	73	124	1251	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	0				0	1	2	0	3	0
Cap, veh/h	1636	857	2				0	2018	92	93	2026	0
Arrive On Green	0.46	0.46	0.46				0.00	0.13	0.13	0.40	0.40	0.00
Sat Flow, veh/h	3591	1881	4				0	5215	230	301	5233	0
Grp Volume(v), veh/h	1460	0	520				0	1089	585	124	1251	0
Grp Sat Flow(s),veh/h/ln	1795	0	1885				0	1716	1844	301	1689	0
Q Serve(g_s), s	41.0	0.0	22.8				0.0	33.8	33.9	10.1	21.6	0.0
Cycle Q Clear(g_c), s	41.0	0.0	22.8				0.0	33.8	33.9	44.0	21.6	0.0
Prop In Lane	1.00		0.00				0.00		0.12	1.00		0.00
Lane Grp Cap(c), veh/h	1636	0	859				0	1372	738	93	2026	0
V/C Ratio(X)	0.89	0.00	0.61				0.00	0.79	0.79	1.33	0.62	0.00
Avail Cap(c_a), veh/h	1763	0	925				0	1372	738	93	2026	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.00	0.63				0.00	1.00	1.00	0.77	0.77	0.00
Uniform Delay (d), s/veh	27.5	0.0	22.5				0.0	43.3	43.3	53.5	26.3	0.0
Incr Delay (d2), s/veh	3.9	0.0	0.6				0.0	4.8	8.6	194.7	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	23.3	0.0	14.1				0.0	23.1	25.5	13.4	12.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	0.0	23.1				0.0	48.1	51.9	248.2	26.7	0.0
LnGrp LOS	C	A	C				A	D	D	F	C	A
Approach Vol, veh/h		1980						1674			1375	
Approach Delay, s/veh		29.2						49.4			46.7	
Approach LOS		C						D			D	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	50.0	56.1	50.0
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	44.0	54.0	44.0
Max Q Clear Time (g_c+I1), s	46.0	43.0	35.9
Green Ext Time (p_c), s	0.0	7.1	6.1

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

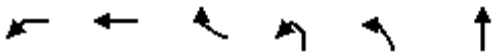
Notes

User approved volume balancing among the lanes for turning movement.



Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	378	0	1418	0	0	0
Future Volume (vph)	378	0	1418	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			
Lane Util. Factor	1.00		0.91			
Frt	1.00		1.00			
Flt Protected	0.95		1.00			
Satd. Flow (prot)	1703		5085			
Flt Permitted	0.95		1.00			
Satd. Flow (perm)	1703		5085			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	390	0	1462	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	390	0	1462	0	0	0
Heavy Vehicles (%)	6%	0%	2%	0%	0%	0%
Turn Type	Prot		NA			Perm
Protected Phases	1	6	2			
Permitted Phases						6
Actuated Green, G (s)	32.1		65.9			
Effective Green, g (s)	32.1		65.9			
Actuated g/C Ratio	0.29		0.60			
Clearance Time (s)	6.0		6.0			
Vehicle Extension (s)	3.0		3.0			
Lane Grp Cap (vph)	496		3046			
v/s Ratio Prot	c0.23		c0.29			
v/s Ratio Perm						
v/c Ratio	0.79		0.48			
Uniform Delay, d1	35.8		12.4			
Progression Factor	1.00		1.98			
Incremental Delay, d2	8.0		0.1			
Delay (s)	43.8		24.7			
Level of Service	D		C			
Approach Delay (s)		43.8	24.7		0.0	
Approach LOS		D	C		A	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBT	WBR	NBL2	NBL	NBT
Lane Configurations						
Traffic Volume (vph)	515	44	50	1043	5	1433
Future Volume (vph)	515	44	50	1043	5	1433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3			5.0	5.8
Lane Util. Factor	0.97	0.95			1.00	0.95
Frt	1.00	0.92			1.00	1.00
Flt Protected	0.95	1.00			0.95	1.00
Satd. Flow (prot)	3467	3323			1803	3574
Flt Permitted	0.95	1.00			0.95	1.00
Satd. Flow (perm)	3467	3323			1803	3574
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	536	46	52	1086	5	1493
RTOR Reduction (vph)	0	28	0	0	31	0
Lane Group Flow (vph)	536	70	0	0	1060	1493
Heavy Vehicles (%)	1%	0%	0%	0%	25%	1%
Turn Type	Split	NA		Prot	Prot	NA
Protected Phases	4	4		5	5	2
Permitted Phases						
Actuated Green, G (s)	20.4	20.4			59.3	58.5
Effective Green, g (s)	20.4	20.4			59.3	58.5
Actuated g/C Ratio	0.23	0.23			0.66	0.65
Clearance Time (s)	5.3	5.3			5.0	5.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	785	753			1187	2323
v/s Ratio Prot	c0.15	0.02			c0.59	0.42
v/s Ratio Perm						
v/c Ratio	0.68	0.09			0.89	0.64
Uniform Delay, d1	31.8	27.5			12.7	9.5
Progression Factor	1.09	0.99			1.00	1.00
Incremental Delay, d2	2.2	0.0			8.8	1.4
Delay (s)	36.8	27.3			21.6	10.8
Level of Service	D	C			C	B
Approach Delay (s)		35.3				15.4
Approach LOS		D				B

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.1
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	26	114	112	404	593	0	0	597	49
Future Volume (veh/h)	0	0	0	26	114	112	404	593	0	0	597	49
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1826	1885	1885	1900	1870	0	0	1885	1900
Adj Flow Rate, veh/h				29	125	14	444	652	0	0	656	47
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				5	1	1	0	2	0	0	1	0
Cap, veh/h				190	392	175	633	2691	0	0	2002	143
Arrive On Green				0.11	0.11	0.11	0.20	1.00	0.00	0.00	0.59	0.59
Sat Flow, veh/h				1739	3582	1598	1810	3647	0	0	3484	243
Grp Volume(v), veh/h				29	125	14	444	652	0	0	346	357
Grp Sat Flow(s),veh/h/ln				1739	1791	1598	1810	1777	0	0	1791	1842
Q Serve(g_s), s				1.4	2.9	0.7	9.0	0.0	0.0	0.0	8.8	8.9
Cycle Q Clear(g_c), s				1.4	2.9	0.7	9.0	0.0	0.0	0.0	8.8	8.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				190	392	175	633	2691	0	0	1058	1088
V/C Ratio(X)				0.15	0.32	0.08	0.70	0.24	0.00	0.00	0.33	0.33
Avail Cap(c_a), veh/h				464	955	426	633	2691	0	0	1058	1088
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				0.98	0.98	0.98	0.59	0.59	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.3	37.0	36.0	7.1	0.0	0.0	0.0	9.4	9.4
Incr Delay (d2), s/veh				0.4	0.5	0.2	2.1	0.1	0.0	0.0	0.8	0.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.1	2.3	0.5	4.5	0.1	0.0	0.0	6.1	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.7	37.4	36.2	9.2	0.1	0.0	0.0	10.2	10.2
LnGrp LOS				D	D	D	A	A	A	A	B	B
Approach Vol, veh/h					168			1096			703	
Approach Delay, s/veh					37.2			3.8			10.2	
Approach LOS					D			A			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	15.0	59.1		15.9		74.1						
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0						
Max Green Setting (Gmax), s	9.0	39.0		24.0		54.0						
Max Q Clear Time (g_c+I1), s	11.0	10.9		4.9		2.0						
Green Ext Time (p_c), s	0.0	4.8		0.8		5.3						

Intersection Summary		
HCM 6th Ctrl Delay		8.9
HCM 6th LOS		A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	89	82	0	0	0	0	0	937	106
Future Volume (veh/h)	0	0	0	89	82	0	0	0	0	0	937	106
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	
Adj Sat Flow, veh/h/ln				1781	1856	0				0	1885	1856
Adj Flow Rate, veh/h				105	80	0				0	1030	111
Peak Hour Factor				0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %				8	3	0				0	1	3
Cap, veh/h				560	306	0				0	2339	252
Arrive On Green				0.17	0.17	0.00				0.00	0.72	0.72
Sat Flow, veh/h				3393	1856	0				0	3356	351
Grp Volume(v), veh/h				105	80	0				0	565	576
Grp Sat Flow(s),veh/h/ln				1697	1856	0				0	1791	1822
Q Serve(g_s), s				2.4	3.4	0.0				0.0	11.7	11.8
Cycle Q Clear(g_c), s				2.4	3.4	0.0				0.0	11.7	11.8
Prop In Lane				1.00		0.00				0.00		0.19
Lane Grp Cap(c), veh/h				560	306	0				0	1284	1307
V/C Ratio(X)				0.19	0.26	0.00				0.00	0.44	0.44
Avail Cap(c_a), veh/h				1312	717	0				0	1284	1307
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				32.4	32.8	0.0				0.0	5.3	5.3
Incr Delay (d2), s/veh				0.2	0.4	0.0				0.0	1.1	1.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				1.8	2.8	0.0				0.0	6.9	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.5	33.2	0.0				0.0	6.4	6.3
LnGrp LOS				C	C	A				A	A	A
Approach Vol, veh/h					185						1141	
Approach Delay, s/veh					32.8						6.3	
Approach LOS					C						A	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	69.9	20.1
Change Period (Y+Rc), s	5.4	* 5.2
Max Green Setting (Gmax), s	44.6	* 35
Max Q Clear Time (g_c+I1), s	13.8	5.4
Green Ext Time (p_c), s	9.3	0.8

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	423	0	0	0	0	0	2389	384	0	0	0
Future Volume (veh/h)	21	423	0	0	0	0	0	2389	384	0	0	0
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				
Adj Sat Flow, veh/h/ln	1900	1870	0				0	1885	1900			
Adj Flow Rate, veh/h	22	445	0				0	2515	384			
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95			
Percent Heavy Veh, %	0	2	0				0	1	0			
Cap, veh/h	305	631	0				0	4027	605			
Arrive On Green	0.17	0.17	0.00				0.00	0.70	0.70			
Sat Flow, veh/h	1810	3741	0				0	5997	861			
Grp Volume(v), veh/h	22	445	0				0	2127	772			
Grp Sat Flow(s),veh/h/ln	1810	1870	0				0	1621	1730			
Q Serve(g_s), s	0.9	10.1	0.0				0.0	20.8	21.6			
Cycle Q Clear(g_c), s	0.9	10.1	0.0				0.0	20.8	21.6			
Prop In Lane	1.00		0.00				0.00		0.50			
Lane Grp Cap(c), veh/h	305	631	0				0	3416	1215			
V/C Ratio(X)	0.07	0.70	0.00				0.00	0.62	0.64			
Avail Cap(c_a), veh/h	728	1505	0				0	3416	1215			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	31.5	35.3	0.0				0.0	7.1	7.2			
Incr Delay (d2), s/veh	0.1	1.5	0.0				0.0	0.9	2.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.7	8.2	0.0				0.0	10.0	11.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	36.7	0.0				0.0	8.0	9.7			
LnGrp LOS	C	D	A				A	A	A			
Approach Vol, veh/h		467						2899				
Approach Delay, s/veh		36.5						8.4				
Approach LOS		D						A				

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	69.0	21.0
Change Period (Y+Rc), s	* 5.8	* 5.8
Max Green Setting (Gmax), s	* 42	* 36
Max Q Clear Time (g_c+I1), s	23.6	12.1
Green Ext Time (p_c), s	17.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	12.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	673	163	0	0	0	0	918	254	134	490	0
Future Volume (veh/h)	45	673	163	0	0	0	0	918	254	134	490	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	1885	1870				0	1885	1900	1900	1870	0
Adj Flow Rate, veh/h	48	716	39				0	977	243	143	521	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	1	2				0	1	0	0	2	0
Cap, veh/h	64	1017	323				0	1537	381	320	2356	0
Arrive On Green	0.20	0.20	0.20				0.00	0.54	0.54	0.11	1.00	0.00
Sat Flow, veh/h	313	4987	1585				0	2938	705	1810	3647	0
Grp Volume(v), veh/h	286	478	39				0	614	606	143	521	0
Grp Sat Flow(s),veh/h/ln	1870	1716	1585				0	1791	1758	1810	1777	0
Q Serve(g_s), s	13.0	11.6	1.8				0.0	21.6	21.7	3.0	0.0	0.0
Cycle Q Clear(g_c), s	13.0	11.6	1.8				0.0	21.6	21.7	3.0	0.0	0.0
Prop In Lane	0.17		1.00				0.00		0.40	1.00		0.00
Lane Grp Cap(c), veh/h	381	699	323				0	968	950	320	2356	0
V/C Ratio(X)	0.75	0.68	0.12				0.00	0.63	0.64	0.45	0.22	0.00
Avail Cap(c_a), veh/h	499	915	423				0	968	950	400	2356	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	0.69	0.69	0.69				0.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	33.7	33.1	29.2				0.0	14.5	14.5	10.9	0.0	0.0
Incr Delay (d2), s/veh	3.2	1.0	0.1				0.0	3.2	3.3	0.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.5	7.8	1.2				0.0	13.8	13.7	1.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	34.1	29.4				0.0	17.6	17.8	11.7	0.2	0.0
LnGrp LOS	D	C	C				A	B	B	B	A	A
Approach Vol, veh/h		803						1220			664	
Approach Delay, s/veh		34.9						17.7			2.7	
Approach LOS		C						B			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	11.0	54.6	24.3	65.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	39.0	24.0	54.0
Max Q Clear Time (g_c+I1), s	15.0	23.7	15.0	2.0
Green Ext Time (p_c), s	0.1	7.5	3.4	4.0

