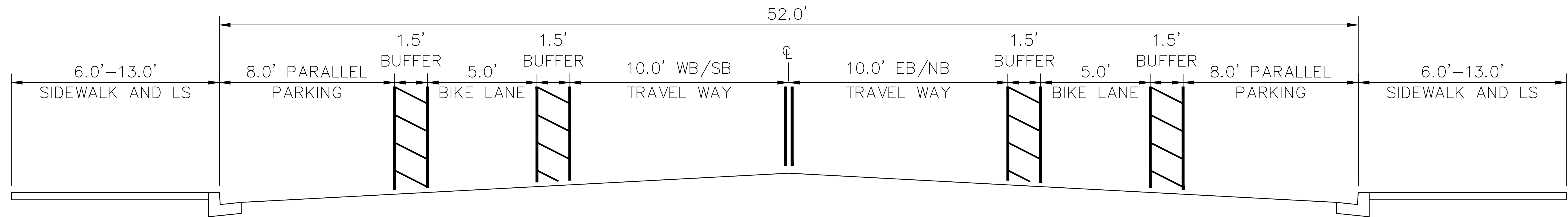
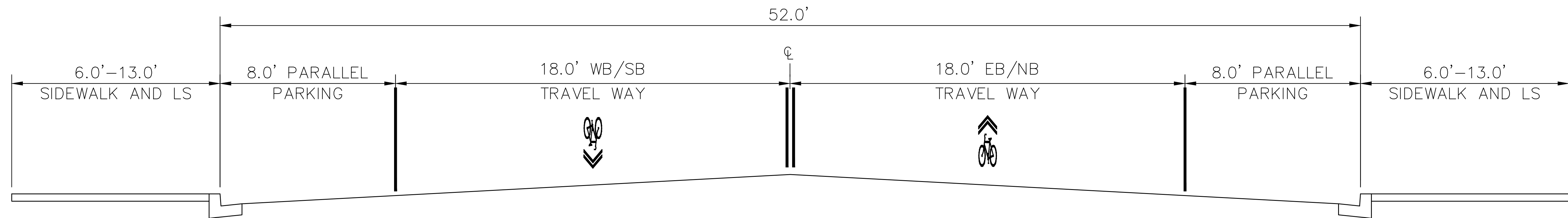


APPENDIX A: TYPICAL CROSS SECTIONS

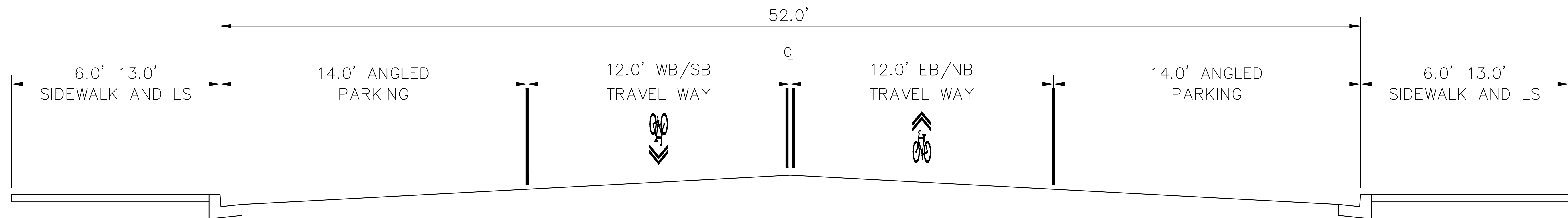


1-1: PROPOSED BIKEWAY ON J STREET (CLASS II)
17TH STREET TO 20TH STREET

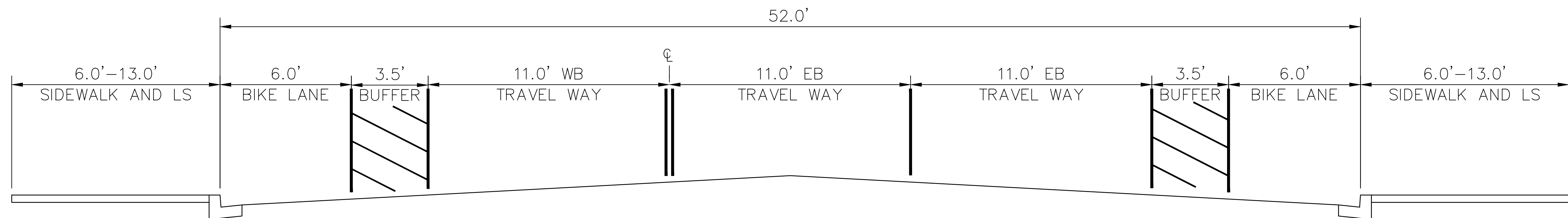




2-2: PROPOSED BIKEWAY ON 21ST STREET AND L STREET (CLASS III)
 21ST STREET: IMPERIAL AVENUE TO L STREET
 L STREET: 21ST STREET TO 20TH STREET



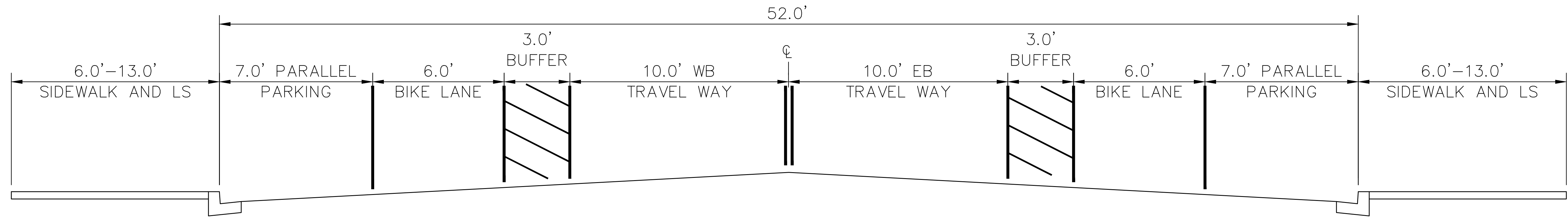
3-3: PROPOSED BIKEWAY ON 20TH STREET (CLASS III)
 21ST STREET TO J STREET



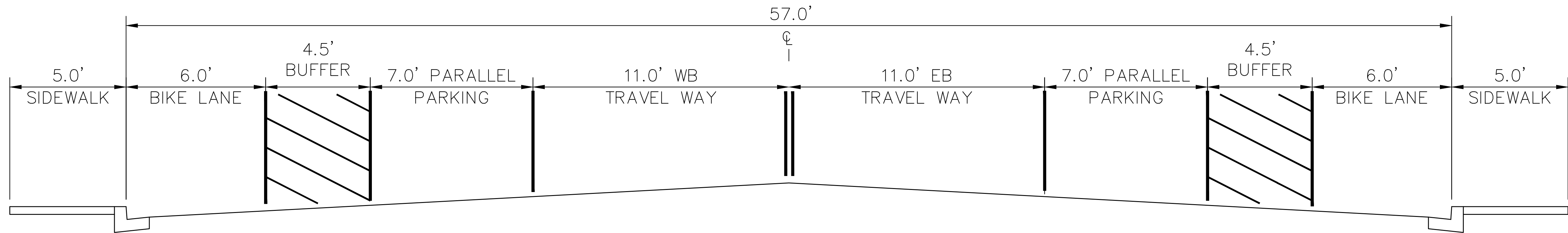
4-4: PROPOSED BIKEWAY ON IMPERIAL AVENUE (CLASS II)
 17TH STREET TO 19TH STREET



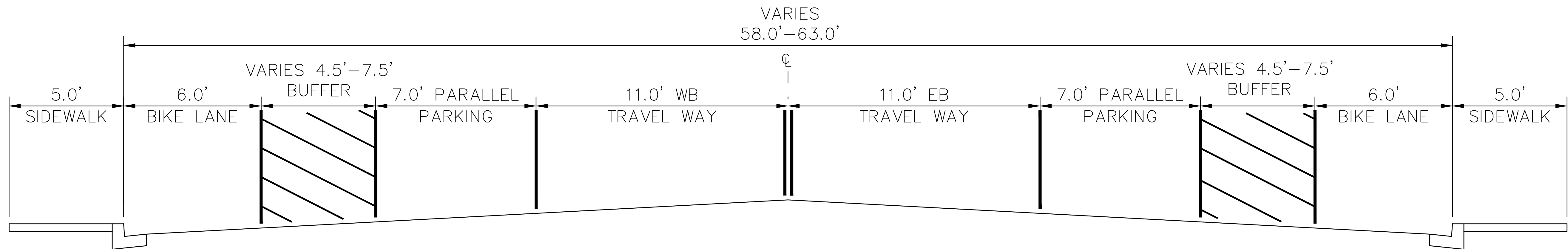
IMPERIAL AVENUE BIKEWAY



A-A: PROPOSED BIKEWAY ON IMPERIAL AVENUE (CLASS II)
19TH STREET TO 32ND STREET



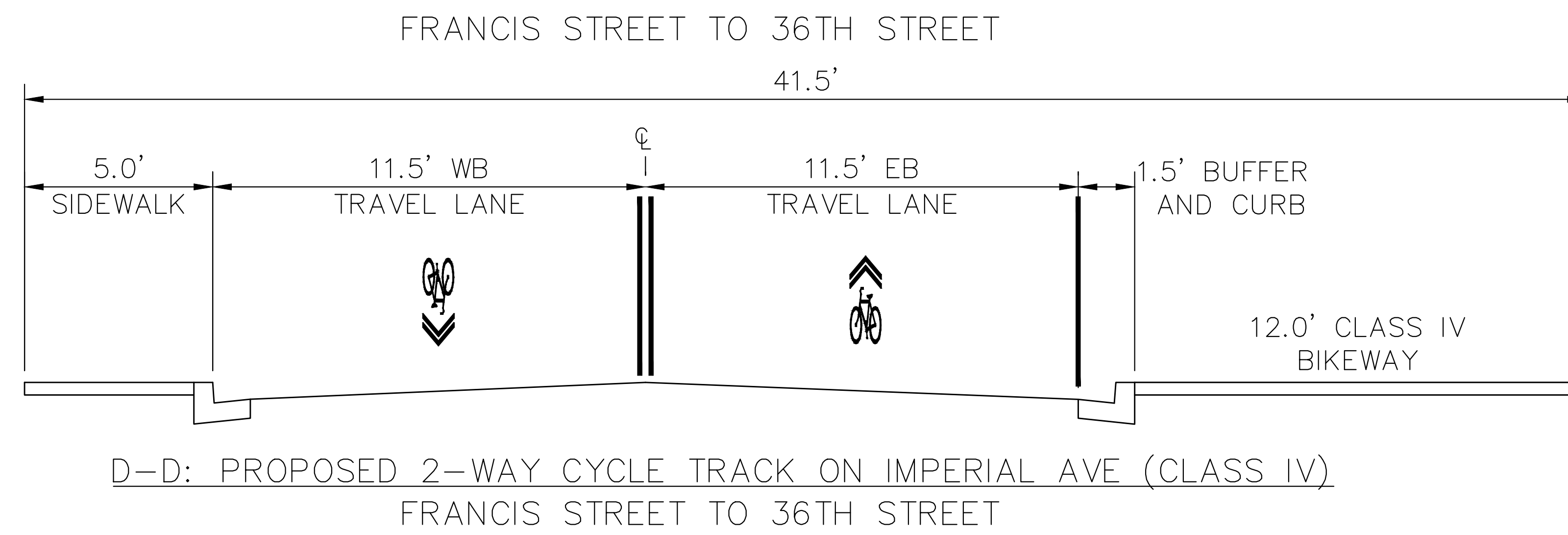
B-B: PROPOSED BIKEWAY ON IMPERIAL AVENUE (CLASS II)
32ND STREET TO WEST OF 33RD STREET

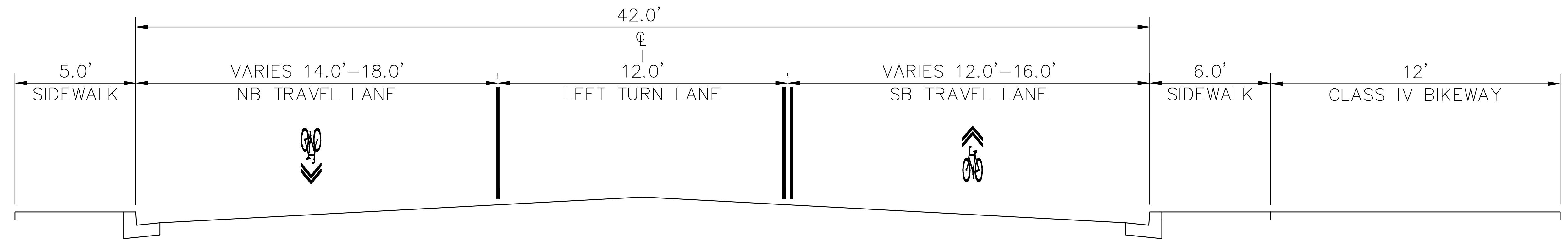


C-C: PROPOSED BIKEWAY ON IMPERIAL AVENUE (CLASS II)
WEST OF 33RD STREET TO FRANCIS STREET

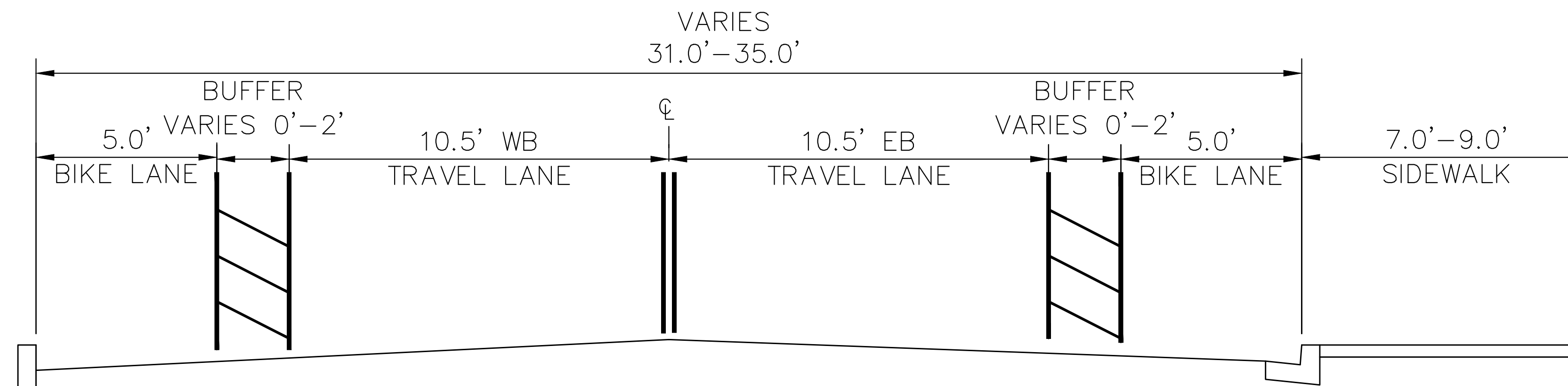


IMPERIAL AVENUE BIKEWAY

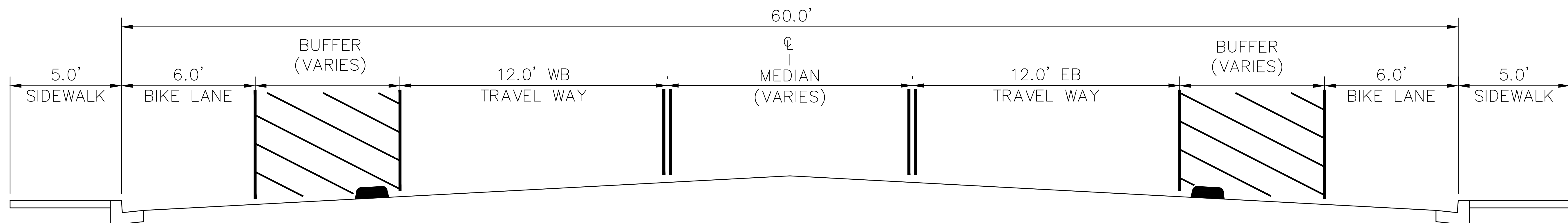




E-E: PROPOSED 2-WAY CYCLE TRACK ON 36TH STREET (CLASS IV)
IMPERIAL AVENUE TO IMPERIAL AVENUE



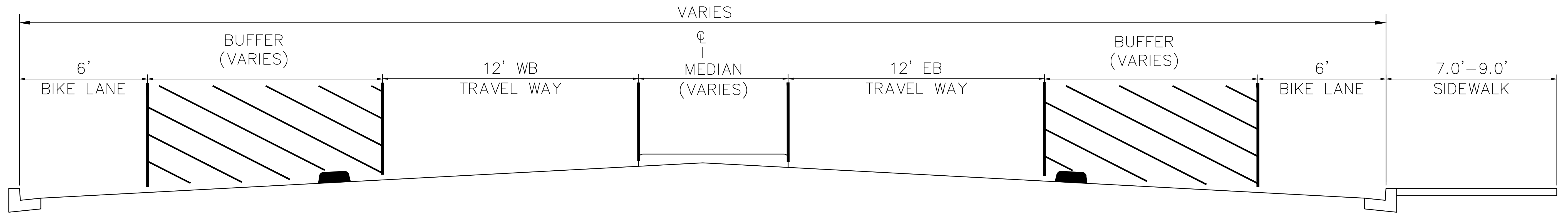
F-F: PROPOSED BIKE LANES ON IMPERIAL AVE (CLASS II)
36TH STREET TO ADA STREET



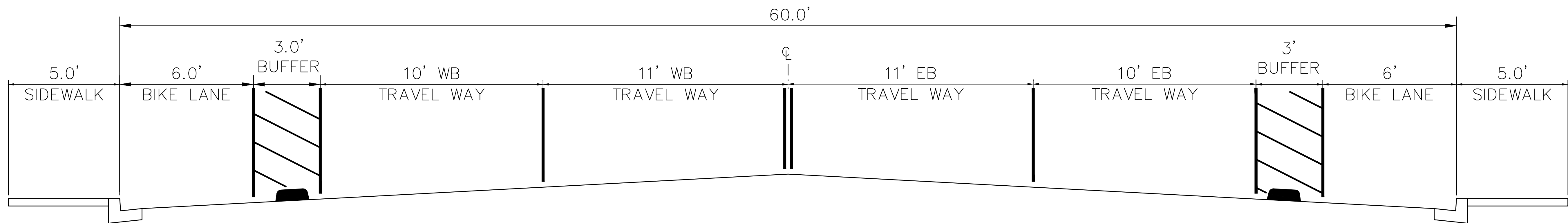
G-G: PROPOSED BIKEWAY ON IMPERIAL AVENUE (CLASS IV)
40TH STREET TO WEST OF EDGEFIELD WAY



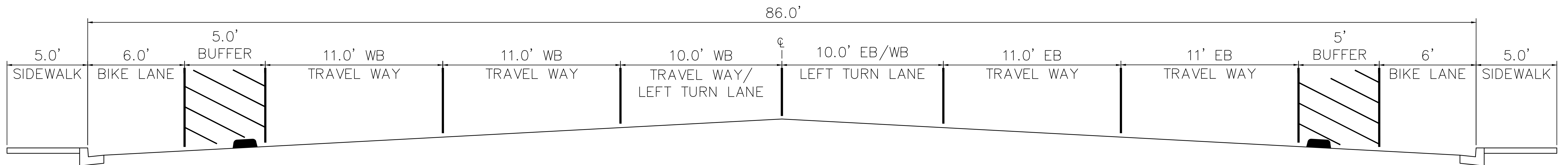
IMPERIAL AVENUE BIKEWAY



H-H: PROPOSED BIKEWAY ON IMPERIAL AVENUE (CLASS IV)
MESSINA WAY TO 45TH STREET



I-I: PROPOSED BIKEWAY ON IMPERIAL AVENUE (CLASS IV)
45TH STREET TO SB I-805 RAMPS



J-J: PROPOSED BIKEWAY ON IMPERIAL AVENUE (CLASS IV)
SB I-805 RAMPS TO 47TH STREET



APPENDIX B: TRAFFIC COUNTS

CITY OF SAN DIEGO
ENGINEERING AND TRAFFIC SURVEY
Prepared in accordance with 627 CVC by methods determined
by the California Department of Transportation

STREET **IMPERIAL**
FROM **16**
TO **30**

AV
ST
ST

85th PERCENTILE **33** MPH
POSTED SPEED LIMIT **30** MPH
RADAR ENFORCEABLE **YES**

BLOCK RANGE: 01600 TO 02999

DIRECTION: BOTH

FEDERAL CLASSIFIED STREET: YES MAP PAGE

SURVEY DATA

DATE OF SURVEY 1/30/2014 85th PERCENTILE 33 MPH MEAN SPEED 30 MPH
10 MILE PER HOUR PACE 25-34 MPH PERCENT IN THE PACE 88 %

ACCIDENT HISTORY

Two Year Review

ACCIDENT RATE PER MILLION VEHICLE MILES FOR THIS SEGMENT 6.81 (Accidents/MVM)
ACCIDENT RATE PER MILLION VEHICLE MILES FOR SAME STREET CLASSIFICATION 0.86 (Accidents/MVM)

CONDITIONS REVIEWED WHEN SETTING SPEED LIMIT

- Accident History
- Shoulder Conditions
- Commercial Driveway Characteristics
- Profile Conditions
- Roadway Design Speed
- No sidewalk(s) (Pedestrian Traffic in Roadway)
- Superelevation
- Safe Stopping Sight Distanc
- Residential Density (In accordance with Section 627 (c) (1) of the CVC)
- Intersection Spacing and Offset
- Pedestrian and Bicyclist Safety (In accordance with Section 627 (c) (2) of the CVC)

CONDITIONS FOUND:

ACCIDENT HISTORY

AUTHORITY FOR SETTING OF POSTED SPEED

IN ACCORDANCE WITH THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES,
EFFECTIVE JANUARY 1, 2012 THE SPEED LIMIT IS SET TO INCREASE/DECREASE ON LOCAL SPEED
LIMITS PER THE CVC 22357/22358

Reviewed by TY PALUSKY, P.E.