Intersection Summary	
HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	804	287	0	0	0	0	0	0	352	886	0
Future Volume (veh/h)	0	804	287	0	0	0	0	0	0	352	886	0
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	
Adj Sat Flow, veh/h/ln	0	1900	1885							1870	1870	0
Adj Flow Rate, veh/h	0	838	201							367	923	0
Peak Hour Factor	0.96	0.96	0.96							0.96	0.96	0.96
Percent Heavy Veh, %	0	0	1							2	2	0
Cap, veh/h	0	1310	367							1135	3252	0
Arrive On Green	0.00	0.08	0.08							0.21	0.21	0.00
Sat Flow, veh/h	0	5700	1598							1781	5274	0
Grp Volume(v), veh/h	0	838	201							367	923	0
Grp Sat Flow(s),veh/h/ln	0	1900	1598							1781	1702	0
Q Serve(g_s), s	0.0	12.9	10.9							15.7	13.7	0.0
Cycle Q Clear(g_c), s	0.0	12.9	10.9							15.7	13.7	0.0
Prop In Lane	0.00		1.00							1.00		0.00
Lane Grp Cap(c), veh/h	0	1310	367							1135	3252	0
V/C Ratio(X)	0.00	0.64	0.55							0.32	0.28	0.00
Avail Cap(c_a), veh/h	0	1900	533							1135	3252	0
HCM Platoon Ratio	1.00	0.33	0.33							0.33	0.33	1.00
Upstream Filter(I)	0.00	0.74	0.74							0.90	0.90	0.00
Uniform Delay (d), s/veh	0.0	38.0	37.1							19.1	18.3	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.9							0.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.2	7.8							11.9	10.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	38.4	38.0							19.8	18.5	0.0
LnGrp LOS	A	D	D							B	B	A
Approach Vol, veh/h		1039									1290	
Approach Delay, s/veh		38.3									18.9	
Approach LOS		D									B	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	63.3	26.7
Change Period (Y+Rc), s	6.0	6.0
Max Green Setting (Gmax), s	48.0	30.0
Max Q Clear Time (g_c+I1), s	17.7	14.9
Green Ext Time (p_c), s	9.1	5.8

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	684	0	0	0	0	0	1683	806	0	0	0
Future Volume (veh/h)	222	684	0	0	0	0	0	1683	806	0	0	0
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				
Adj Sat Flow, veh/h/ln	1885	1885	0				0	1885	1885			
Adj Flow Rate, veh/h	239	735	0				0	2020	650			
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93			
Percent Heavy Veh, %	1	1	0				0	1	1			
Cap, veh/h	1003	1031	0				0	3349	946			
Arrive On Green	0.09	0.09	0.00				0.00	0.59	0.59			
Sat Flow, veh/h	3483	3676	0				0	5656	1598			
Grp Volume(v), veh/h	239	735	0				0	2020	650			
Grp Sat Flow(s),veh/h/ln	1742	1791	0				0	1885	1598			
Q Serve(g_s), s	5.7	17.9	0.0				0.0	20.4	25.2			
Cycle Q Clear(g_c), s	5.7	17.9	0.0				0.0	20.4	25.2			
Prop In Lane	1.00		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	1003	1031	0				0	3349	946			
V/C Ratio(X)	0.24	0.71	0.00				0.00	0.60	0.69			
Avail Cap(c_a), veh/h	1536	1580	0				0	3349	946			
HCM Platoon Ratio	0.33	0.33	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.82	0.82	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	31.6	37.1	0.0				0.0	11.6	12.6			
Incr Delay (d2), s/veh	0.1	0.8	0.0				0.0	0.8	4.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.5	13.0	0.0				0.0	12.5	14.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	37.9	0.0				0.0	12.5	16.7			
LnGrp LOS	C	D	A				A	B	B			
Approach Vol, veh/h		974						2670				
Approach Delay, s/veh		36.4						13.5				
Approach LOS		D						B				

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	58.8	31.2
Change Period (Y+Rc), s	5.5	* 5.3
Max Green Setting (Gmax), s	39.5	* 40
Max Q Clear Time (g_c+I1), s	27.2	19.9
Green Ext Time (p_c), s	10.9	6.0

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	5	418	0	0	0	0	0	187	447
Future Volume (veh/h)	0	0	0	5	418	0	0	0	0	0	187	447
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	
Adj Sat Flow, veh/h/ln				1900	1870	0				0	1870	1885
Adj Flow Rate, veh/h				5	440	0				0	197	412
Peak Hour Factor				0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %				0	2	0				0	2	1
Cap, veh/h				12	1117	0				0	1149	981
Arrive On Green				0.21	0.21	0.00				0.00	0.61	0.61
Sat Flow, veh/h				56	5384	0				0	1870	1598
Grp Volume(v), veh/h				167	278	0				0	197	412
Grp Sat Flow(s),veh/h/ln				1868	1702	0				0	1870	1598
Q Serve(g_s), s				5.4	4.9	0.0				0.0	3.2	9.4
Cycle Q Clear(g_c), s				5.4	4.9	0.0				0.0	3.2	9.4
Prop In Lane				0.03		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				400	729	0				0	1149	981
V/C Ratio(X)				0.42	0.38	0.00				0.00	0.17	0.42
Avail Cap(c_a), veh/h				507	924	0				0	1149	981
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				0.98	0.98	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				23.7	23.5	0.0				0.0	5.8	7.0
Incr Delay (d2), s/veh				0.7	0.3	0.0				0.0	0.3	1.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.2	3.4	0.0				0.0	2.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				24.4	23.8	0.0				0.0	6.1	8.3
LnGrp LOS				C	C	A				A	A	A
Approach Vol, veh/h					445						609	
Approach Delay, s/veh					24.1						7.6	
Approach LOS					C						A	

Timer - Assigned Phs				4		6						
Phs Duration (G+Y+Rc), s				21.0		49.0						
Change Period (Y+Rc), s				6.0		6.0						
Max Green Setting (Gmax), s				19.0		39.0						
Max Q Clear Time (g_c+I1), s				7.4		11.4						
Green Ext Time (p_c), s				2.1		2.8						

Intersection Summary		
HCM 6th Ctrl Delay	14.6	
HCM 6th LOS	B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	339	353	44	1327	0	0	0	0
Future Volume (veh/h)	0	0	0	0	339	353	44	1327	0	0	0	0
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				
Adj Sat Flow, veh/h/ln				0	1856	1885	1811	1900	0			
Adj Flow Rate, veh/h				0	373	355	48	1458	0			
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %				0	3	1	6	0	0			
Cap, veh/h				0	1389	438	119	3867	0			
Arrive On Green				0.00	0.27	0.27	0.59	0.59	0.00			
Sat Flow, veh/h				0	5233	1598	202	6856	0			
Grp Volume(v), veh/h				0	373	355	448	1058	0			
Grp Sat Flow(s),veh/h/ln				0	1689	1598	1890	1634	0			
Q Serve(g_s), s				0.0	5.2	18.7	11.6	10.2	0.0			
Cycle Q Clear(g_c), s				0.0	5.2	18.7	11.6	10.2	0.0			
Prop In Lane				0.00		1.00	0.11		0.00			
Lane Grp Cap(c), veh/h				0	1389	438	1109	2877	0			
V/C Ratio(X)				0.00	0.27	0.81	0.40	0.37	0.00			
Avail Cap(c_a), veh/h				0	2702	852	1109	2877	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	25.6	30.5	10.1	9.8	0.0			
Incr Delay (d2), s/veh				0.0	0.1	3.6	1.1	0.4	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	3.7	11.9	8.3	6.2	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	25.7	34.1	11.2	10.2	0.0			
LnGrp LOS				A	C	C	B	B	A			
Approach Vol, veh/h					728			1506				
Approach Delay, s/veh					29.8			10.5				
Approach LOS					C			B				
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						59.3		30.7				
Change Period (Y+Rc), s						6.5		6.0				
Max Green Setting (Gmax), s						29.5		48.0				
Max Q Clear Time (g_c+I1), s						13.6		20.7				
Green Ext Time (p_c), s						9.2		4.0				
Intersection Summary												
HCM 6th Ctrl Delay			16.8									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	1111	213	58	260	5	26	290	137	5	340	17
Future Volume (veh/h)	128	1111	213	58	260	5	26	290	137	5	340	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	1145	205	60	268	4	27	299	77	5	351	16
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	2	2	2
Cap, veh/h	729	1927	344	207	1229	20	195	648	164	42	407	18
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1098	2990	533	224	1907	31	1015	2808	711	7	1763	80
Grp Volume(v), veh/h	132	673	677	110	0	222	27	187	189	372	0	0
Grp Sat Flow(s),veh/h/ln	1098	1763	1760	465	0	1697	1015	1777	1742	1850	0	0
Q Serve(g_s), s	5.0	19.7	20.0	5.0	0.0	4.8	0.0	8.2	8.4	2.9	0.0	0.0
Cycle Q Clear(g_c), s	9.8	19.7	20.0	25.0	0.0	4.8	5.0	8.2	8.4	17.4	0.0	0.0
Prop In Lane	1.00		0.30	0.55		0.02	1.00		0.41	0.01		0.04
Lane Grp Cap(c), veh/h	729	1137	1134	362	0	1094	195	410	402	467	0	0
V/C Ratio(X)	0.18	0.59	0.60	0.30	0.00	0.20	0.14	0.46	0.47	0.80	0.00	0.00
Avail Cap(c_a), veh/h	729	1137	1134	362	0	1094	270	541	530	603	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.5	9.2	9.2	9.6	0.0	6.5	28.6	29.8	29.9	33.3	0.0	0.0
Incr Delay (d2), s/veh	0.5	2.3	2.3	2.2	0.0	0.4	0.3	0.8	0.9	5.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	11.7	11.8	1.7	0.0	3.0	0.9	6.3	6.4	13.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	11.5	11.6	11.8	0.0	7.0	28.9	30.6	30.7	39.0	0.0	0.0
LnGrp LOS	A	B	B	B	A	A	C	C	C	D	A	A
Approach Vol, veh/h		1482			332			403			372	
Approach Delay, s/veh		11.3			8.6			30.5			39.0	
Approach LOS		B			A			C			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	63.6	26.4	63.6	26.4
Change Period (Y+Rc), s	5.6	5.6	5.6	5.6
Max Green Setting (Gmax), s	51.4	27.4	51.4	27.4
Max Q Clear Time (g_c+I1), s	22.0	19.4	27.0	10.4
Green Ext Time (p_c), s	12.7	1.4	2.8	2.1

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1999	45	48	873	227	0	428	112	182	173	23
Future Volume (veh/h)	0	1999	45	48	873	227	0	428	112	182	173	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1856	1856	1856	0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	2061	44	49	900	180	0	441	105	188	178	11
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	3	3	3	3	3	0	2	2	2	2	2
Cap, veh/h	0	2200	47	89	1827	364	0	397	95	209	800	678
Arrive On Green	0.00	0.43	0.43	0.86	0.86	0.86	0.00	0.27	0.27	0.07	0.43	0.43
Sat Flow, veh/h	0	5271	109	193	4237	844	0	1460	348	1781	1870	1585
Grp Volume(v), veh/h	0	1363	742	49	717	363	0	0	546	188	178	11
Grp Sat Flow(s),veh/h/ln	0	1689	1836	193	1689	1704	0	0	1808	1781	1870	1585
Q Serve(g_s), s	0.0	34.6	34.8	4.0	4.6	4.6	0.0	0.0	24.5	6.5	5.4	0.4
Cycle Q Clear(g_c), s	0.0	34.6	34.8	38.8	4.6	4.6	0.0	0.0	24.5	6.5	5.4	0.4
Prop In Lane	0.00		0.06	1.00		0.50	0.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	0	1456	791	89	1456	734	0	0	492	209	800	678
V/C Ratio(X)	0.00	0.94	0.94	0.55	0.49	0.49	0.00	0.00	1.11	0.90	0.22	0.02
Avail Cap(c_a), veh/h	0	1456	791	89	1456	734	0	0	492	209	800	678
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.94	0.94	0.94	0.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	24.4	24.4	25.2	3.8	3.8	0.0	0.0	32.8	24.6	16.3	14.8
Incr Delay (d2), s/veh	0.0	11.6	18.6	21.3	1.1	2.2	0.0	0.0	74.0	36.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.7	25.2	2.6	2.3	2.7	0.0	0.0	29.6	8.4	4.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	36.0	43.1	46.6	5.0	6.1	0.0	0.0	106.7	61.1	16.4	14.8
LnGrp LOS	A	D	D	D	A	A	A	A	F	E	B	B
Approach Vol, veh/h		2105			1129			546			377	
Approach Delay, s/veh		38.5			7.1			106.7			38.7	
Approach LOS		D			A			F			D	

Timer - Assigned Phs	2	3	4	6	8
Phs Duration (G+Y+Rc), s	45.0	14.0	31.0	45.0	45.0
Change Period (Y+Rc), s	* 6.2	7.5	6.5	* 6.2	6.5
Max Green Setting (Gmax), s	* 39	6.5	24.5	* 39	38.5
Max Q Clear Time (g_c+I1), s	40.8	8.5	26.5	36.8	7.4
Green Ext Time (p_c), s	0.0	0.0	0.0	1.9	1.1

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1311	1099	1036	1361	0	0	0	0	0	0	0
Future Volume (veh/h)	0	1311	1099	1036	1361	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1870	1841	1885	0				1900	1900	1900
Adj Flow Rate, veh/h	0	1221	969	1102	1448	0				0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	1	2	4	1	0				0	0	0
Cap, veh/h	0	2195	1846	998	4826	0				0	4	2
Arrive On Green	0.00	0.58	0.58	0.59	1.00	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	3770	3170	3401	5316	0				0	3705	1610
Grp Volume(v), veh/h	0	1221	969	1102	1448	0				0	0	0
Grp Sat Flow(s),veh/h/ln	0	1885	1585	1700	1716	0				0	1805	1610
Q Serve(g_s), s	0.0	18.0	16.6	26.4	0.0	0.0				0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	18.0	16.6	26.4	0.0	0.0				0.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h	0	2195	1846	998	4826	0				0	4	2
V/C Ratio(X)	0.00	0.56	0.53	1.10	0.30	0.00				0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	2195	1846	998	4826	0				0	477	213
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.17	0.17	0.84	0.84	0.00				0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.6	11.3	18.6	0.0	0.0				0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	59.7	0.1	0.0				0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.6	6.9	20.5	0.1	0.0				0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.8	11.5	78.3	0.1	0.0				0.0	0.0	0.0
LnGrp LOS	A	B	B	F	A	A				A	A	A
Approach Vol, veh/h		2190			2550						0	
Approach Delay, s/veh		11.7			33.9						0.0	
Approach LOS		B			C							

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	32.0	58.0		0.0		90.0
Change Period (Y+Rc), s	5.6	5.6		6.1		5.6
Max Green Setting (Gmax), s	26.4	34.4		11.9		66.4
Max Q Clear Time (g_c+I1), s	28.4	20.0		0.0		2.0
Green Ext Time (p_c), s	0.0	10.6		0.0		16.7

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑↑	↱	↰↰↰	↑↑↱	↱			
Traffic Volume (veh/h)	0	1360	0	0	1789	17	583	86	871	0	0	0
Future Volume (veh/h)	0	1360	0	0	1789	17	583	86	871	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1885	0	0	1856	1900	1900	1856	1870			
Adj Flow Rate, veh/h	0	1447	0	0	1903	9	620	91	874			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	0	1	0	0	3	0	0	3	2			
Cap, veh/h	0	2837	0	0	3519	888	1652	565	965			
Arrive On Green	0.00	0.18	0.00	0.00	0.55	0.55	0.30	0.30	0.30			
Sat Flow, veh/h	0	5486	0	0	6643	1610	5429	1856	3170			
Grp Volume(v), veh/h	0	1447	0	0	1903	9	620	91	874			
Grp Sat Flow(s),veh/h/ln	0	1716	0	0	1596	1610	1810	1856	1585			
Q Serve(g_s), s	0.0	22.8	0.0	0.0	17.2	0.2	8.1	3.2	23.8			
Cycle Q Clear(g_c), s	0.0	22.8	0.0	0.0	17.2	0.2	8.1	3.2	23.8			
Prop In Lane	0.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	2837	0	0	3519	888	1652	565	965			
V/C Ratio(X)	0.00	0.51	0.00	0.00	0.54	0.01	0.38	0.16	0.91			
Avail Cap(c_a), veh/h	0	2837	0	0	3519	888	1695	579	990			
HCM Platoon Ratio	1.00	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.77	0.77	1.00	1.00	1.00			
Uniform Delay (d), s/veh	0.0	25.9	0.0	0.0	12.9	9.1	24.6	22.9	30.1			
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.5	0.0	0.1	0.1	11.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	12.0	0.0	0.0	9.2	0.1	6.1	2.5	15.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.9	0.0	0.0	13.4	9.1	24.7	23.0	41.6			
LnGrp LOS	A	C	A	A	B	A	C	C	D			
Approach Vol, veh/h		1447			1912			1585				
Approach Delay, s/veh		25.9			13.4			33.9				
Approach LOS		C			B			C				

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		55.7				55.7		34.3				
Change Period (Y+Rc), s		6.1				6.1		6.9				
Max Green Setting (Gmax), s		48.9				48.9		28.1				
Max Q Clear Time (g_c+I1), s		19.2				24.8		25.8				
Green Ext Time (p_c), s		18.7				12.0		1.5				

Intersection Summary		
HCM 6th Ctrl Delay		23.6
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1629	638	0	1625	9	560	32	52	0	0	0
Future Volume (veh/h)	0	1629	638	0	1625	9	560	32	52	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	0	1870	1856	0	1841	1900	1870	1900	1856			
Adj Flow Rate, veh/h	0	1662	404	0	1658	9	640	0	0			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	2	3	0	4	0	2	0	3			
Cap, veh/h	0	2261	1000	0	3281	18	782	417	0			
Arrive On Green	0.00	1.00	1.00	0.00	0.64	0.64	0.22	0.00	0.00			
Sat Flow, veh/h	0	3647	1572	0	5323	28	3563	1900	0			
Grp Volume(v), veh/h	0	1662	404	0	1077	590	640	0	0			
Grp Sat Flow(s),veh/h/ln	0	1777	1572	0	1675	1836	1781	1900	0			
Q Serve(g_s), s	0.0	0.0	0.0	0.0	15.5	15.5	15.4	0.0	0.0			
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	15.5	15.5	15.4	0.0	0.0			
Prop In Lane	0.00		1.00	0.00		0.02	1.00		0.00			
Lane Grp Cap(c), veh/h	0	2261	1000	0	2131	1168	782	417	0			
V/C Ratio(X)	0.00	0.74	0.40	0.00	0.51	0.51	0.82	0.00	0.00			
Avail Cap(c_a), veh/h	0	2261	1000	0	2131	1168	1484	792	0			
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.00	0.73	0.73	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	8.8	8.8	33.4	0.0	0.0			
Incr Delay (d2), s/veh	0.0	1.6	0.9	0.0	0.2	0.4	2.2	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	0.0	0.9	0.4	0.0	8.7	9.4	11.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.6	0.9	0.0	9.0	9.1	35.6	0.0	0.0			
LnGrp LOS	A	A	A	A	A	A	D	A	A			
Approach Vol, veh/h		2066			1667			640				
Approach Delay, s/veh		1.5			9.0			35.6				
Approach LOS		A			A			D				

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	63.8	26.2	63.8
Change Period (Y+Rc), s	6.5	6.5	6.5
Max Green Setting (Gmax), s	39.5	37.5	39.5
Max Q Clear Time (g_c+I1), s	2.0	17.4	17.5
Green Ext Time (p_c), s	21.8	2.4	12.7

Intersection Summary	
HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	369	0	1	191	0	0	0	13	332	20	152
Future Volume (veh/h)	0	369	0	1	191	0	0	0	13	332	20	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1900	1900	1885	0	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	388	0	1	201	0	0	0	0	364	0	28
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	0	1	0	0	0	0	0	0	0
Cap, veh/h	0	533	0	37	526	0	0	2	0	543	0	242
Arrive On Green	0.00	0.15	0.00	0.15	0.15	0.00	0.00	0.00	0.00	0.15	0.00	0.15
Sat Flow, veh/h	0	3741	0	3	3594	0	0	1900	0	3619	0	1610
Grp Volume(v), veh/h	0	388	0	108	94	0	0	0	0	364	0	28
Grp Sat Flow(s),veh/h/ln	0	1777	0	1882	1630	0	0	1900	0	1810	0	1610
Q Serve(g_s), s	0.0	10.4	0.0	0.0	5.2	0.0	0.0	0.0	0.0	9.5	0.0	1.5
Cycle Q Clear(g_c), s	0.0	10.4	0.0	5.2	5.2	0.0	0.0	0.0	0.0	9.5	0.0	1.5
Prop In Lane	0.00		0.00	0.01		0.00	0.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	533	0	319	244	0	0	2	0	543	0	242
V/C Ratio(X)	0.00	0.73	0.00	0.34	0.38	0.00	0.00	0.00	0.00	0.67	0.00	0.12
Avail Cap(c_a), veh/h	0	1066	0	599	489	0	0	276	0	1393	0	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	40.6	0.0	38.3	38.3	0.0	0.0	0.0	0.0	40.2	0.0	36.8
Incr Delay (d2), s/veh	0.0	1.9	0.0	2.9	4.5	0.0	0.0	0.0	0.0	1.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.2	0.0	4.7	4.3	0.0	0.0	0.0	0.0	7.7	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	42.5	0.0	41.2	42.8	0.0	0.0	0.0	0.0	41.6	0.0	37.0
LnGrp LOS	A	D	A	D	D	A	A	A	A	D	A	D
Approach Vol, veh/h		388			202			0			392	
Approach Delay, s/veh		42.5			42.0			0.0			41.3	
Approach LOS		D			D						D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	21.0	0.0	21.0	20.5
Change Period (Y+Rc), s	6.0	5.5	6.0	5.5
Max Green Setting (Gmax), s	30.0	14.5	30.0	38.5
Max Q Clear Time (g_c+I1), s	12.4	0.0	7.2	11.5
Green Ext Time (p_c), s	2.3	0.0	1.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

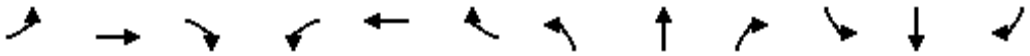
Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	659	192	0	0	200	352	0	0	0	0	0	0
Future Vol, veh/h	659	192	0	0	200	352	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	None
Storage Length	200	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	0	0	4	2	0	0	0	0	0	0
Mvmt Flow	701	204	0	0	213	374	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	213	0	-	-	-	0	1713	1819	102
Stage 1	-	-	-	-	-	-	1606	1606	-
Stage 2	-	-	-	-	-	-	107	213	-
Critical Hdwy	4.14	-	-	-	-	-	6.8	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	5.5	-
Follow-up Hdwy	2.22	-	-	-	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1355	-	0	0	-	-	83	79	940
Stage 1	-	-	0	0	-	-	153	166	-
Stage 2	-	-	0	0	-	-	912	730	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1355	-	-	-	-	-	40	0	940
Mov Cap-2 Maneuver	-	-	-	-	-	-	40	0	-
Stage 1	-	-	-	-	-	-	74	0	-
Stage 2	-	-	-	-	-	-	912	0	-

Approach	EB	WB	NB
HCM Control Delay, s	8.1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	-	1355	-	-	-
HCM Lane V/C Ratio	-	0.517	-	-	-
HCM Control Delay (s)	0	10.5	-	-	-
HCM Lane LOS	A	B	-	-	-
HCM 95th %tile Q(veh)	-	3.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	0	57	263	0	474	7	601	0	0	935	17
Future Volume (veh/h)	37	0	57	263	0	474	7	601	0	0	935	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	0	1900	1870	1900	1841	1900	1885	0	0	1870	1781
Adj Flow Rate, veh/h	38	0	5	271	0	157	7	620	0	0	964	16
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	2	0	4	0	1	0	0	2	8
Cap, veh/h	0	0	0	297	0	265	58	2351	0	0	2412	40
Arrive On Green	0.00	0.00	0.00	0.16	0.00	0.16	0.67	0.67	0.00	0.00	0.67	0.67
Sat Flow, veh/h		0		1810	0	1610	9	3572	0	0	3671	59
Grp Volume(v), veh/h		0.0		271	0	157	335	292	0	0	479	501
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1865	1630	0	0	1777	1860
Q Serve(g_s), s				10.3	0.0	6.3	0.0	5.0	0.0	0.0	8.4	8.4
Cycle Q Clear(g_c), s				10.3	0.0	6.3	4.9	5.0	0.0	0.0	8.4	8.4
Prop In Lane				1.00		1.00	0.02		0.00	0.00		0.03
Lane Grp Cap(c), veh/h				297	0	265	1310	1099	0	0	1198	1254
V/C Ratio(X)				0.91	0.00	0.59	0.26	0.27	0.00	0.00	0.40	0.40
Avail Cap(c_a), veh/h				297	0	265	1310	1099	0	0	1198	1254
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				28.8	0.0	27.1	4.5	4.5	0.0	0.0	5.1	5.1
Incr Delay (d2), s/veh				30.5	0.0	3.5	0.5	0.6	0.0	0.0	1.0	1.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				11.0	0.0	4.6	2.8	2.5	0.0	0.0	4.6	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				59.2	0.0	30.6	5.0	5.1	0.0	0.0	6.1	6.0
LnGrp LOS				E	A	C	A	A	A	A	A	A
Approach Vol, veh/h					428			627			980	
Approach Delay, s/veh					48.7			5.0			6.1	
Approach LOS					D			A			A	