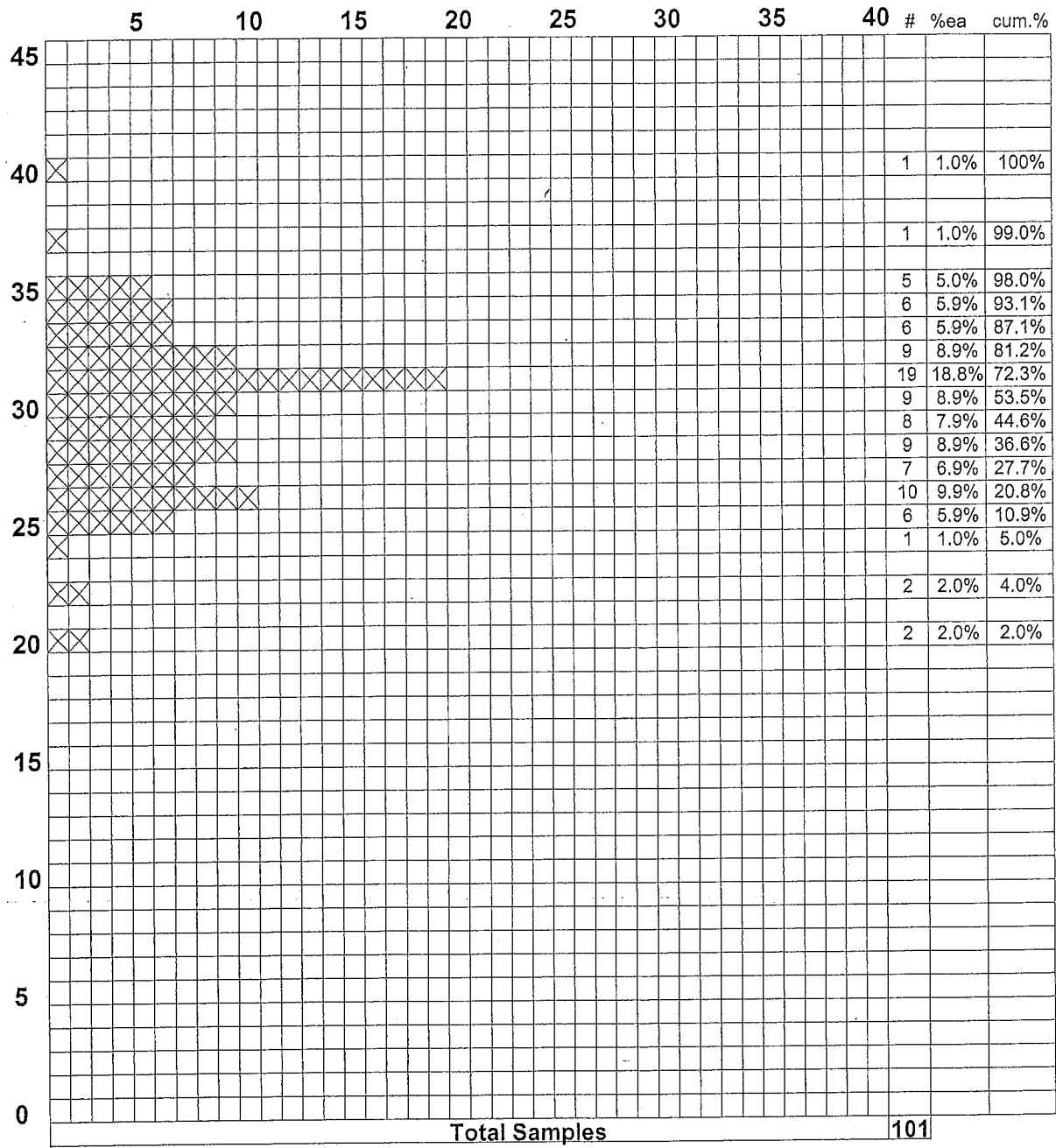
In the professional opinion of the San Diego City Traffic
Engineer, the posted speed limit is fully justified when the
speed survey and other factors are considered.

**City of San Diego
Transportation Engineering Division**

Street Name: IMPERIAL AV
Limits: 16 ST (01600) to 30 ST (02999)

Radars Survey Sheet

X=East/West



85th Percentile Speed:	<u>32.6</u>	Date of Survey:	<u>1/30/2014</u>	Start Time:	<u>9:26</u>
50th Percentile Speed:	<u>29.6</u>	Weather:	<u>Dry</u>	End Time:	<u>9:47</u>
15th Percentile Speed:	<u>25.4</u>	Road Condition:	<u>Good</u>	Posted Speed:	<u>30</u>
10 MPH Pace:	<u>25- 34</u>	Street Class.:	<u>COLLECTOR - MIN</u>	Observer:	<u>ELN</u>
Number in Pace:	<u>89</u>	Conditions not Apparent:	Accident History		
Percent in Pace:	<u>88.1%</u>				

CITY OF SAN DIEGO

ENGINEERING AND TRAFFIC SURVEY

Prepared in accordance with 627 CVC by methods determined

by the California Department of Transportation

STREET **IMPERIAL**
FROM **30**
TO **SD 015 NB OFF**

AV
ST

85th PERCENTILE 35 MPH
POSTED SPEED LIMIT 30 MPH
RADAR ENFORCEABLE YES

BLOCK RANGE: 03000 TO 03399

DIRECTION: BOTH

FEDERAL CLASSIFIED STREET: YES MAP PAGE

SURVEY DATA

DATE OF SURVEY 12/14/2011 85th PERCENTILE 35 MPH MEAN SPEED 32 MPH
10 MILE PER HOUR PACE 27-36 MPH PERCENT IN THE PACE 91 %

ACCIDENT HISTORY

Two Year Review

ACCIDENT RATE PER MILLION VEHICLE MILES FOR THIS SEGMENT 1.42 (Accidents/MVM)
ACCIDENT RATE PER MILLION VEHICLE MILES FOR SAME STREET CLASSIFICATION 0.79 (Accidents/MVM)

CONDITIONS REVIEWED WHEN SETTING SPEED LIMIT

- Accident History
- Shoulder Conditions
- Commercial Driveway Characteristics
- Profile Conditions
- Roadway Design Speed
- No sidewalk(s) (Pedestrian Traffic in Roadway)
- Superelevation
- Safe Stopping Sight Distance
- Residential Density (In accordance with Section 627 (c) (1) of the CVC)
- Intersection Spacing and Offset
- Pedestrian and Bicyclist Safety (In accordance with Section 627 (c) (2) of the CVC)

CONDITIONS FOUND:

ACCIDENT HISTORY

AUTHORITY FOR SETTING OF POSTED SPEED

IN ACCORDANCE WITH CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES THE SPEED LIMIT IS SET TO INCREASE/DECREASE ON LOCAL LIMITS PER CVC 22357/22358

Reviewed by TY PALUSKY, P.E.

In the professional opinion of the San Diego City Traffic Engineer, the posted speed limit is fully justified when the speed survey and other factors are considered.

City of San Diego
 Transportation Department
 Traffic Engineering Section
 I hereby certify that the document to which
 this is affixed is a true copy of the original
 Date 2/17/12 Signed [Signature]

City of San Diego
 Transportation Engineering Division

City of San Diego
 Transportation Department
 Traffic Engineering Section

Street Name: IMPERIAL AV

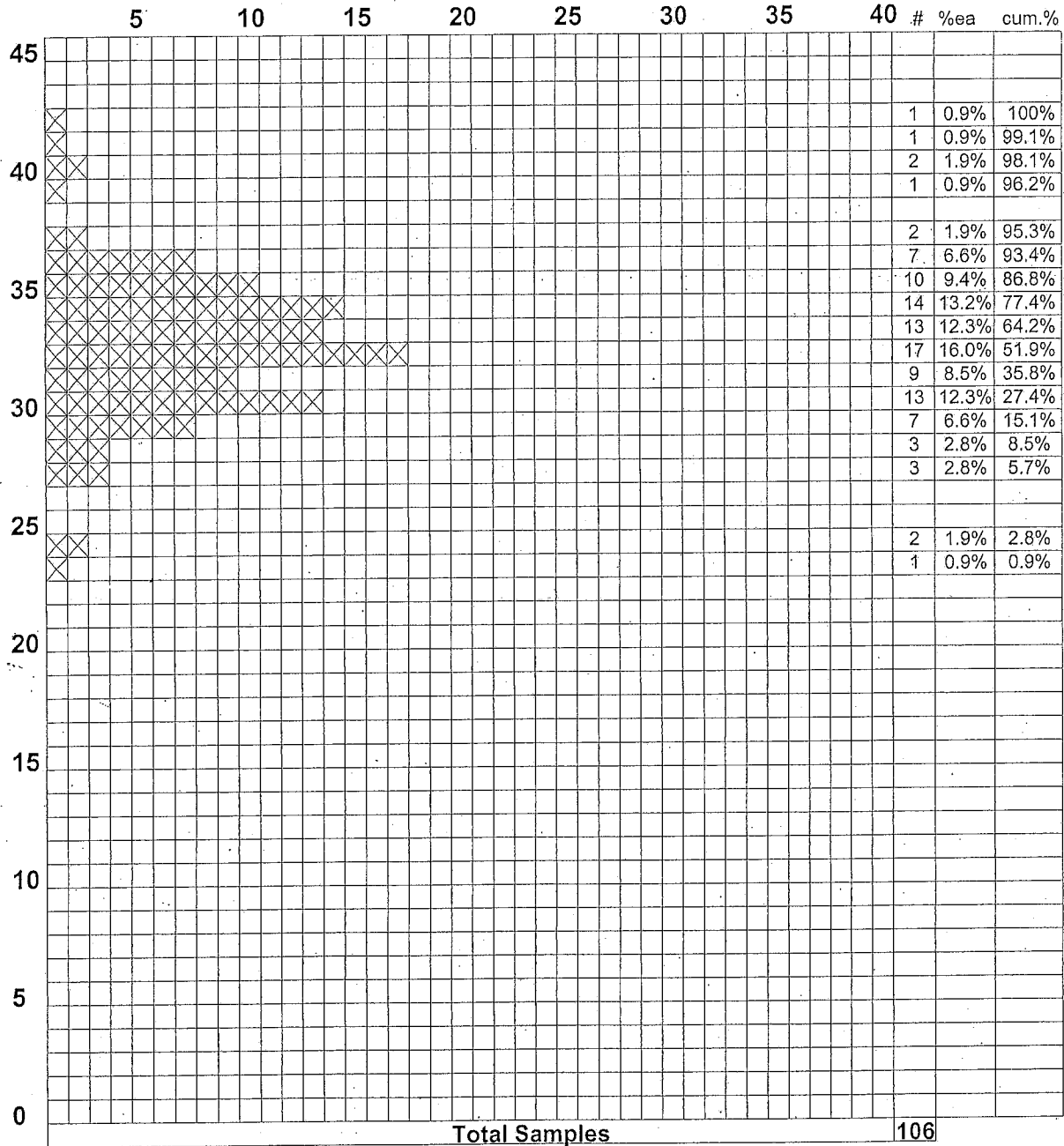
Limits: 30 ST (03000) to SD 015 NB OFF (03399)