Timer - Assigned Phs	2			6		8						
Phs Duration (G+Y+Rc), s	53.0			53.0		17.0						
Change Period (Y+Rc), s	* 5.8			* 5.8		5.5						
Max Green Setting (Gmax), s	* 27			* 26		11.5						
Max Q Clear Time (g_c+I1), s	7.0			10.4		12.3						
Green Ext Time (p_c), s	3.8			5.8		0.0						

Intersection Summary												
HCM 6th Ctrl Delay		14.7										
HCM 6th LOS		B										

Notes

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

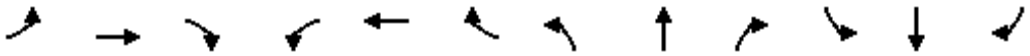
Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑	↱	↰	↑↑					↱
Traffic Vol, veh/h	0	658	583	151	365	0	0	0	0	0
Future Vol, veh/h	0	658	583	151	365	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	None	-	-
Storage Length	-	-	80	220	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	1	1	0	2	0	0	0	0	0
Mvmt Flow	0	700	620	161	388	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2	
Conflicting Flow All	-	0	0	700	0	0	-	194
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.1	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	906	-	0	0	821
Stage 1	0	-	-	-	-	0	0	-
Stage 2	0	-	-	-	-	0	0	-
Platoon blocked, %		-	-		-			
Mov Cap-1 Maneuver	-	-	-	906	-	-	-	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay, s	0	2.9	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SELn1
Capacity (veh/h)	-	-	906	-	-
HCM Lane V/C Ratio	-	-	0.177	-	-
HCM Control Delay (s)	-	-	9.8	-	0
HCM Lane LOS	-	-	A	-	A
HCM 95th %tile Q(veh)	-	-	0.6	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	635	0	0	0	0	105	87	86	0	0	0
Future Volume (veh/h)	15	635	0	0	0	0	105	87	86	0	0	0
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				
Adj Sat Flow, veh/h/ln	1900	1885	0				1900	1900	1870			
Adj Flow Rate, veh/h	17	706	0				117	97	53			
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90			
Percent Heavy Veh, %	0	1	0				0	0	2			
Cap, veh/h	23	995	0				557	462	874			
Arrive On Green	0.28	0.28	0.00				0.55	0.55	0.55			
Sat Flow, veh/h	83	3684	0				1011	838	1585			
Grp Volume(v), veh/h	387	336	0				214	0	53			
Grp Sat Flow(s),veh/h/ln	1881	1791	0				1849	0	1585			
Q Serve(g_s), s	13.1	11.7	0.0				4.1	0.0	1.1			
Cycle Q Clear(g_c), s	13.1	11.7	0.0				4.1	0.0	1.1			
Prop In Lane	0.04		0.00				0.55		1.00			
Lane Grp Cap(c), veh/h	522	497	0				1020	0	874			
V/C Ratio(X)	0.74	0.68	0.00				0.21	0.00	0.06			
Avail Cap(c_a), veh/h	887	844	0				1020	0	874			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				1.00	0.00	1.00			
Uniform Delay (d), s/veh	23.0	22.5	0.0				8.0	0.0	7.3			
Incr Delay (d2), s/veh	2.1	1.6	0.0				0.5	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	9.7	8.4	0.0				2.8	0.0	0.6			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	24.1	0.0				8.4	0.0	7.4			
LnGrp LOS	C	C	A				A	A	A			
Approach Vol, veh/h		723						267				
Approach Delay, s/veh		24.7						8.2				
Approach LOS		C						A				

Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		44.6		25.4								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		25.0		33.0								
Max Q Clear Time (g_c+I1), s		6.1		15.1								
Green Ext Time (p_c), s		1.3		4.3								

Intersection Summary												
HCM 6th Ctrl Delay			20.2									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	448	4	919	160	628	0	0	1026	442
Future Volume (veh/h)	0	0	0	448	4	919	160	628	0	0	1026	442
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1500	1900	1826	1500	1826	0	0	1796	1870
Adj Flow Rate, veh/h				480	0	878	170	668	0	0	1091	123
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				27	0	5	27	5	0	0	7	2
Cap, veh/h				1236	0	669	161	1518	0	0	896	416
Arrive On Green				0.43	0.00	0.43	0.04	0.14	0.00	0.00	0.26	0.26
Sat Flow, veh/h				2857	0	1547	1428	3561	0	0	3503	1585
Grp Volume(v), veh/h				480	0	878	170	668	0	0	1091	123
Grp Sat Flow(s),veh/h/ln				1428	0	1547	1428	1735	0	0	1706	1585
Q Serve(g_s), s				9.2	0.0	34.6	9.0	14.1	0.0	0.0	21.0	5.0
Cycle Q Clear(g_c), s				9.2	0.0	34.6	9.0	14.1	0.0	0.0	21.0	5.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1236	0	669	161	1518	0	0	896	416
V/C Ratio(X)				0.39	0.00	1.31	1.06	0.44	0.00	0.00	1.22	0.30
Avail Cap(c_a), veh/h				1236	0	669	161	1518	0	0	896	416
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.64	0.64	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.5	0.0	22.7	38.5	25.3	0.0	0.0	29.5	23.6
Incr Delay (d2), s/veh				0.2	0.0	150.9	72.9	0.6	0.0	0.0	108.2	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.1	0.0	75.3	10.2	9.9	0.0	0.0	32.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.7	0.0	173.6	111.4	25.9	0.0	0.0	137.7	25.4
LnGrp LOS				B	A	F	F	C	A	A	F	C
Approach Vol, veh/h					1358			838			1214	
Approach Delay, s/veh					117.8			43.2			126.3	
Approach LOS					F			D			F	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	40.0	40.0	14.0	26.0
Change Period (Y+Rc), s	5.0	* 5.4	5.0	5.0
Max Green Setting (Gmax), s	35.0	* 35	9.0	21.0
Max Q Clear Time (g_c+I1), s	16.1	36.6	11.0	23.0
Green Ext Time (p_c), s	4.5	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	102.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	1	119	0	0	0	0	514	833	738	836	0
Future Volume (veh/h)	251	1	119	0	0	0	0	514	833	738	836	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1263				0	1752	1796	1856	1589	0
Adj Flow Rate, veh/h	267	1	26				0	547	0	785	889	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	43				0	10	7	3	21	0
Cap, veh/h	315	11	276				0	1075		596	2145	0
Arrive On Green	0.18	0.18	0.18				0.00	0.11	0.00	0.11	0.23	0.00
Sat Flow, veh/h	1781	60	1559				0	3416	1522	1767	3098	0
Grp Volume(v), veh/h	267	0	27				0	547	0	785	889	0
Grp Sat Flow(s),veh/h/ln	1781	0	1619				0	1664	1522	1767	1509	0
Q Serve(g_s), s	11.6	0.0	1.1				0.0	12.4	0.0	27.0	20.0	0.0
Cycle Q Clear(g_c), s	11.6	0.0	1.1				0.0	12.4	0.0	27.0	20.0	0.0
Prop In Lane	1.00		0.96				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	315	0	287				0	1075		596	2145	0
V/C Ratio(X)	0.85	0.00	0.09				0.00	0.51		1.32	0.41	0.00
Avail Cap(c_a), veh/h	468	0	425				0	1075		596	2145	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	0.33	0.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.81	0.00	0.09	0.09	0.00
Uniform Delay (d), s/veh	31.9	0.0	27.6				0.0	29.7	0.0	35.5	16.5	0.0
Incr Delay (d2), s/veh	9.1	0.0	0.1				0.0	1.4	0.0	143.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.5	0.0	0.8				0.0	9.2	0.0	47.4	9.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.0	0.0	27.7				0.0	31.1	0.0	178.9	16.6	0.0
LnGrp LOS	D	A	C				A	C		F	B	A
Approach Vol, veh/h		294						547			1674	
Approach Delay, s/veh		39.8						31.1			92.7	
Approach LOS		D						C			F	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	31.0	30.8	18.2	61.8
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5
Max Green Setting (Gmax), s	27.0	19.0	21.0	* 51
Max Q Clear Time (g_c+I1), s	29.0	14.4	13.6	22.0
Green Ext Time (p_c), s	0.0	1.5	0.6	7.4

Intersection Summary	
HCM 6th Ctrl Delay	73.1
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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	571	138	209	446	212	104	170	312	251	235	80
Future Volume (veh/h)	76	571	138	209	446	212	104	170	312	251	235	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1515	1811	1633	1574	1604	1589	1737	1722	1693	1737	1826	1796
Adj Flow Rate, veh/h	87	656	129	240	513	88	120	195	73	289	270	22
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	26	6	18	22	20	21	11	12	14	11	5	7
Cap, veh/h	176	722	142	266	479	402	483	666	241	530	1189	522
Arrive On Green	0.06	0.25	0.25	0.11	0.30	0.30	0.07	0.28	0.28	0.04	0.11	0.11
Sat Flow, veh/h	1443	2867	563	1499	1604	1346	1654	2353	852	1654	3469	1522
Grp Volume(v), veh/h	87	393	392	240	513	88	120	134	134	289	270	22
Grp Sat Flow(s),veh/h/ln	1443	1721	1710	1499	1604	1346	1654	1636	1569	1654	1735	1522
Q Serve(g_s), s	3.5	17.7	17.8	8.5	23.9	3.9	4.0	5.1	5.4	9.2	5.7	1.0
Cycle Q Clear(g_c), s	3.5	17.7	17.8	8.5	23.9	3.9	4.0	5.1	5.4	9.2	5.7	1.0
Prop In Lane	1.00		0.33	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	176	434	431	266	479	402	483	463	444	530	1189	522
V/C Ratio(X)	0.49	0.91	0.91	0.90	1.07	0.22	0.25	0.29	0.30	0.55	0.23	0.04
Avail Cap(c_a), veh/h	243	441	438	266	479	402	582	463	444	530	1189	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	22.7	29.0	29.0	22.4	28.1	21.1	18.0	22.4	22.5	17.2	25.8	23.8
Incr Delay (d2), s/veh	2.1	22.1	22.5	30.7	61.6	0.3	0.3	1.6	1.8	1.0	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	14.8	14.8	9.1	24.6	2.2	2.7	3.8	3.8	7.0	4.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	51.1	51.5	53.0	89.6	21.3	18.2	24.0	24.2	18.3	26.2	23.9
LnGrp LOS	C	D	D	D	F	C	B	C	C	B	C	C
Approach Vol, veh/h		872			841			388			581	
Approach Delay, s/veh		48.7			72.1			22.3			22.2	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	33.1	12.0	25.7	14.0	28.3	8.3	29.4
Change Period (Y+Rc), s	3.5	5.7	3.5	5.5	3.5	5.7	3.5	5.5
Max Green Setting (Gmax), s	10.5	22.3	8.5	20.5	10.5	22.3	8.5	20.5
Max Q Clear Time (g_c+I1), s	6.5	7.7	10.5	19.8	11.2	7.4	5.5	25.9
Green Ext Time (p_c), s	0.1	1.5	0.0	0.4	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.4
HCM 6th LOS	D



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	110	512	670	111	402	470
Future Volume (vph)	110	512	670	111	402	470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	6.0	6.0
Lane Util. Factor	0.95			0.95	0.97	1.00
Frt	0.88			1.00	1.00	0.85
Flt Protected	1.00			0.96	0.95	1.00
Satd. Flow (prot)	2946			3361	3045	1495
Flt Permitted	1.00			0.54	0.95	1.00
Satd. Flow (perm)	2946			1893	3045	1495
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	113	528	691	114	414	485
RTOR Reduction (vph)	184	0	0	0	0	389
Lane Group Flow (vph)	457	0	0	805	414	96
Heavy Vehicles (%)	0%	9%	3%	3%	15%	8%
Turn Type	NA		pm+pt	NA	Prot	Prot
Protected Phases	2		1	6	4	4
Permitted Phases			6			
Actuated Green, G (s)	52.1			52.1	15.9	15.9
Effective Green, g (s)	52.1			52.1	15.9	15.9
Actuated g/C Ratio	0.65			0.65	0.20	0.20
Clearance Time (s)	6.0			6.0	6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1918			1232	605	297
v/s Ratio Prot	0.16				c0.14	0.06
v/s Ratio Perm				c0.43		
v/c Ratio	0.24			1.42dl	0.68	0.32
Uniform Delay, d1	5.8			8.5	29.7	27.5
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			1.3	3.2	0.6
Delay (s)	5.8			9.7	32.9	28.1
Level of Service	A			A	C	C
Approach Delay (s)	5.8			9.7	30.3	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	83.2%	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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	281	406	511	484	790	361
Future Volume (veh/h)	281	406	511	484	790	361
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	1752	1589	1856	1781	1841	1811
Adj Flow Rate, veh/h	299	0	544	515	840	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	10	21	3	8	4	6
Cap, veh/h	341		510	2264	2301	
Arrive On Green	0.20	0.00	0.10	0.45	0.46	0.00
Sat Flow, veh/h	1668	1346	3428	3474	5191	1535
Grp Volume(v), veh/h	299	0	544	515	840	0
Grp Sat Flow(s),veh/h/ln	1668	1346	1714	1692	1675	1535
Q Serve(g_s), s	15.6	0.0	13.4	8.4	9.8	0.0
Cycle Q Clear(g_c), s	15.6	0.0	13.4	8.4	9.8	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	341		510	2264	2301	
V/C Ratio(X)	0.88		1.07	0.23	0.37	
Avail Cap(c_a), veh/h	575		510	2264	2301	
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.7	0.0	40.5	10.5	15.9	0.0
Incr Delay (d2), s/veh	8.1	0.0	58.5	0.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.4	0.0	15.5	5.2	6.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.8	0.0	99.0	10.8	16.3	0.0
LnGrp LOS	D		F	B	B	
Approach Vol, veh/h	299			1059	840	
Approach Delay, s/veh	42.8			56.1	16.3	
Approach LOS	D			E	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.6		24.4	19.0	46.6
Change Period (Y+Rc), s		5.4		6.0	5.6	5.4
Max Green Setting (Gmax), s		47.6		31.0	13.4	28.6
Max Q Clear Time (g_c+I1), s		10.4		17.6	15.4	11.8
Green Ext Time (p_c), s		3.6		0.8	0.0	5.1