I hereby certify that the document to which
 this is affixed is a true copy of the original

Date 2/15/12 Signed [Signature]

Radars Survey Sheet

X=East/West



85th Percentile Speed: <u>34.8</u>	Date of Survey: <u>12/14/2011</u>	Start Time: <u>15:10</u>
50th Percentile Speed: <u>31.9</u>	Weather: <u>Dry</u>	End Time: <u>15:30</u>
15th Percentile Speed: <u>29.0</u>	Road Condition: <u>Good</u>	Posted Speed: <u>30</u>
10 MPH Pace: <u>27-36</u>	Street Class.: <u>COLLECTOR - MIN</u>	Observer: <u>LA5</u>
Number in Pace: <u>96</u>	Conditions not Apparent:	Accident History
Percent in Pace: <u>90.6%</u>		

CITY OF SAN DIEGO
ENGINEERING AND TRAFFIC SURVEY
Prepared in accordance with 627 CVC by methods determined
by the California Department of Transportation

STREET **IMPERIAL**
FROM **40**
TO **SD 805**

AV 85th PERCENTILE **43** MPH
ST POSTED SPEED LIMIT **40** MPH
RADAR ENFORCEABLE **YES**

BLOCK RANGE: 04000 TO 04699

DIRECTION: EASTBOUND

FEDERAL CLASSIFIED STREET: YES MAP PAGE 15Y34-K6

SURVEY DATA

DATE OF SURVEY 7/10/2009 85th PERCENTILE 43 MPH MEAN SPEED 37 MPH
10 MILE PER HOUR PACE 33-42 MPH PERCENT IN THE PACE 74 %

ACCIDENT HISTORY

Two Year Review

ACCIDENT RATE PER MILLION VEHICLE MILES FOR THIS SEGMENT 0.34 (Accidents/MVM)
ACCIDENT RATE PER MILLION VEHICLE MILES FOR SAME STREET CLASSIFICATION 0.43 (Accidents/MVM)

CONDITIONS REVIEWED WHEN SETTING SPEED LIMIT

- Accident History
- Shoulder Conditions
- Commercial Driveway Characteristics
- Profile Conditions
- Roadway Design Speed
- No sidewalk(s) (Pedestrian Traffic in Roadway)
- Superelevation
- Safe Stopping Sight Distance
- Residential Density (In accordance with Section 627 (c) (1) of the CVC)
- Intersection Spacing and Offset
- Pedestrian and Bicyclist Safety (In accordance with Section 627 (c) (2) of the CVC)

CONDITIONS FOUND:

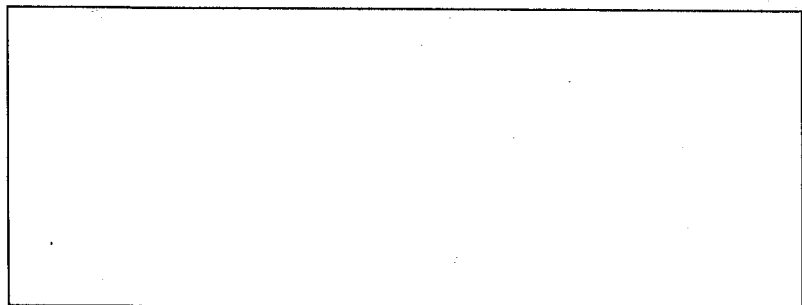
NO SIDEWALK(S) (PEDESTRIAN TRAFFIC IN ROADWAY)

AUTHORITY FOR SETTING OF POSTED SPEED

IN ACCORDANCE WITH CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES THE SPEED
LIMIT IS SET TO INCREASE/DECREASE ON LOCAL LIMITS PER CVC 22357/22358

Reviewed by TY PALUSKY, P.E.

In the professional opinion of the San Diego City Traffic
Engineer, the posted speed limit is fully justified when the
speed survey and other factors are considered.



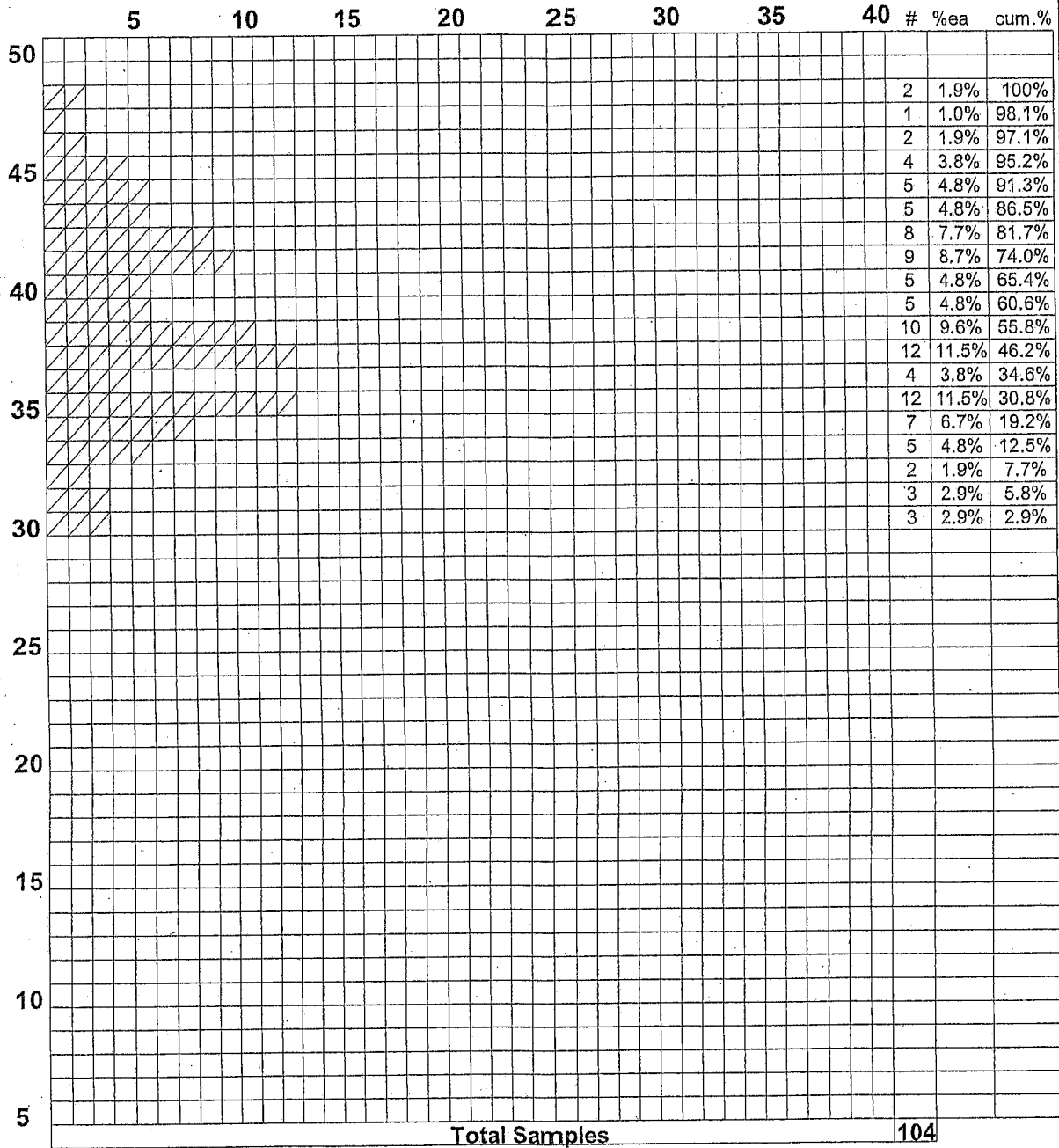
**City of San Diego
Transportation Engineering Division**

Street Name: **IMPERIAL AVE**

Limits: **40TH ST (4000) to SD-805 (4699)**

Radars Survey Sheet

X=West /=East



85th Percentile Speed: <u>42.7</u>	Date of Survey: <u>7/10/2009</u>	Start Time: <u>13:15</u>
50th Percentile Speed: <u>37.4</u>	Weather: <u>Dry</u>	End Time: <u>13:40</u>
15th Percentile Speed: <u>33.4</u>	Road Condition: <u>Good</u>	Posted Speed: <u>40</u>
10 MPH Pace: <u>33-42</u>	Street Class.: <u>MAJOR ROADWAY</u>	Observer: <u>SL</u>
Number in Pace: <u>77</u>	Conditions not Apparent:	
Percent in Pace: <u>74.0%</u>		

CITY OF SAN DIEGO
ENGINEERING AND TRAFFIC SURVEY
Prepared in accordance with 627 CVC by methods determined
by the California Department of Transportation

STREET **IMPERIAL**
FROM **40**
TO **SD 805**

AV 85th PERCENTILE **44** MPH
ST POSTED SPEED LIMIT **40** MPH
RADAR ENFORCEABLE **YES**

BLOCK RANGE: 04000 TO 04699

DIRECTION: WESTBOUND

FEDERAL CLASSIFIED STREET: YES MAP PAGE 15Y34-K6

SURVEY DATA

DATE OF SURVEY 7/10/2009 85th PERCENTILE 44 MPH MEAN SPEED 38 MPH
10 MILE PER HOUR PACE 35-44 MPH PERCENT IN THE PACE 73 %

ACCIDENT HISTORY

Two Year Review

ACCIDENT RATE PER MILLION VEHICLE MILES FOR THIS SEGMENT 0.34 (Accidents/MVM)
ACCIDENT RATE PER MILLION VEHICLE MILES FOR SAME STREET CLASSIFICATION 0.43 (Accidents/MVM)

CONDITIONS REVIEWED WHEN SETTING SPEED LIMIT

- Accident History
- Shoulder Conditions
- Commercial Driveway Characteristics
- Profile Conditions
- Roadway Design Speed
- No sidewalk(s) (Pedestrian Traffic in Roadway)
- Superelevation
- Safe Stopping Sight Distance
- Residential Density (In accordance with Section 627 (c) (1) of the CVC)
- Intersection Spacing and Offset
- Pedestrian and Bicyclist Safety (In accordance with Section 627 (c) (2) of the CVC)

CONDITIONS FOUND:

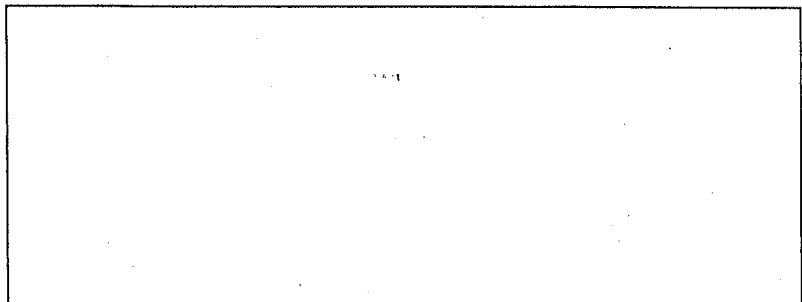
NO SIDEWALK(S) (PEDESTRIAN TRAFFIC IN ROADWAY)

AUTHORITY FOR SETTING OF POSTED SPEED

IN ACCORDANCE WITH CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES THE SPEED
LIMIT IS SET TO INCREASE/DECREASE ON LOCAL LIMITS PER CVC 22357/22358

Reviewed by TY PALUSKY, P.E.