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	0	251	0	0	5	544	790	0	0	780	402
Future Volume (veh/h)	161	0	251	0	0	5	544	790	0	0	780	402
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1900	1856	1900	1900	1900	1811	1826	1900	1900	1722	1841
Adj Flow Rate, veh/h	166	0	0	0	0	0	561	814	0	0	804	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	11	0	3	0	0	0	6	5	0	0	12	4
Cap, veh/h	245	0		0	2	0	669	2776	0	80	2515	
Arrive On Green	0.07	0.00	0.00	0.00	0.00	0.00	0.20	0.80	0.00	0.00	0.18	0.00
Sat Flow, veh/h	3309	0	1572	0	1900	0	3346	3561	0	681	4701	1560
Grp Volume(v), veh/h	166	0	0	0	0	0	561	814	0	0	804	0
Grp Sat Flow(s),veh/h/ln	1654	0	1572	0	1900	0	1673	1735	0	681	1567	1560
Q Serve(g_s), s	4.4	0.0	0.0	0.0	0.0	0.0	14.5	5.5	0.0	0.0	13.4	0.0
Cycle Q Clear(g_c), s	4.4	0.0	0.0	0.0	0.0	0.0	14.5	5.5	0.0	0.0	13.4	0.0
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	245	0		0	2	0	669	2776	0	80	2515	
V/C Ratio(X)	0.68	0.00		0.00	0.00	0.00	0.84	0.29	0.00	0.00	0.32	
Avail Cap(c_a), veh/h	647	0		0	106	0	933	2776	0	80	2515	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	40.6	0.0	0.0	0.0	0.0	0.0	34.6	2.3	0.0	0.0	22.8	0.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	0.0	0.0	0.0	4.9	0.3	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	0.0	0.0	0.0	0.0	0.0	10.3	2.2	0.0	0.0	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	0.0	0.0	0.0	0.0	0.0	39.5	2.6	0.0	0.0	23.1	0.0
LnGrp LOS	D	A		A	A	A	D	A	A	A	C	
Approach Vol, veh/h		166			0			1375			804	
Approach Delay, s/veh		43.9			0.0			17.7			23.1	
Approach LOS		D						B			C	

Timer - Assigned Phs	2		4	5	6		8					
Phs Duration (G+Y+Rc), s	77.9		12.1	23.9	54.0		0.0					
Change Period (Y+Rc), s	5.9		5.4	5.9	5.9		6.0					
Max Green Setting (Gmax), s	50.1		17.6	25.1	19.1		5.0					
Max Q Clear Time (g_c+I1), s	7.5		6.4	16.5	15.4		0.0					
Green Ext Time (p_c), s	7.0		0.4	1.5	1.8		0.0					

Intersection Summary		
HCM 6th Ctrl Delay	21.4	
HCM 6th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	74	107	98	56	0	0	0	0	52	2385	4
Future Volume (veh/h)	0	74	107	98	56	0	0	0	0	52	2385	4
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1841	1826	1841	1633	0				1811	1856	1900
Adj Flow Rate, veh/h	0	83	113	110	63	0				58	2680	4
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %	0	4	5	4	18	0				6	3	0
Cap, veh/h	0	312	278	199	553	0				76	3761	6
Arrive On Green	0.00	0.18	0.18	0.18	0.18	0.00				0.71	0.71	0.71
Sat Flow, veh/h	0	1841	1560	1168	3185	0				107	5277	8
Grp Volume(v), veh/h	0	83	113	110	63	0				1001	830	911
Grp Sat Flow(s),veh/h/ln	0	1749	1560	1168	1552	0				1850	1689	1854
Q Serve(g_s), s	0.0	4.5	7.1	10.1	1.9	0.0				37.3	30.5	30.6
Cycle Q Clear(g_c), s	0.0	4.5	7.1	17.2	1.9	0.0				37.3	30.5	30.6
Prop In Lane	0.00		1.00	1.00		0.00				0.06		0.00
Lane Grp Cap(c), veh/h	0	312	278	199	553	0				1319	1203	1321
V/C Ratio(X)	0.00	0.27	0.41	0.55	0.11	0.00				0.76	0.69	0.69
Avail Cap(c_a), veh/h	0	429	383	277	762	0				1319	1203	1321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.74	0.74	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	39.0	40.0	47.7	37.9	0.0				9.9	8.9	8.9
Incr Delay (d2), s/veh	0.0	0.5	1.0	1.8	0.1	0.0				4.1	3.2	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	3.6	5.0	5.5	1.3	0.0				20.6	16.1	17.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	39.4	41.0	49.4	38.0	0.0				14.0	12.2	11.9
LnGrp LOS	A	D	D	D	D	A				B	B	B
Approach Vol, veh/h		196			173						2742	
Approach Delay, s/veh		40.3			45.3						12.8	
Approach LOS		D			D						B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	84.4	25.6	25.6
Change Period (Y+Rc), s	6.0	6.0	6.0
Max Green Setting (Gmax), s	71.0	27.0	27.0
Max Q Clear Time (g_c+I1), s	39.3	9.1	19.2
Green Ext Time (p_c), s	26.8	1.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	163	0	0	175	74	9	789	25	0	0	0
Future Volume (veh/h)	19	163	0	0	175	74	9	789	25	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1885	0	0	1841	1900	1900	1885	1515			
Adj Flow Rate, veh/h	21	181	0	0	194	26	10	877	26			
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Percent Heavy Veh, %	0	1	0	0	4	0	0	1	26			
Cap, veh/h	54	295	0	0	322	43	56	5273	160			
Arrive On Green	0.21	0.21	0.00	0.00	0.10	0.10	0.26	0.26	0.26			
Sat Flow, veh/h	144	2929	0	0	3197	411	71	6698	203			
Grp Volume(v), veh/h	101	101	0	0	108	112	263	413	237			
Grp Sat Flow(s),veh/h/ln	1358	1630	0	0	1749	1767	1882	1621	1849			
Q Serve(g_s), s	1.8	6.1	0.0	0.0	6.5	6.7	12.0	10.8	10.9			
Cycle Q Clear(g_c), s	8.5	6.1	0.0	0.0	6.5	6.7	12.0	10.8	10.9			
Prop In Lane	0.21		0.00	0.00		0.23	0.04		0.11			
Lane Grp Cap(c), veh/h	180	169	0	0	181	183	1481	2552	1455			
V/C Ratio(X)	0.56	0.59	0.00	0.00	0.60	0.61	0.18	0.16	0.16			
Avail Cap(c_a), veh/h	418	400	0	0	429	434	1481	2552	1455			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33			
Upstream Filter(I)	0.90	0.90	0.00	0.00	1.00	1.00	0.95	0.95	0.95			
Uniform Delay (d), s/veh	41.8	41.5	0.0	0.0	47.1	47.2	13.1	12.7	12.7			
Incr Delay (d2), s/veh	2.5	3.0	0.0	0.0	3.1	3.3	0.2	0.1	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	4.5	4.4	0.0	0.0	5.4	5.6	10.1	8.2	9.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	44.5	0.0	0.0	50.2	50.4	13.3	12.8	12.9			
LnGrp LOS	D	D	A	A	D	D	B	B	B			
Approach Vol, veh/h		202			220			913				
Approach Delay, s/veh		44.4			50.3			13.0				
Approach LOS		D			D			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		92.6		17.4				17.4				
Change Period (Y+Rc), s		6.0		6.0				6.0				
Max Green Setting (Gmax), s		71.0		27.0				27.0				
Max Q Clear Time (g_c+I1), s		14.0		10.5				8.7				
Green Ext Time (p_c), s		7.1		0.9				1.1				
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	196	1	29	61	0	0	0	0	456	602	105
Future Volume (veh/h)	0	196	1	29	61	0	0	0	0	456	602	105
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1752	1900	1826	1870	0				1900	1885	1796
Adj Flow Rate, veh/h	0	209	0	31	65	0				485	640	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	10	0	5	2	0				0	1	7
Cap, veh/h	0	1661	0	636	1774	0				627	1241	528
Arrive On Green	0.00	0.50	0.00	0.50	0.50	0.00				0.35	0.35	0.35
Sat Flow, veh/h	0	3504	0	1145	3647	0				1810	3582	1522
Grp Volume(v), veh/h	0	209	0	31	65	0				485	640	45
Grp Sat Flow(s),veh/h/ln	0	1664	0	1145	1777	0				1810	1791	1522
Q Serve(g_s), s	0.0	2.3	0.0	1.0	0.7	0.0				16.7	10.0	1.4
Cycle Q Clear(g_c), s	0.0	2.3	0.0	3.4	0.7	0.0				16.7	10.0	1.4
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1661	0	636	1774	0				627	1241	528
V/C Ratio(X)	0.00	0.13	0.00	0.05	0.04	0.00				0.77	0.52	0.09
Avail Cap(c_a), veh/h	0	1661	0	636	1774	0				871	1724	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.00	0.99	0.99	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	9.4	0.0	10.3	8.9	0.0				20.4	18.2	15.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0				2.9	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	1.4	0.0	0.5	0.4	0.0				11.4	7.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.4	0.0	10.4	9.0	0.0				23.3	18.5	15.5
LnGrp LOS	A	A	A	B	A	A				C	B	B
Approach Vol, veh/h		209			96						1170	
Approach Delay, s/veh		9.4			9.4						20.4	
Approach LOS		A			A						C	

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	40.4	29.6	40.4
Change Period (Y+Rc), s	5.5	* 5.3	5.5
Max Green Setting (Gmax), s	25.5	* 34	25.5
Max Q Clear Time (g_c+I1), s	5.4	18.7	4.3
Green Ext Time (p_c), s	0.4	5.5	1.2