In the professional opinion of the San Diego City Traffic
Engineer, the posted speed limit is fully justified when the
speed survey and other factors are considered.

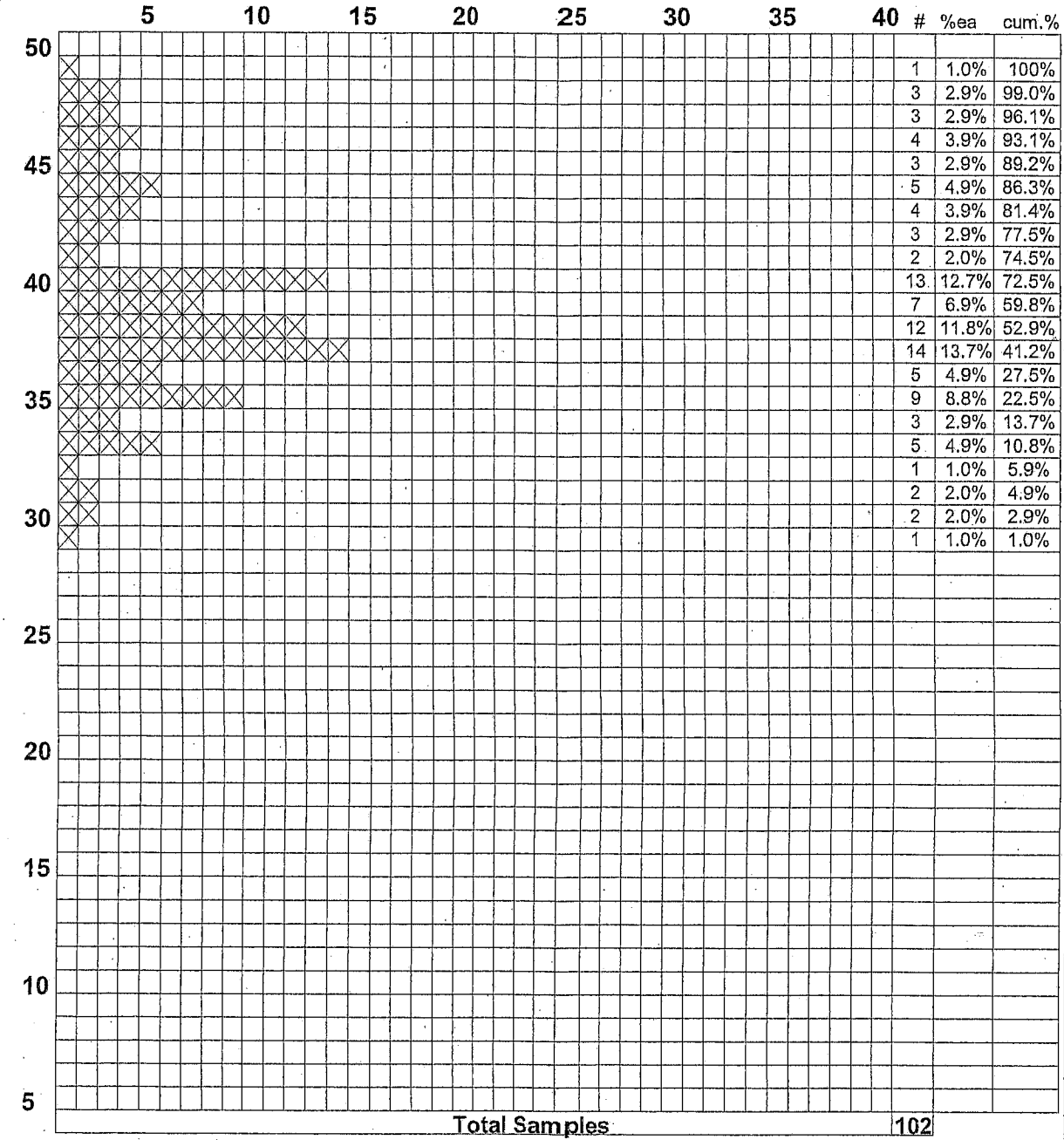


**City of San Diego
Transportation Engineering Division**

Street Name: IMPERIAL AVE
Limits: 40TH ST (4000) to SD-805 (4699)

Radar Survey Sheet

X=West /=East



85th Percentile Speed: <u>43.7</u>	Date of Survey: <u>7/10/2009</u>	Start Time: <u>12:50</u>
50th Percentile Speed: <u>37.8</u>	Weather: <u>Dry</u>	End Time: <u>13:05</u>
15th Percentile Speed: <u>34.1</u>	Road Condition: <u>Good</u>	Posted Speed: <u>40</u>
10 MPH Pace: <u>35- 44</u>	Street Class.: <u>MAJOR ROADWAY</u>	Observer: <u>SL</u>
Number in Pace: <u>74</u>	Conditions not Apparent:	
Percent in Pace: <u>72.5%</u>		

CITY OF SAN DIEGO
ENGINEERING AND TRAFFIC SURVEY
Prepared in accordance with 627 CVC by methods determined
by the California Department of Transportation

STREET **IMPERIAL**
FROM **SD 805**
TO **S. SAN JACINTO**

AV
DR

85th PERCENTILE 40 MPH
POSTED SPEED LIMIT 35 MPH
RADAR ENFORCEABLE YES

BLOCK RANGE: 04650 TO 05199

DIRECTION: EASTBOUND

FEDERAL CLASSIFIED STREET: YES MAP PAGE

SURVEY DATA

DATE OF SURVEY 7/15/2015 85th PERCENTILE 40 MPH MEAN SPEED 35 MPH
10 MILE PER HOUR PACE 31-40 MPH PERCENT IN THE PACE 78 %

ACCIDENT HISTORY

Two Year Review

ACCIDENT RATE PER MILLION VEHICLE MILES FOR THIS SEGMENT 1.57 (Accidents/MVM)
ACCIDENT RATE PER MILLION VEHICLE MILES FOR SAME STREET CLASSIFICATION 0.47 (Accidents/MVM)

CONDITIONS REVIEWED WHEN SETTING SPEED LIMIT

- Accident History
- Shoulder Conditions
- Commercial Driveway Characteristics
- Profile Conditions
- Roadway Design Speed
- No sidewalk(s) (Pedestrian Traffic in Roadway)
- Superelevation
- Safe Stopping Sight Distanc
- Residential Density (In accordance with Section 627 (c) (1) of the CVC)
- Intersection Spacing and Offset
- Pedestrian and Bicyclist Safety (In accordance with Section 627 (c) (2) of the CVC)

CONDITIONS FOUND:

ACCIDENT HISTORY

AUTHORITY FOR SETTING OF POSTED SPEED

IN ACCORDANCE WITH THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES,
EFFECTIVE JANUARY 1, 2012 THE SPEED LIMIT IS SET TO INCREASE/DECREASE ON LOCAL SPEED
LIMITS PER THE CVC 22357/22358

Reviewed by LEO ALO T.E.

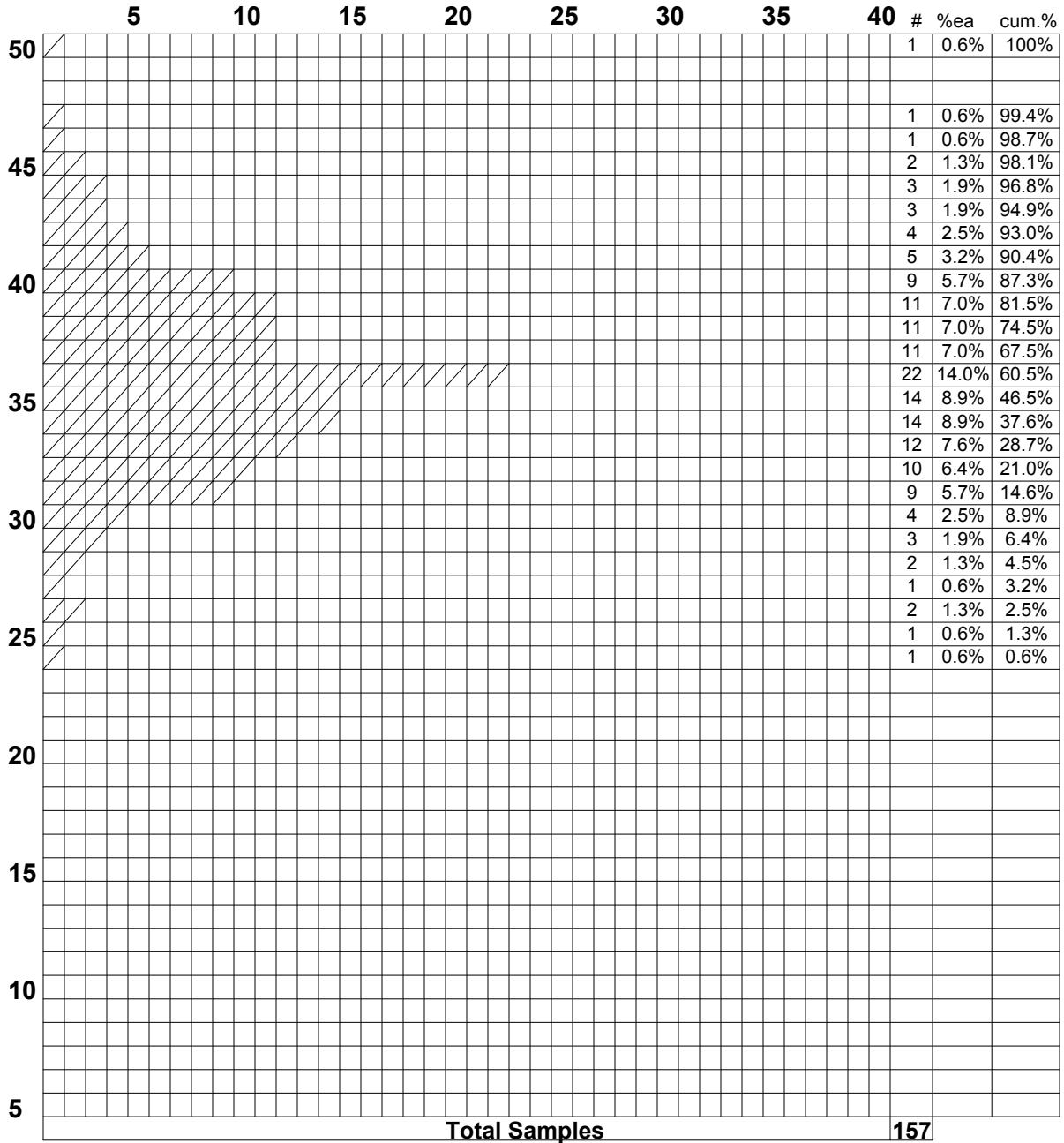
In the professional opinion of the San Diego City Traffic
Engineer, the posted speed limit is fully justified when the
speed survey and other factors are considered.