Intersection Summary	
HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	639	0	0	270	30	3	122	12	0	0	0
Future Volume (veh/h)	50	639	0	0	270	30	3	122	12	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1544	1885	0	0	1870	1618	1900	1811	1900			
Adj Flow Rate, veh/h	58	743	0	0	314	27	3	142	2			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86			
Percent Heavy Veh, %	24	1	0	0	2	19	0	6	0			
Cap, veh/h	184	2244	0	0	2329	199	14	715	230			
Arrive On Green	0.70	0.70	0.00	0.00	0.70	0.70	0.14	0.14	0.14			
Sat Flow, veh/h	179	3279	0	0	3407	283	99	5003	1610			
Grp Volume(v), veh/h	416	385	0	0	167	174	55	90	2			
Grp Sat Flow(s),veh/h/ln	1742	1630	0	0	1777	1819	1806	1648	1610			
Q Serve(g_s), s	0.0	6.4	0.0	0.0	2.2	2.2	1.9	1.7	0.1			
Cycle Q Clear(g_c), s	5.9	6.4	0.0	0.0	2.2	2.2	1.9	1.7	0.1			
Prop In Lane	0.14		0.00	0.00		0.16	0.05		1.00			
Lane Grp Cap(c), veh/h	1283	1145	0	0	1249	1279	258	471	230			
V/C Ratio(X)	0.32	0.34	0.00	0.00	0.13	0.14	0.21	0.19	0.01			
Avail Cap(c_a), veh/h	1283	1145	0	0	1249	1279	586	1069	522			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.86	0.86	0.00	0.00	0.96	0.96	1.00	1.00	1.00			
Uniform Delay (d), s/veh	4.0	4.0	0.0	0.0	3.4	3.4	26.5	26.4	25.7			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.2	0.4	0.2	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	2.8	2.7	0.0	0.0	1.1	1.1	1.4	1.2	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.1	4.2	0.0	0.0	3.6	3.6	26.9	26.6	25.8			
LnGrp LOS	A	A	A	A	A	A	C	C	C			
Approach Vol, veh/h		801			341			147				
Approach Delay, s/veh		4.1			3.6			26.7				
Approach LOS		A			A			C				
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		54.7				54.7		15.3				
Change Period (Y+Rc), s		5.5				5.5		5.3				
Max Green Setting (Gmax), s		36.5				36.5		22.7				
Max Q Clear Time (g_c+I1), s		4.2				8.4		3.9				
Green Ext Time (p_c), s		2.1				5.7		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			6.6									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	520	105	54	114	95	16	115	57	36	53	15
Future Volume (veh/h)	19	520	105	54	114	95	16	115	57	36	53	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1885	1900	1826	1826	1856	1900	1826	1856	1841	1900	1900
Adj Flow Rate, veh/h	19	525	82	55	115	25	16	116	35	36	54	9
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	1	0	5	5	3	0	5	3	4	0	0
Cap, veh/h	56	781	120	160	413	411	204	1405	413	643	1080	190
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.61	0.61	0.61	0.61	0.61	0.61
Sat Flow, veh/h	51	2984	458	305	1578	1572	259	2322	682	949	1785	314
Grp Volume(v), veh/h	333	0	293	55	115	25	88	0	79	51	0	48
Grp Sat Flow(s),veh/h/ln	1860	0	1633	305	1578	1572	1723	0	1539	1375	0	1672
Q Serve(g_s), s	2.3	0.0	14.5	6.0	5.2	1.1	0.0	0.0	1.9	0.2	0.0	1.0
Cycle Q Clear(g_c), s	14.4	0.0	14.5	20.5	5.2	1.1	1.8	0.0	1.9	2.2	0.0	1.0
Prop In Lane	0.06		0.28	1.00		1.00	0.18		0.44	0.71		0.19
Lane Grp Cap(c), veh/h	529	0	427	160	413	411	1090	0	931	900	0	1012
V/C Ratio(X)	0.63	0.00	0.68	0.34	0.28	0.06	0.08	0.00	0.08	0.06	0.00	0.05
Avail Cap(c_a), veh/h	844	0	708	296	684	681	1090	0	931	900	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.00	0.94	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.8	0.0	29.9	39.1	26.5	24.9	7.4	0.0	7.4	7.3	0.0	7.2
Incr Delay (d2), s/veh	1.2	0.0	1.8	1.2	0.3	0.1	0.1	0.0	0.2	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.0	9.6	2.2	3.5	0.7	1.2	0.0	1.1	0.7	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	31.7	40.3	26.8	25.0	7.5	0.0	7.6	7.4	0.0	7.3
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		626			195			167			99	
Approach Delay, s/veh		31.3			30.4			7.5			7.4	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	60.5	29.5	60.5	29.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	39.0	39.0	39.0	39.0
Max Q Clear Time (g_c+I1), s	3.9	16.5	4.2	22.5
Green Ext Time (p_c), s	1.0	4.0	0.6	1.0

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	225	380	442	122	17	102	144	165	83	1109	37
Future Volume (veh/h)	8	225	380	442	122	17	102	144	165	83	1109	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1856	1885	1885	1826	1900	1856	1870	1870	1900	1885	1900
Adj Flow Rate, veh/h	8	237	288	465	128	13	107	152	53	87	1167	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	1	1	5	0	3	2	2	0	1	0
Cap, veh/h	18	363	323	547	597	61	178	1232	522	527	1141	35
Arrive On Green	0.00	0.07	0.07	0.16	0.37	0.37	0.06	0.33	0.33	0.05	0.32	0.32
Sat Flow, veh/h	1810	1763	1572	3483	1630	166	1767	3741	1585	1810	3547	109
Grp Volume(v), veh/h	8	237	288	465	0	141	107	152	53	87	589	614
Grp Sat Flow(s),veh/h/ln	1810	1763	1572	1742	0	1796	1767	1870	1585	1810	1791	1865
Q Serve(g_s), s	0.4	11.8	16.4	11.7	0.0	4.9	3.6	2.6	1.2	2.9	29.0	29.0
Cycle Q Clear(g_c), s	0.4	11.8	16.4	11.7	0.0	4.9	3.6	2.6	1.2	2.9	29.0	29.0
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	18	363	323	547	0	657	178	1232	522	527	576	600
V/C Ratio(X)	0.44	0.65	0.89	0.85	0.00	0.21	0.60	0.12	0.10	0.17	1.02	1.02
Avail Cap(c_a), veh/h	121	368	328	619	0	657	178	1232	522	540	576	600
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.62	0.46	0.00	0.46	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	38.8	40.9	36.9	0.0	19.6	23.2	21.1	6.7	18.8	30.5	30.5
Incr Delay (d2), s/veh	10.0	2.5	16.8	4.9	0.0	0.1	5.5	0.2	0.4	0.1	43.3	42.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.4	8.9	12.1	7.8	0.0	3.6	3.1	2.0	1.4	2.1	26.4	27.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.6	41.3	57.8	41.8	0.0	19.7	28.7	21.3	7.0	19.0	73.8	73.3
LnGrp LOS	D	D	E	D	A	B	C	C	A	B	F	F
Approach Vol, veh/h		533			606			312			1290	
Approach Delay, s/veh		50.4			36.6			21.4			69.9	
Approach LOS		D			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	35.6	20.3	24.7	10.0	35.0	5.9	39.1
Change Period (Y+Rc), s	5.0	6.0	* 6.2	* 6.2	5.0	6.0	5.0	* 6.2
Max Green Setting (Gmax), s	5.0	28.0	* 16	* 19	5.0	28.0	6.0	* 29
Max Q Clear Time (g_c+I1), s	4.9	4.6	13.7	18.4	5.6	31.0	2.4	6.9
Green Ext Time (p_c), s	0.0	1.1	0.4	0.2	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	205	279	64	400	0	0	0	0	29	1242	208
Future Volume (veh/h)	0	205	279	64	400	0	0	0	0	29	1242	208
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1856	1885	1870	1900	0				1900	1885	1856
Adj Flow Rate, veh/h	0	214	243	67	417	0				30	1294	217
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	3	1	2	0	0				0	1	3
Cap, veh/h	0	470	419	101	662	0				1076	2638	442
Arrive On Green	0.00	0.09	0.09	0.27	0.27	0.00				0.59	0.59	0.59
Sat Flow, veh/h	0	1856	1572	187	2568	0				1810	4438	744
Grp Volume(v), veh/h	0	214	243	234	250	0				30	1000	511
Grp Sat Flow(s),veh/h/ln	0	1763	1572	1026	1643	0				1810	1716	1751
Q Serve(g_s), s	0.0	10.4	13.4	7.8	11.8	0.0				0.6	15.0	15.0
Cycle Q Clear(g_c), s	0.0	10.4	13.4	21.2	11.8	0.0				0.6	15.0	15.0
Prop In Lane	0.00		1.00	0.29		0.00				1.00		0.42
Lane Grp Cap(c), veh/h	0	470	419	325	438	0				1076	2040	1041
V/C Ratio(X)	0.00	0.46	0.58	0.72	0.57	0.00				0.03	0.49	0.49
Avail Cap(c_a), veh/h	0	509	454	358	475	0				1076	2040	1041
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.65	0.65	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	34.8	36.2	32.1	28.5	0.0				7.5	10.4	10.4
Incr Delay (d2), s/veh	0.0	0.4	1.0	6.3	1.4	0.0				0.0	0.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	7.8	8.9	9.3	8.3	0.0				0.4	9.1	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	35.3	37.2	38.4	29.9	0.0				7.6	11.3	12.1
LnGrp LOS	A	D	D	D	C	A				A	B	B
Approach Vol, veh/h		457			484						1541	
Approach Delay, s/veh		36.3			34.0						11.5	
Approach LOS		D			C						B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	60.0	30.0	30.0
Change Period (Y+Rc), s	6.5	6.0	6.0
Max Green Setting (Gmax), s	51.5	26.0	26.0
Max Q Clear Time (g_c+I1), s	17.0	15.4	23.2
Green Ext Time (p_c), s	14.5	2.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	159	278	0	0	0	0	0	2112	509
Future Volume (veh/h)	0	0	0	159	278	0	0	0	0	0	2112	509
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	
Adj Sat Flow, veh/h/ln				1530	1737	0				0	1870	1856
Adj Flow Rate, veh/h				157	319	0				0	2271	0
Peak Hour Factor				0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %				25	11	0				0	2	3
Cap, veh/h				437	1042	0				0	1777	
Arrive On Green				0.10	0.10	0.00				0.00	0.17	0.00
Sat Flow, veh/h				1457	3474	0				0	3647	1572
Grp Volume(v), veh/h				157	319	0				0	2271	0
Grp Sat Flow(s),veh/h/ln				1457	1737	0				0	1777	1572
Q Serve(g_s), s				5.5	4.7	0.0				0.0	27.5	0.0
Cycle Q Clear(g_c), s				5.5	4.7	0.0				0.0	27.5	0.0
Prop In Lane				1.00		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				437	1042	0				0	1777	
V/C Ratio(X)				0.36	0.31	0.00				0.00	1.28	
Avail Cap(c_a), veh/h				437	1042	0				0	1777	
HCM Platoon Ratio				0.33	0.33	1.00				1.00	0.33	0.33
Upstream Filter(I)				0.95	0.95	0.00				0.00	0.61	0.00
Uniform Delay (d), s/veh				19.8	19.5	0.0				0.0	23.0	0.0
Incr Delay (d2), s/veh				2.2	0.7	0.0				0.0	127.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				3.8	3.5	0.0				0.0	62.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				22.0	20.2	0.0				0.0	150.9	0.0
LnGrp LOS				C	C	A				A	F	
Approach Vol, veh/h					476						2271	
Approach Delay, s/veh					20.8						150.9	
Approach LOS					C						F	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	22.0	33.0
Change Period (Y+Rc), s	5.5	5.5
Max Green Setting (Gmax), s	16.5	27.5
Max Q Clear Time (g_c+I1), s	7.5	29.5
Green Ext Time (p_c), s	1.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	128.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	151	266	273	572	0	0	0	0
Future Volume (veh/h)	0	0	0	0	151	266	273	572	0	0	0	0
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				
Adj Sat Flow, veh/h/ln				0	1530	1841	1781	1856	0			
Adj Flow Rate, veh/h				0	154	143	279	584	0			
Peak Hour Factor				0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %				0	25	4	8	3	0			
Cap, veh/h				0	834	1496	433	1292	0			
Arrive On Green				0.00	0.54	0.54	0.26	0.26	0.00			
Sat Flow, veh/h				0	1530	2745	1697	5233	0			
Grp Volume(v), veh/h				0	154	143	279	584	0			
Grp Sat Flow(s),veh/h/ln				0	1530	1373	1697	1689	0			
Q Serve(g_s), s				0.0	2.8	1.4	8.1	5.3	0.0			
Cycle Q Clear(g_c), s				0.0	2.8	1.4	8.1	5.3	0.0			
Prop In Lane				0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h				0	834	1496	433	1292	0			
V/C Ratio(X)				0.00	0.18	0.10	0.64	0.45	0.00			
Avail Cap(c_a), veh/h				0	834	1496	694	2072	0			
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	0.83	0.83	0.00			
Uniform Delay (d), s/veh				0.0	6.3	6.0	18.3	17.3	0.0			
Incr Delay (d2), s/veh				0.0	0.5	0.1	1.3	0.2	0.0			
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln				0.0	1.5	0.6	5.4	3.4	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				0.0	6.8	6.1	19.6	17.5	0.0			
LnGrp LOS				A	A	A	B	B	A			
Approach Vol, veh/h					297			863				
Approach Delay, s/veh					6.5			18.2				
Approach LOS					A			B				
Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						35.5		19.5				
Change Period (Y+Rc), s						5.5		5.5				
Max Green Setting (Gmax), s						21.5		22.5				
Max Q Clear Time (g_c+I1), s						4.8		10.1				
Green Ext Time (p_c), s						1.3		4.0				

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	97	102	0	0	0	0	0	0	705	1420	0
Future Volume (veh/h)	0	97	102	0	0	0	0	0	0	705	1420	0
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	
Adj Sat Flow, veh/h/ln	0	1885	1781							1885	1796	0
Adj Flow Rate, veh/h	0	99	0							719	1449	0
Peak Hour Factor	0.98	0.98	0.98							0.98	0.98	0.98
Percent Heavy Veh, %	0	1	8							1	7	0
Cap, veh/h	0	1239								988	1878	0
Arrive On Green	0.00	0.24	0.00							0.18	0.18	0.00
Sat Flow, veh/h	0	5316	1510							1795	3503	0
Grp Volume(v), veh/h	0	99	0							719	1449	0
Grp Sat Flow(s),veh/h/ln	0	1716	1510							1795	1706	0
Q Serve(g_s), s	0.0	0.8	0.0							20.8	22.2	0.0
Cycle Q Clear(g_c), s	0.0	0.8	0.0							20.8	22.2	0.0
Prop In Lane	0.00		1.00							1.00		0.00
Lane Grp Cap(c), veh/h	0	1239								988	1878	0
V/C Ratio(X)	0.00	0.08								0.73	0.77	0.00
Avail Cap(c_a), veh/h	0	1239								1028	1955	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	0.00							0.09	0.09	0.00
Uniform Delay (d), s/veh	0.0	16.2	0.0							18.6	19.2	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0							0.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.6	0.0							11.2	11.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.3	0.0							18.9	19.4	0.0
LnGrp LOS	A	B								B	B	A
Approach Vol, veh/h		99									2168	
Approach Delay, s/veh		16.3									19.2	
Approach LOS		B									B	

Timer - Assigned Phs	2	4
Phs Duration (G+Y+Rc), s	19.2	35.8
Change Period (Y+Rc), s	6.0	5.5
Max Green Setting (Gmax), s	12.0	31.5
Max Q Clear Time (g_c+I1), s	2.8	24.2
Green Ext Time (p_c), s	0.3	6.0

Intersection Summary	
HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

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



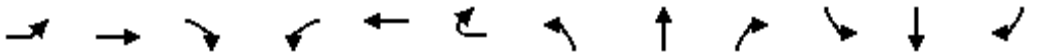
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	971	0	0	0	0	0	647	480	0	0	0
Future Volume (veh/h)	156	971	0	0	0	0	0	647	480	0	0	0
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Work Zone On Approach		No						No				
Adj Sat Flow, veh/h/ln	1811	1885	0				0	1781	1767			
Adj Flow Rate, veh/h	170	1055	0				0	703	0			
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92			
Percent Heavy Veh, %	6	1	0				0	8	9			
Cap, veh/h	2018	1137	0				0	958				
Arrive On Green	0.20	0.20	0.00				0.00	0.20	0.00			
Sat Flow, veh/h	3346	1885	0				0	5024	1497			
Grp Volume(v), veh/h	170	1055	0				0	703	0			
Grp Sat Flow(s),veh/h/ln	1673	1885	0				0	1621	1497			
Q Serve(g_s), s	2.3	30.2	0.0				0.0	7.5	0.0			
Cycle Q Clear(g_c), s	2.3	30.2	0.0				0.0	7.5	0.0			
Prop In Lane	1.00		0.00				0.00		1.00			
Lane Grp Cap(c), veh/h	2018	1137	0				0	958				
V/C Ratio(X)	0.08	0.93	0.00				0.00	0.73				
Avail Cap(c_a), veh/h	2018	1137	0				0	1105				
HCM Platoon Ratio	0.33	0.33	1.00				1.00	1.00	1.00			
Upstream Filter(I)	0.87	0.87	0.00				0.00	0.64	0.00			
Uniform Delay (d), s/veh	9.7	20.9	0.0				0.0	20.7	0.0			
Incr Delay (d2), s/veh	0.1	12.7	0.0				0.0	1.4	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.1	25.3	0.0				0.0	4.9	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.7	33.6	0.0				0.0	22.1	0.0			
LnGrp LOS	A	C	A				A	C				
Approach Vol, veh/h		1225						703				
Approach Delay, s/veh		30.3						22.1				
Approach LOS		C						C				

Timer - Assigned Phs						6		8				
Phs Duration (G+Y+Rc), s						38.7		16.3				
Change Period (Y+Rc), s						5.5		5.5				
Max Green Setting (Gmax), s						31.5		12.5				
Max Q Clear Time (g_c+I1), s						32.2		9.5				
Green Ext Time (p_c), s						0.0		1.4				

Intersection Summary												
HCM 6th Ctrl Delay			27.3									
HCM 6th LOS			C									

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR2	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	377	639	153	146	229	221	62	437	101	323	1107	37
Future Volume (vph)	377	639	153	146	229	221	62	437	101	323	1107	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.5	5.0	5.0	6.5	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1719	3505	1538	1719	3312	1599	1467	3252	1615	1805	3438	1495
Flt Permitted	0.41	1.00	1.00	0.40	1.00	1.00	0.13	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	740	3505	1538	716	3312	1599	197	3252	1615	653	3438	1495
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	397	673	161	154	241	233	65	460	106	340	1165	39
RTOR Reduction (vph)	0	0	118	0	0	206	0	0	98	0	0	30
Lane Group Flow (vph)	397	673	43	154	241	27	65	460	8	340	1165	9
Heavy Vehicles (%)	5%	3%	5%	5%	9%	1%	23%	11%	0%	0%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Over	pm+pt	NA	custom
Protected Phases	3	8		7	4		1	6	7	5	2	3
Permitted Phases	8		8	4		4	6			2		
Actuated Green, G (s)	42.1	29.1	29.1	20.7	12.7	12.7	38.7	31.4	8.0	54.7	42.4	24.4
Effective Green, g (s)	42.1	29.1	29.1	20.7	12.7	12.7	38.7	31.4	8.0	54.7	42.4	24.4
Actuated g/C Ratio	0.38	0.26	0.26	0.19	0.12	0.12	0.35	0.29	0.07	0.50	0.39	0.22
Clearance Time (s)	5.0	6.7	6.7	5.0	6.7	6.7	5.0	6.5	5.0	5.0	6.5	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	500	927	406	207	382	184	153	928	117	516	1325	331
v/s Ratio Prot	c0.18	0.19		0.05	0.07		0.03	0.14	0.00	c0.11	c0.34	0.01
v/s Ratio Perm	c0.13		0.03	0.09		0.02	0.12			0.22		
v/c Ratio	0.79	0.73	0.10	0.74	0.63	0.15	0.42	0.50	0.07	0.66	0.88	0.03
Uniform Delay, d1	27.5	36.8	30.6	39.9	46.4	43.8	25.8	32.7	47.5	18.0	31.4	33.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.14	1.13	1.00
Incremental Delay, d2	8.5	2.9	0.1	13.5	3.4	0.4	1.9	1.9	0.2	2.3	6.6	0.0
Delay (s)	35.9	39.7	30.7	53.3	49.8	44.1	27.7	34.6	47.8	22.7	42.2	33.5
Level of Service	D	D	C	D	D	D	C	C	D	C	D	C
Approach Delay (s)		37.3			48.6			36.1			37.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	23.2
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	1	157	32	0	13	42	1500	50	6	1866	15
Future Volume (veh/h)	28	1	157	32	0	13	42	1500	50	6	1866	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1856	1841	1900	1752	1752	1885	1900	1900	1870	1900
Adj Flow Rate, veh/h	30	1	16	34	0	0	45	1613	53	6	2006	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	3	4	0	10	10	1	0	0	2	0
Cap, veh/h	215	8	126	188	0	0	55	2580	85	11	2495	1130
Arrive On Green	0.08	0.08	0.08	0.08	0.00	0.00	0.03	0.73	0.73	0.01	0.70	0.70
Sat Flow, veh/h	1440	96	1529	1251	0	0	1668	3539	116	1810	3554	1610
Grp Volume(v), veh/h	30	0	17	34	0	0	45	814	852	6	2006	11
Grp Sat Flow(s),veh/h/ln	1440	0	1625	1251	0	0	1668	1791	1864	1810	1777	1610
Q Serve(g_s), s	0.0	0.0	0.8	1.9	0.0	0.0	2.3	19.2	19.4	0.3	32.8	0.2
Cycle Q Clear(g_c), s	1.3	0.0	0.8	2.8	0.0	0.0	2.3	19.2	19.4	0.3	32.8	0.2
Prop In Lane	1.00		0.94	1.00		0.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	215	0	134	188	0	0	55	1306	1359	11	2495	1130
V/C Ratio(X)	0.14	0.00	0.13	0.18	0.00	0.00	0.81	0.62	0.63	0.53	0.80	0.01
Avail Cap(c_a), veh/h	427	0	373	396	0	0	239	1306	1359	260	2495	1130
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.76	0.76	0.76	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	0.0	36.2	37.4	0.0	0.0	40.8	5.7	5.7	42.1	8.7	3.8
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.5	0.0	0.0	18.8	1.7	1.7	34.0	2.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	0.0	0.6	1.2	0.0	0.0	2.2	9.3	9.7	0.4	15.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	0.0	36.6	37.9	0.0	0.0	59.7	7.4	7.4	76.1	11.5	3.8
LnGrp LOS	D	A	D	D	A	A	E	A	A	E	B	A
Approach Vol, veh/h		47			34			1711			2023	
Approach Delay, s/veh		36.6			37.9			8.8			11.7	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	67.2		12.5	7.6	64.9		12.5
Change Period (Y+Rc), s	* 4.8	5.2		5.5	* 4.8	5.2		5.5
Max Green Setting (Gmax), s	* 12	37.8		19.5	* 12	37.8		19.5
Max Q Clear Time (g_c+I1), s	2.3	21.4		4.8	4.3	34.8		3.3
Green Ext Time (p_c), s	0.0	10.9		0.1	0.0	2.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	10.9
HCM 6th LOS	B

Notes

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



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Traffic Volume (veh/h)	307	0	343	0	1067	447	0	825	793	0	0
Future Volume (veh/h)	307	0	343	0	1067	447	0	825	793	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1826	0	1856	1781	0	1870	1796		
Adj Flow Rate, veh/h	327	327	0	0	1135	0	0	878	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	5	0	3	8	0	2	7		
Cap, veh/h	374	374		0	2336		0	2354			
Arrive On Green	0.21	0.21	0.00	0.00	0.66	0.00	0.00	0.66	0.00		
Sat Flow, veh/h	1781	1781	1547	0	3618	1510	0	3647	1522		
Grp Volume(v), veh/h	327	327	0	0	1135	0	0	878	0		
Grp Sat Flow(s),veh/h/ln	1781	1781	1547	0	1763	1510	0	1777	1522		
Q Serve(g_s), s	16.0	16.0	0.0	0.0	14.4	0.0	0.0	10.0	0.0		
Cycle Q Clear(g_c), s	16.0	16.0	0.0	0.0	14.4	0.0	0.0	10.0	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	374	374		0	2336		0	2354			
V/C Ratio(X)	0.88	0.88		0.00	0.49		0.00	0.37			
Avail Cap(c_a), veh/h	673	673		0	2336		0	2354			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.44	0.00		
Uniform Delay (d), s/veh	34.4	34.4	0.0	0.0	7.6	0.0	0.0	6.8	0.0		
Incr Delay (d2), s/veh	6.5	6.5	0.0	0.0	0.7	0.0	0.0	0.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	11.9	11.9	0.0	0.0	8.5	0.0	0.0	5.3	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	41.0	41.0	0.0	0.0	8.3	0.0	0.0	7.0	0.0		
LnGrp LOS	D	D		A	A		A	A			
Approach Vol, veh/h	327	327			1135			878			
Approach Delay, s/veh	41.0	41.0			8.3			7.0			
Approach LOS	D	D			A			A			

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	65.1	65.1	24.9
Change Period (Y+Rc), s	5.5	5.5	6.0
Max Green Setting (Gmax), s	44.5	44.5	34.0
Max Q Clear Time (g_c+I1), s	16.4	12.0	18.0
Green Ext Time (p_c), s	9.9	7.3	0.9

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

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

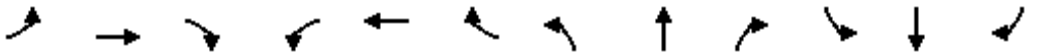
Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	355	0	0	716	0	791	533	381	717	0
Future Vol, veh/h	0	0	355	0	0	716	0	791	533	381	717	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	0	-	-	0	-	-	300	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	6	0	0	4	0	4	1	2	2	0
Mvmt Flow	0	0	390	0	0	787	0	869	586	419	788	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	-	-	394	-	0	0	869	0	0
Stage 1	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	594	0	-	-	771	-	0
Stage 1	0	0	-	0	-	-	-	-	0
Stage 2	0	0	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	594	-	-	-	771	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.9	0	5.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	594	771	-
HCM Lane V/C Ratio	-	-	0.657	0.543	-
HCM Control Delay (s)	-	-	21.9	15.1	-
HCM Lane LOS	-	-	C	C	-
HCM 95th %tile Q(veh)	-	-	4.8	3.3	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	43	33	8	31	118	13	836	11	86	830	160
Future Volume (veh/h)	344	43	33	8	31	118	13	836	11	86	830	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1900	1693	1781	1796	1767	1870	1900	1633	1870	1796
Adj Flow Rate, veh/h	382	48	33	9	34	80	14	929	11	96	922	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	0	14	8	7	9	2	0	18	2	7
Cap, veh/h	497	51	35	673	195	458	60	1442	17	207	1478	
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.42	0.42	0.42	0.42	0.42	0.00
Sat Flow, veh/h	976	123	84	1192	472	1110	18	3469	41	521	3554	1522
Grp Volume(v), veh/h	463	0	0	9	0	114	496	0	458	96	922	0
Grp Sat Flow(s),veh/h/ln	1183	0	0	1192	0	1582	1833	0	1695	521	1777	1522
Q Serve(g_s), s	23.6	0.0	0.0	0.0	0.0	3.2	0.0	0.0	15.1	12.7	14.3	0.0
Cycle Q Clear(g_c), s	26.8	0.0	0.0	0.3	0.0	3.2	14.8	0.0	15.1	27.8	14.3	0.0
Prop In Lane	0.83		0.07	1.00		0.70	0.03		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	582	0	0	673	0	653	815	0	705	207	1478	
V/C Ratio(X)	0.80	0.00	0.00	0.01	0.00	0.17	0.61	0.00	0.65	0.46	0.62	
Avail Cap(c_a), veh/h	584	0	0	675	0	655	815	0	705	207	1478	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.5	0.0	0.0	12.1	0.0	13.0	16.3	0.0	16.4	27.5	16.1	0.0
Incr Delay (d2), s/veh	7.5	0.0	0.0	0.0	0.0	0.1	3.4	0.0	4.6	7.3	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	0.0	0.0	0.1	0.0	1.9	10.7	0.0	10.3	3.4	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	0.0	0.0	12.2	0.0	13.1	19.6	0.0	21.0	34.8	18.1	0.0
LnGrp LOS	C	A	A	B	A	B	B	A	C	C	B	
Approach Vol, veh/h		463			123			954			1018	
Approach Delay, s/veh		29.0			13.1			20.3			19.7	
Approach LOS		C			B			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.1		34.9		35.1		34.9				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		29.0		29.0		29.0		29.0				
Max Q Clear Time (g_c+I1), s		29.8		28.8		17.1		5.2				
Green Ext Time (p_c), s		0.0		0.1		4.9		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