**City of San Diego
Transportation Engineering Division**

Street Name: IMPERIAL AV
Limits: SD 805 to SAN JACINTO DR

Radar Survey Sheet

X=West / =East



85th Percentile Speed: 39.6
50th Percentile Speed: 35.3
15th Percentile Speed: 31.1
10 MPH Pace: 31- 40
Number in Pace: 123
Percent in Pace: 78.3%

Date of Survey: 7/15/2015 Start Time: 13:44
Weather: DRY End Time: 13:59
Road Condition: GOOD Posted Speed: 35
Street Class.: MAJOR ROADWAY Observer: ELN
Conditions not Apparent: Accident History

CITY OF SAN DIEGO
ENGINEERING AND TRAFFIC SURVEY
Prepared in accordance with 627 CVC by methods determined
by the California Department of Transportation

STREET **IMPERIAL**
FROM **SD 805**
TO **S. SAN JACINTO**

AV
DR

85th PERCENTILE 40 MPH
POSTED SPEED LIMIT 35 MPH
RADAR ENFORCEABLE YES

BLOCK RANGE: 04650 TO 05199

DIRECTION: WESTBOUND

FEDERAL CLASSIFIED STREET: YES MAP PAGE

SURVEY DATA

DATE OF SURVEY 7/15/2015 85th PERCENTILE 40 MPH MEAN SPEED 34 MPH
10 MILE PER HOUR PACE 30-39 MPH PERCENT IN THE PACE 71 %

ACCIDENT HISTORY

Two Year Review

ACCIDENT RATE PER MILLION VEHICLE MILES FOR THIS SEGMENT 1.57 (Accidents/MVM)
ACCIDENT RATE PER MILLION VEHICLE MILES FOR SAME STREET CLASSIFICATION 0.47 (Accidents/MVM)

CONDITIONS REVIEWED WHEN SETTING SPEED LIMIT

- Accident History
- Shoulder Conditions
- Commercial Driveway Characteristics
- Profile Conditions
- Roadway Design Speed
- No sidewalk(s) (Pedestrian Traffic in Roadway)
- Superelevation
- Safe Stopping Sight Distanc
- Residential Density (In accordance with Section 627 (c) (1) of the CVC)
- Intersection Spacing and Offset
- Pedestrian and Bicyclist Safety (In accordance with Section 627 (c) (2) of the CVC)

CONDITIONS FOUND:

ACCIDENT HISTORY

AUTHORITY FOR SETTING OF POSTED SPEED

IN ACCORDANCE WITH THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES,
EFFECTIVE JANUARY 1, 2012 THE SPEED LIMIT IS SET TO INCREASE/DECREASE ON LOCAL SPEED
LIMITS PER THE CVC 22357/22358

Reviewed by LEO ALO T.E.

In the professional opinion of the San Diego City Traffic
Engineer, the posted speed limit is fully justified when the
speed survey and other factors are considered.

**City of San Diego
Transportation Engineering Division**

Street Name: IMPERIAL AV
Limits: SD 805 to SAN JACINTO DR

Radar Survey Sheet

X=West / =East

	5	10	15	20	25	30	35	40	#	%ea	cum.%
65	X								1	0.6%	100%
60											
55											
50											
45	X								1	0.6%	99.4%
	X								1	0.6%	98.8%
	X								1	0.6%	98.3%
	X								1	0.6%	97.7%
	X								2	1.2%	97.1%
	X								1	0.6%	96.0%
40	X	X							5	2.9%	95.4%
	X	X							8	4.6%	92.5%
	X	X							8	4.6%	87.9%
	X	X							10	5.8%	83.2%
	X	X							10	5.8%	77.5%
	X	X							12	6.9%	71.7%
	X	X							13	7.5%	64.7%
35	X	X	X						12	6.9%	57.2%
	X	X	X						17	9.8%	50.3%
	X	X	X						15	8.7%	40.5%
	X	X	X						14	8.1%	31.8%
	X	X	X						10	5.8%	23.7%
30	X	X	X						10	5.8%	17.9%
	X	X	X						9	5.2%	12.1%
	X	X	X						5	2.9%	6.9%
	X	X	X						5	2.9%	4.0%
25	X	X	X						2	1.2%	1.2%
20											
Total Samples									173		

85th Percentile Speed: 39.4
50th Percentile Speed: 34.0
15th Percentile Speed: 29.5
10 MPH Pace: 30- 39
Number in Pace: 123
Percent in Pace: 71.1%

Date of Survey: 7/15/2015 Start Time: 13:44
Weather: DRY End Time: 13:59
Road Condition: GOOD Posted Speed: 35
Street Class.: MAJOR ROADWAY Observer: ELN
Conditions not Apparent: Accident History

CITY OF SAN DIEGO
ENGINEERING AND TRAFFIC SURVEY
Prepared in accordance with 627 CVC by methods determined
by the California Department of Transportation

STREET **IMPERIAL**
FROM **SD 015 NB OFF**
TO **40**

AV 85th PERCENTILE 37 MPH
ST POSTED SPEED LIMIT 30 MPH
RADAR ENFORCEABLE YES

BLOCK RANGE: 03400 TO 03999

DIRECTION: BOTH

FEDERAL CLASSIFIED STREET: YES MAP PAGE

SURVEY DATA

DATE OF SURVEY 1/21/2015 85th PERCENTILE 37 MPH MEAN SPEED 30 MPH
10 MILE PER HOUR PACE 26-35 MPH PERCENT IN THE PACE 71 %

ACCIDENT HISTORY

Two Year Review

ACCIDENT RATE PER MILLION VEHICLE MILES FOR THIS SEGMENT 1.25 (Accidents/MVM)
ACCIDENT RATE PER MILLION VEHICLE MILES FOR SAME STREET CLASSIFICATION 0.76 (Accidents/MVM)

CONDITIONS REVIEWED WHEN SETTING SPEED LIMIT

- Accident History
- Shoulder Conditions
- Commercial Driveway Characteristics
- Profile Conditions
- Roadway Design Speed
- No sidewalk(s) (Pedestrian Traffic in Roadway)
- Superelevation
- Safe Stopping Sight Distanc
- Residential Density (In accordance with Section 627 (c) (1) of the CVC)
- Intersection Spacing and Offset
- Pedestrian and Bicyclist Safety (In accordance with Section 627 (c) (2) of the CVC)

CONDITIONS FOUND:

ACCIDENT HISTORY

AUTHORITY FOR SETTING OF POSTED SPEED

IN ACCORDANCE WITH THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES,
EFFECTIVE JANUARY 1, 2012 THE SPEED LIMIT IS SET TO INCREASE/DECREASE ON LOCAL SPEED
LIMITS PER THE CVC 22357/22358

Reviewed by LEO ALO T.E.

In the professional opinion of the San Diego City Traffic
Engineer, the posted speed limit is fully justified when the
speed survey and other factors are considered.

**City of San Diego
Transportation Engineering Division**

Street Name: IMPERIAL AV
Limits: S 40TH ST to SD 015

Radars Survey Sheet

X=East/West

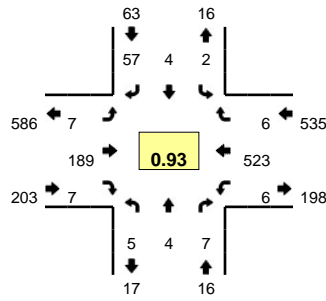
	5	10	15	20	25	30	35	40	#	%ea	cum.%
55											
52	X								1	0.6%	100%
50	X								1	0.6%	99.4%
48											
46	X								1	0.6%	98.8%
45	X								1	0.6%	98.2%
44	X								2	1.2%	97.6%
43	X								1	0.6%	96.4%
42	X								2	1.2%	95.8%
41	X								3	1.8%	94.6%
40	X								2	1.2%	92.8%
39	X								2	1.2%	91.6%
38	X								5	3.0%	90.4%
37	X								5	3.0%	87.3%
36	X								6	3.6%	84.3%
35	X								10	6.0%	80.7%
34	X								12	7.2%	74.7%
33	X								9	5.4%	67.5%
32	X								12	7.2%	62.0%
31	X								11	6.6%	54.8%
30	X								16	9.6%	48.2%
29	X								14	8.4%	38.6%
28	X								13	7.8%	30.1%
27	X								10	6.0%	22.3%
26	X								10	6.0%	16.3%
25	X								6	3.6%	10.2%
24	X								5	3.0%	6.6%
23	X								2	1.2%	3.6%
22	X								1	0.6%	2.4%
21	X								1	0.6%	1.8%
20	X								1	0.6%	1.2%
19	X								1	0.6%	0.6%
18											
17											
16											
15											
14											
13											
12											
11											
10											
Total Samples									166		

85th Percentile Speed: 36.2
50th Percentile Speed: 30.3
15th Percentile Speed: 25.8
10 MPH Pace: 26-35
Number in Pace: 117
Percent in Pace: 70.5%