Notes

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



Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER
Lane Configurations											
Traffic Volume (veh/h)	645	0	603	0	1515	305	0	1162	705	0	0
Future Volume (veh/h)	645	0	603	0	1515	305	0	1162	705	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1856	1856	1811	0	1841	1856	0	1870	1841		
Adj Flow Rate, veh/h	686	686	0	0	1612	0	0	1236	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	3	3	6	0	4	3	0	2	4		
Cap, veh/h	816	816		0	3267		0	3319			
Arrive On Green	0.24	0.24	0.00	0.00	0.21	0.00	0.00	0.65	0.00		
Sat Flow, veh/h	3428	3428	1535	0	5191	1572	0	5274	1560		
Grp Volume(v), veh/h	686	686	0	0	1612	0	0	1236	0		
Grp Sat Flow(s),veh/h/ln	1714	1714	1535	0	1675	1572	0	1702	1560		
Q Serve(g_s), s	19.1	19.1	0.0	0.0	28.2	0.0	0.0	11.2	0.0		
Cycle Q Clear(g_c), s	19.1	19.1	0.0	0.0	28.2	0.0	0.0	11.2	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	816	816		0	3267		0	3319			
V/C Ratio(X)	0.84	0.84		0.00	0.49		0.00	0.37			
Avail Cap(c_a), veh/h	1766	1766		0	3267		0	3319			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	36.3	36.3	0.0	0.0	24.8	0.0	0.0	8.1	0.0		
Incr Delay (d2), s/veh	2.4	2.4	0.0	0.0	0.5	0.0	0.0	0.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	12.8	12.8	0.0	0.0	18.5	0.0	0.0	6.9	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	38.7	38.7	0.0	0.0	25.3	0.0	0.0	8.4	0.0		
LnGrp LOS	D	D		A	C		A	A			
Approach Vol, veh/h	686	686			1612			1236			
Approach Delay, s/veh	38.7	38.7			25.3			8.4			
Approach LOS	D	D			C			A			

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	70.7	70.7	29.3
Change Period (Y+Rc), s	* 5.7	* 5.7	5.5
Max Green Setting (Gmax), s	* 37	* 37	51.5
Max Q Clear Time (g_c+I1), s	30.2	13.2	21.1
Green Ext Time (p_c), s	5.4	10.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Notes

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

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



Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (veh/h)	721	0	509	0	1125	434	0	1436	401	0	0
Future Volume (veh/h)	721	0	509	0	1125	434	0	1436	401	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No			No			
Adj Sat Flow, veh/h/ln	1796	1796	1870	0	1870	1856	0	1870	1870		
Adj Flow Rate, veh/h	767	767	0	0	1197	0	0	1528	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	7	7	2	0	2	3	0	2	2		
Cap, veh/h	892	892		0	2157		0	3100			
Arrive On Green	0.27	0.27	0.00	0.00	0.61	0.00	0.00	0.20	0.00		
Sat Flow, veh/h	3319	3319	1585	0	3647	1572	0	5274	1585		
Grp Volume(v), veh/h	767	767	0	0	1197	0	0	1528	0		
Grp Sat Flow(s),veh/h/ln	1659	1659	1585	0	1777	1572	0	1702	1585		
Q Serve(g_s), s	22.0	22.0	0.0	0.0	20.0	0.0	0.0	26.6	0.0		
Cycle Q Clear(g_c), s	22.0	22.0	0.0	0.0	20.0	0.0	0.0	26.6	0.0		
Prop In Lane	1.00	1.00	1.00	0.00		1.00	0.00		1.00		
Lane Grp Cap(c), veh/h	892	892		0	2157		0	3100			
V/C Ratio(X)	0.86	0.86		0.00	0.55		0.00	0.49			
Avail Cap(c_a), veh/h	1686	1686		0	2157		0	3100			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33		
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	34.8	34.8	0.0	0.0	11.6	0.0	0.0	26.3	0.0		
Incr Delay (d2), s/veh	2.6	2.6	0.0	0.0	1.0	0.0	0.0	0.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	13.5	13.5	0.0	0.0	11.5	0.0	0.0	17.8	0.0		
Unsig. Movement Delay, s/veh											
LnGrp Delay(d),s/veh	37.3	37.3	0.0	0.0	12.7	0.0	0.0	26.9	0.0		
LnGrp LOS	D	D		A	B		A	C			
Approach Vol, veh/h	767	767			1197			1528			
Approach Delay, s/veh	37.3	37.3			12.7			26.9			
Approach LOS	D	D			B			C			

Timer - Assigned Phs	2	4	6
Phs Duration (G+Y+Rc), s	66.9	33.1	66.9
Change Period (Y+Rc), s	6.2	6.2	6.2
Max Green Setting (Gmax), s	36.8	50.8	36.8
Max Q Clear Time (g_c+I1), s	22.0	24.0	28.6
Green Ext Time (p_c), s	7.1	2.9	5.7

Intersection Summary	
HCM 6th Ctrl Delay	24.3
HCM 6th LOS	C

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	56	512	205	75	23	413	1023	122	12	1257	444
Future Volume (veh/h)	141	56	512	205	75	23	413	1023	122	12	1257	444
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1648	1322	1870	1752	1678	1633	1811	1811	1648	1574	1856	1796
Adj Flow Rate, veh/h	160	64	0	233	85	2	469	1162	127	14	1428	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	17	39	2	10	15	18	6	6	17	22	3	7
Cap, veh/h	324	103		315	261	113	542	2505	274	252	2068	
Arrive On Green	0.11	0.08	0.00	0.12	0.08	0.08	0.32	1.00	1.00	0.02	0.41	0.00
Sat Flow, veh/h	1570	1322	1585	1668	3188	1384	3346	4524	494	1499	5066	1522
Grp Volume(v), veh/h	160	64	0	233	85	2	469	846	443	14	1428	0
Grp Sat Flow(s),veh/h/ln	1570	1322	1585	1668	1594	1384	1673	1648	1722	1499	1689	1522
Q Serve(g_s), s	8.3	4.2	0.0	10.6	2.3	0.1	11.9	0.0	0.0	0.5	20.9	0.0
Cycle Q Clear(g_c), s	8.3	4.2	0.0	10.6	2.3	0.1	11.9	0.0	0.0	0.5	20.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	324	103		315	261	113	542	1825	953	252	2068	
V/C Ratio(X)	0.49	0.62		0.74	0.33	0.02	0.87	0.46	0.46	0.06	0.69	
Avail Cap(c_a), veh/h	400	273		315	517	225	673	1825	953	529	2068	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.8	40.2	0.0	34.4	39.0	38.0	29.5	0.0	0.0	15.0	21.9	0.0
Incr Delay (d2), s/veh	1.2	6.0	0.0	8.9	0.7	0.1	9.7	0.9	1.6	0.1	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	2.7	0.0	9.3	1.6	0.1	7.9	0.4	0.8	0.3	12.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	46.3	0.0	43.3	39.7	38.0	39.2	0.9	1.6	15.1	23.9	0.0
LnGrp LOS	C	D		D	D	D	D	A	A	B	C	
Approach Vol, veh/h		224			320			1758			1442	
Approach Delay, s/veh		37.5			42.3			11.3			23.8	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	55.2	16.0	12.4	19.5	42.1	15.6	12.8
Change Period (Y+Rc), s	* 4.9	* 5.4	* 5.4	* 5.4	* 4.9	* 5.4	* 5.4	* 5.4
Max Green Setting (Gmax), s	* 18	* 22	* 11	* 19	* 18	* 22	* 15	* 15
Max Q Clear Time (g_c+I1), s	12.5	2.0	12.6	6.2	13.9	22.9	10.3	4.3
Green Ext Time (p_c), s	0.0	8.1	0.0	0.2	0.7	0.0	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

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

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	310	780	482	1214	1619	336
Future Volume (veh/h)	310	780	482	1214	1619	336
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	1796	1841	1870	1826	1856	1781
Adj Flow Rate, veh/h	320	0	497	1252	1669	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	7	4	2	5	3	8
Cap, veh/h	416		571	3733	3371	
Arrive On Green	0.13	0.00	0.33	1.00	1.00	0.00
Sat Flow, veh/h	3319	2745	3456	5149	6643	1510
Grp Volume(v), veh/h	320	0	497	1252	1669	0
Grp Sat Flow(s),veh/h/ln	1659	1373	1728	1662	1596	1510
Q Serve(g_s), s	8.4	0.0	12.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	12.2	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	416		571	3733	3371	
V/C Ratio(X)	0.77		0.87	0.34	0.50	
Avail Cap(c_a), veh/h	892		691	3733	3371	
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.39	0.39	1.00	0.00
Uniform Delay (d), s/veh	38.1	0.0	29.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	4.3	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	6.3	0.1	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.1	0.0	33.5	0.1	0.5	0.0
LnGrp LOS	D		C	A	A	
Approach Vol, veh/h	320			1749	1669	
Approach Delay, s/veh	41.1			9.6	0.5	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	72.9		17.1	19.9	53.0
Change Period (Y+Rc), s	5.5		* 5.8	5.0	5.5
Max Green Setting (Gmax), s	54.5		* 24	18.0	31.5
Max Q Clear Time (g_c+I1), s	2.0		10.4	14.2	2.0
Green Ext Time (p_c), s	11.0		0.9	0.7	14.7

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	318	514	243	232	377	292	216	1142	252	450	1649	249
Future Volume (veh/h)	318	514	243	232	377	292	216	1142	252	450	1649	249
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1900	1870	1885	1885	1856	1885	1885	1856	1856
Adj Flow Rate, veh/h	324	524	185	237	385	193	220	1165	212	459	1683	196
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	0	2	1	1	3	1	1	3	3
Cap, veh/h	307	516	181	211	513	475	292	1463	264	533	1720	805
Arrive On Green	0.17	0.20	0.20	0.12	0.14	0.14	0.08	0.27	0.27	0.31	0.68	0.68
Sat Flow, veh/h	1781	2578	906	1810	3554	1598	3483	5476	989	3483	5066	1572
Grp Volume(v), veh/h	324	360	349	237	385	193	220	1018	359	459	1683	196
Grp Sat Flow(s),veh/h/ln	1781	1777	1707	1810	1777	1598	1742	1596	1677	1742	1689	1572
Q Serve(g_s), s	15.5	18.0	18.0	10.5	9.4	8.7	5.6	17.8	18.0	11.2	28.6	3.5
Cycle Q Clear(g_c), s	15.5	18.0	18.0	10.5	9.4	8.7	5.6	17.8	18.0	11.2	28.6	3.5
Prop In Lane	1.00		0.53	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	307	355	341	211	513	475	292	1279	448	533	1720	805
V/C Ratio(X)	1.06	1.01	1.02	1.12	0.75	0.41	0.75	0.80	0.80	0.86	0.98	0.24
Avail Cap(c_a), veh/h	307	355	341	211	553	493	298	1279	448	635	1720	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	37.3	36.0	36.0	39.8	36.9	25.3	40.3	30.7	30.8	30.3	14.1	5.6
Incr Delay (d2), s/veh	66.9	51.4	54.1	98.8	5.3	0.6	10.2	5.2	14.1	7.7	14.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.5	18.7	18.4	16.4	7.8	5.9	5.0	11.7	13.7	7.3	10.2	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.2	87.4	90.1	138.5	42.2	25.8	50.5	35.9	44.8	38.0	28.1	6.1
LnGrp LOS	F	F	F	F	D	C	D	D	D	D	C	A
Approach Vol, veh/h		1033			815			1597			2338	
Approach Delay, s/veh		93.6			66.3			39.9			28.2	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	37.2	15.0	24.0	20.4	30.6	20.0	19.0
Change Period (Y+Rc), s	* 6.3	* 6.6	4.5	6.0	* 6.6	* 6.6	4.5	6.0
Max Green Setting (Gmax), s	* 7.5	* 29	10.5	18.0	* 16	* 21	15.5	14.0
Max Q Clear Time (g_c+I1), s	17.6	30.6	12.5	20.0	13.2	20.0	17.5	11.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.6	0.9	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	48.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
User approved changes to right turn type.