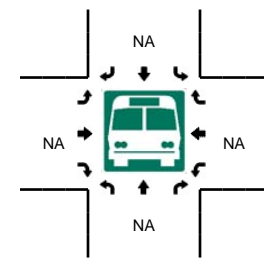
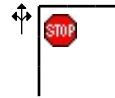
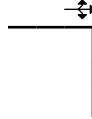
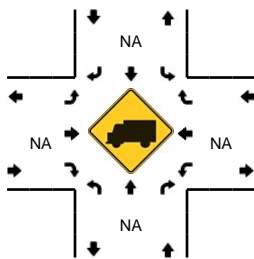
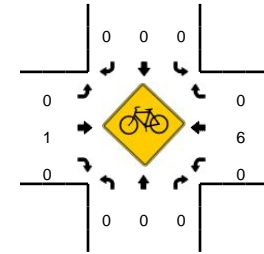
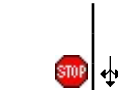
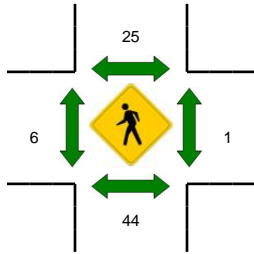
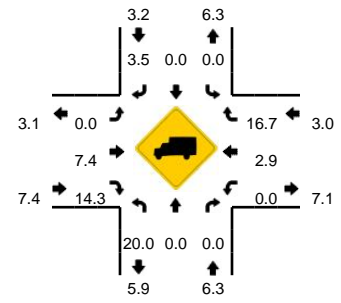
Date of Survey: 1/21/2015 Start Time: 11:50
Weather: DRY End Time: 12:09
Road Condition: GOOD Posted Speed: 30
Street Class.: COLLECTOR - MIN Observer: ELN
Conditions not Apparent: Accident History

LOCATION: 3. 20th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576201
DATE: Wed, Dec 13 2017



Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:25 AM -- 7:40 AM

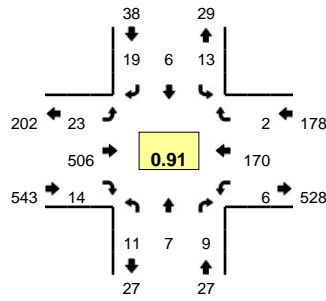


5-Min Count Period Beginning At	3. 20th St (Northbound)				3. 20th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	1	1	0	0	9	0	0	0	50	0	0	61	
7:05 AM	0	0	0	0	0	0	4	0	0	13	0	0	0	53	0	0	70	
7:10 AM	0	0	0	0	0	0	6	0	1	11	0	0	1	46	0	0	65	
7:15 AM	0	1	2	0	0	1	6	0	0	10	0	0	0	50	2	0	72	
7:20 AM	1	1	0	0	0	1	4	0	1	12	1	0	0	36	1	0	58	
7:25 AM	0	0	0	0	0	0	6	0	1	20	0	0	1	49	1	0	78	
7:30 AM	0	0	0	0	1	0	6	0	1	17	0	1	3	32	0	0	61	
7:35 AM	0	0	0	0	0	1	8	0	0	20	0	0	0	52	0	0	81	
7:40 AM	2	0	1	0	0	0	4	0	2	17	0	0	0	32	0	0	58	
7:45 AM	1	0	1	0	0	1	2	0	0	15	1	0	1	44	0	0	66	
7:50 AM	0	0	0	0	0	0	3	0	0	19	1	0	0	40	1	0	64	
7:55 AM	1	2	3	0	0	0	5	0	0	15	2	0	0	46	1	0	75	809
8:00 AM	0	0	0	0	1	0	3	0	0	20	2	0	0	43	0	0	69	817
8:05 AM	0	0	0	0	1	0	3	0	0	9	2	0	2	46	0	0	63	810
8:10 AM	0	0	0	0	0	1	3	0	1	13	2	0	0	40	0	0	60	805
8:15 AM	0	0	1	0	0	0	3	0	0	12	1	0	1	29	0	0	47	780
8:20 AM	1	0	0	0	0	0	5	0	1	14	0	0	1	52	1	0	75	797
8:25 AM	3	2	0	0	0	0	1	0	1	15	0	0	0	38	0	0	60	779
8:30 AM	1	0	0	0	0	1	1	0	0	7	2	0	0	33	0	0	45	763
8:35 AM	0	0	0	0	1	0	2	0	3	15	0	0	1	32	1	0	55	737
8:40 AM	0	0	0	0	0	0	1	0	1	20	0	0	1	33	0	0	56	735
8:45 AM	0	1	0	0	1	0	1	0	0	15	0	0	0	46	0	0	64	733
8:50 AM	0	0	2	0	0	0	3	0	1	14	1	0	1	28	0	0	50	719
8:55 AM	0	1	1	0	0	0	1	0	1	10	0	0	2	23	0	0	39	683
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	0	0	4	4	80	0	8	228	0	4	16	532	4	0	880	
Heavy Trucks	0	0	0	0	0	0	0	0	0	20	0	0	0	16	0	0	36	
Pedestrians		36				4				0				0			40	
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1	
Railroad																		
Stopped Buses																		

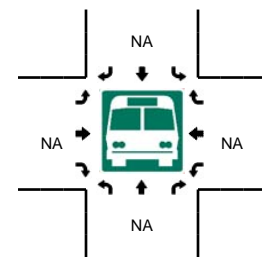
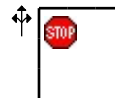
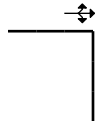
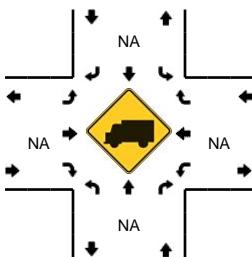
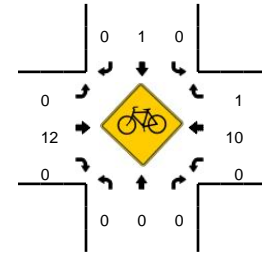
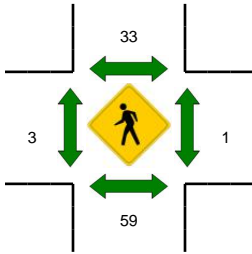
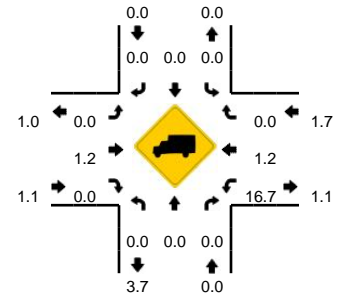
Comments:

LOCATION: 3. 20th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576202
DATE: Wed, Dec 13 2017



Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

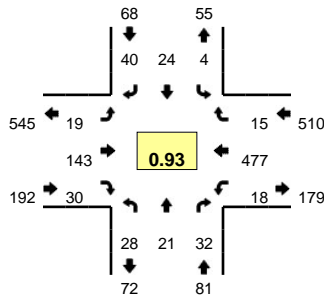


5-Min Count Period Beginning At	3. 20th St (Northbound)				3. 20th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	3	2	0	2	0	1	0	1	45	1	0	0	14	0	0	71	
4:05 PM	0	3	2	0	0	0	0	0	1	44	2	0	1	7	0	0	60	
4:10 PM	0	2	0	0	0	0	0	0	1	49	1	0	1	14	1	0	69	
4:15 PM	1	0	1	0	0	0	1	0	0	34	2	0	1	9	0	0	49	
4:20 PM	1	1	0	0	1	0	0	0	2	43	1	0	1	14	0	0	64	
4:25 PM	0	0	0	0	2	0	3	0	1	37	2	0	0	15	0	0	60	
4:30 PM	2	0	1	0	0	0	0	0	0	35	2	0	1	12	0	0	53	
4:35 PM	0	0	0	0	1	0	2	0	2	46	1	0	0	13	0	0	65	
4:40 PM	0	1	0	0	2	1	0	0	3	38	1	0	1	20	0	0	67	
4:45 PM	4	0	0	0	1	1	5	0	1	46	2	0	1	10	1	0	72	
4:50 PM	1	1	2	0	1	1	1	0	2	47	0	0	0	12	0	0	68	
4:55 PM	1	0	2	0	0	0	0	0	1	38	1	0	0	13	0	0	56	754
5:00 PM	1	0	1	0	2	0	2	0	1	36	0	0	0	14	1	0	58	741
5:05 PM	0	1	0	0	2	1	3	0	3	47	1	0	3	17	0	0	78	759
5:10 PM	0	0	0	0	1	0	2	0	2	43	0	1	0	18	0	0	67	757
5:15 PM	1	1	0	0	1	0	0	0	4	48	3	2	0	10	0	0	70	778
5:20 PM	1	1	2	0	1	0	3	0	1	42	3	0	0	15	0	0	69	783
5:25 PM	0	0	0	1	0	1	0	0	0	38	2	0	0	15	0	0	57	780
5:30 PM	0	1	0	0	1	1	2	0	2	38	0	0	1	12	0	0	58	785
5:35 PM	1	1	2	0	1	0	1	0	0	45	1	0	0	14	0	0	66	786
5:40 PM	0	0	0	0	0	0	1	0	1	37	1	0	0	7	0	0	47	766
5:45 PM	0	0	0	0	0	0	1	0	0	30	2	0	0	11	1	0	45	739
5:50 PM	0	2	0	0	2	0	3	0	1	33	0	0	0	7	0	0	48	719
5:55 PM	0	0	0	0	1	0	1	0	1	17	2	0	0	9	0	0	31	694
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	8	0	0	16	4	20	0	36	552	16	12	12	180	0	0	860	
Heavy Trucks	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	
Pedestrians		56				28				8				4			96	
Bicycles	0	0	0	0	0	0	0	0	0	2	0	0	0	3	1	0	6	
Railroad																		
Stopped Buses																		

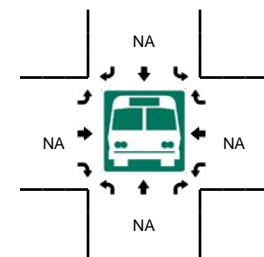
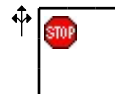
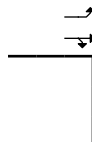
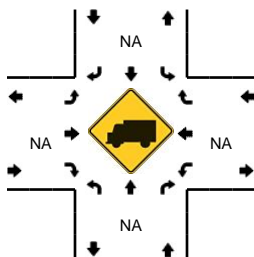
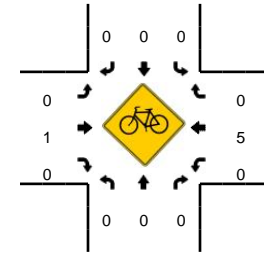
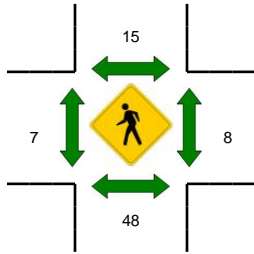
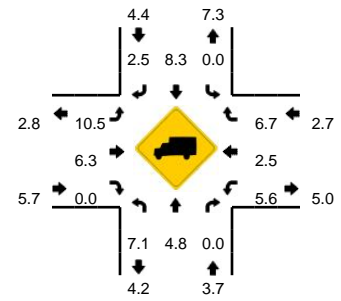
Comments:

LOCATION: 4. 21st St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576203
DATE: Wed, Dec 13 2017



Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

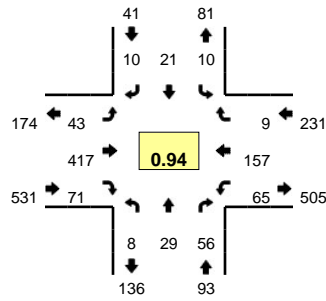


5-Min Count Period Beginning At	4. 21st St (Northbound)				4. 21st St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	0	1	1	0	1	0	0	0	0	10	0	0	0	0	52	1	2	68	
7:05 AM	3	3	0	0	0	1	2	0	4	8	0	0	3	49	1	0	74		
7:10 AM	1	1	2	0	1	3	5	0	1	11	1	0	0	46	2	0	74		
7:15 AM	5	1	3	0	0	1	3	0	1	7	1	0	2	42	3	0	69		
7:20 AM	2	1	3	0	0	0	5	0	2	16	1	0	2	33	1	0	66		
7:25 AM	0	2	3	0	0	0	2	0	2	8	4	0	1	50	2	0	74		
7:30 AM	1	2	2	0	0	1	5	0	1	16	6	0	1	28	0	0	63		
7:35 AM	4	0	2	0	1	1	1	0	2	10	0	0	2	47	0	0	70		
7:40 AM	4	3	4	0	0	3	3	0	1	18	1	0	1	36	3	0	77		
7:45 AM	0	2	2	0	0	2	2	0	2	11	3	0	2	36	1	0	63		
7:50 AM	3	3	1	0	0	1	5	0	2	10	3	0	3	33	1	0	65		
7:55 AM	2	1	2	0	2	2	3	0	3	14	3	0	2	40	1	0	75	838	
8:00 AM	4	2	3	0	0	8	1	0	1	11	4	0	2	43	1	0	80	850	
8:05 AM	2	3	5	0	0	2	5	0	1	11	3	0	0	43	0	0	75	851	
8:10 AM	1	3	3	0	0	1	2	0	0	8	0	0	1	38	2	2	61	838	
8:15 AM	0	1	4	0	1	0	3	0	0	11	4	0	6	34	0	0	64	833	
8:20 AM	4	2	1	0	1	1	2	0	2	12	1	0	3	45	0	0	74	841	
8:25 AM	4	2	2	0	0	4	1	0	1	11	1	0	3	34	1	0	64	831	
8:30 AM	2	0	3	0	0	2	1	0	3	8	1	0	1	29	0	0	50	818	
8:35 AM	1	0	2	0	1	3	3	0	1	14	4	0	1	27	1	2	60	808	
8:40 AM	2	5	0	0	0	3	1	0	2	19	3	0	2	32	1	0	70	801	
8:45 AM	4	2	1	0	1	1	1	0	0	11	1	0	3	40	0	0	65	803	
8:50 AM	2	2	0	0	0	3	5	0	2	14	1	0	1	21	2	2	55	793	
8:55 AM	3	5	1	0	1	4	2	0	0	12	4	0	0	21	0	0	53	771	
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
All Vehicles	32	24	40	0	8	48	36	0	20	144	40	0	16	504	8	0	920		
Heavy Trucks	4	4	0		0	4	0		4	8	0		4	12	0		40		
Pedestrians		60				28				8				16			112		
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1		
Railroad																			
Stopped Buses																			

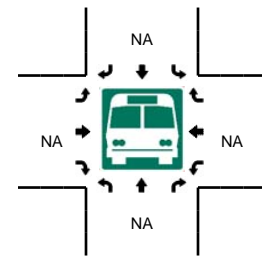
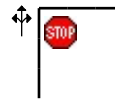
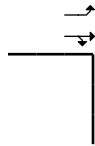
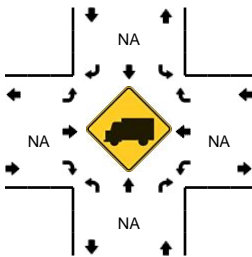
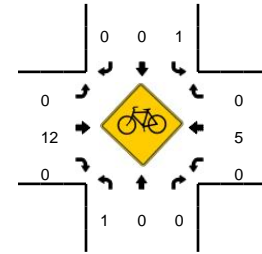
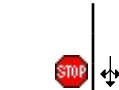
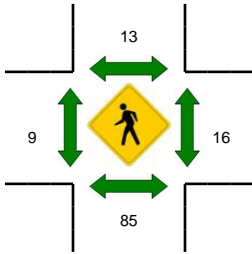
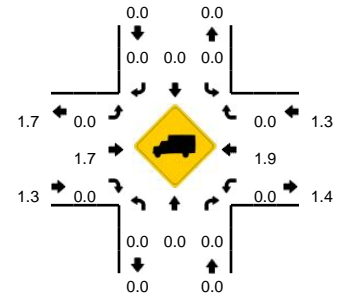
Comments:

LOCATION: 4. 21st St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576204
DATE: Wed, Dec 13 2017



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:35 PM -- 4:50 PM

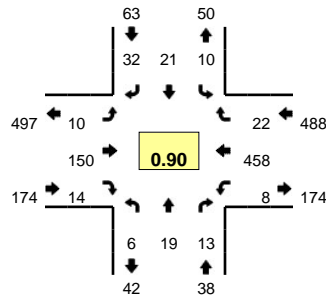


5-Min Count Period Beginning At	4. 21st St (Northbound)				4. 21st St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	1	1	0	2	4	1	0	5	34	6	0	4	13	2	3	76	
4:05 PM	1	5	6	0	3	2	0	0	6	32	8	0	9	8	2	1	83	
4:10 PM	0	4	1	0	0	3	2	0	4	40	5	0	3	13	1	5	81	
4:15 PM	4	0	3	0	3	3	0	0	3	31	1	0	4	7	0	0	59	
4:20 PM	0	1	5	0	1	2	1	0	4	36	5	0	4	14	1	3	77	
4:25 PM	1	3	2	0	1	2	0	0	4	26	4	0	0	13	2	4	62	
4:30 PM	1	3	1	0	3	4	0	0	0	33	5	0	0	13	1	1	65	
4:35 PM	0	3	6	0	1	1	3	0	2	40	5	0	2	8	0	0	71	
4:40 PM	1	4	3	0	1	1	2	0	3	30	7	0	4	15	3	2	76	
4:45 PM	3	4	7	1	1	1	0	0	4	42	10	0	4	12	0	2	91	
4:50 PM	0	3	7	0	0	2	1	0	3	34	6	0	5	9	0	1	71	
4:55 PM	0	1	8	0	0	1	0	0	1	29	8	0	4	13	0	3	68	880
5:00 PM	0	3	5	0	0	1	0	0	4	35	5	0	4	15	0	1	73	877
5:05 PM	1	1	4	0	1	4	1	0	6	32	4	0	5	22	1	3	85	879
5:10 PM	0	1	2	0	0	1	0	0	2	38	5	0	3	13	1	2	68	866
5:15 PM	1	3	3	0	1	0	1	0	9	39	6	0	5	12	0	2	82	889
5:20 PM	0	2	5	0	0	4	1	0	7	29	6	0	4	10	2	1	71	883
5:25 PM	0	1	5	0	2	1	1	0	2	36	4	0	3	15	1	4	75	896
5:30 PM	1	2	3	0	2	0	0	0	3	24	5	0	1	14	1	0	56	887
5:35 PM	1	2	6	0	1	1	1	0	4	37	7	0	1	9	1	0	71	887
5:40 PM	2	2	5	0	0	0	0	0	4	29	1	0	2	7	0	2	54	865
5:45 PM	1	2	2	0	1	0	1	0	4	27	4	0	4	8	0	6	60	834
5:50 PM	0	1	1	0	1	3	0	0	3	21	8	0	2	7	1	3	51	814
5:55 PM	0	1	3	0	0	1	3	0	1	14	0	0	1	6	0	4	34	780
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	44	64	4	12	12	20	0	36	448	88	0	40	140	12	16	952	
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	4	0		16	
Pedestrians		72				20				12				20			124	
Bicycles	0	0	0		0	0	0		0	5	0		0	1	0		6	
Railroad																		
Stopped Buses																		

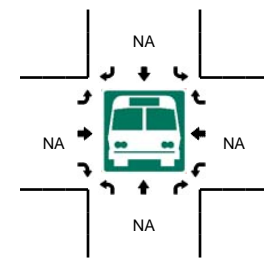
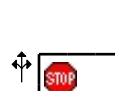
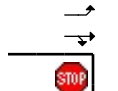
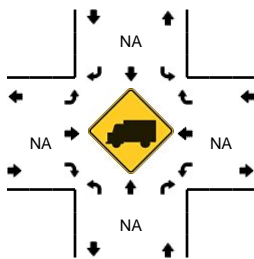
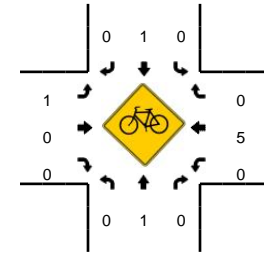
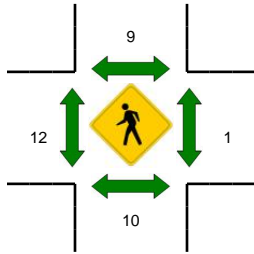
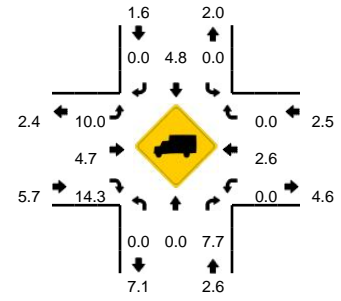
Comments:

LOCATION: 6. 24th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576205
DATE: Wed, Dec 13 2017



Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

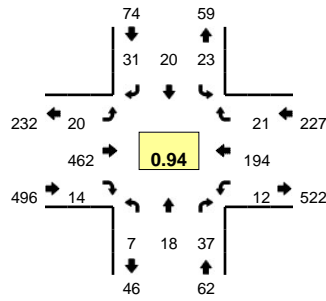


5-Min Count Period Beginning At	6. 24th St (Northbound)				6. 24th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	1	0	0	1	1	0	0	7	3	0	1	47	0	0	61	
7:05 AM	0	1	0	0	2	0	2	0	1	3	0	0	0	46	1	0	56	
7:10 AM	1	1	0	0	3	0	3	0	0	10	0	1	0	43	1	0	63	
7:15 AM	1	0	0	0	1	1	3	0	3	10	0	0	1	38	0	0	58	
7:20 AM	0	1	2	0	0	0	4	0	0	5	1	0	1	39	2	0	55	
7:25 AM	1	1	1	0	0	1	4	0	2	11	1	0	1	39	0	0	62	
7:30 AM	1	2	0	0	1	3	1	0	0	9	0	0	1	33	2	0	53	
7:35 AM	0	1	2	0	0	1	3	0	1	16	1	0	0	43	0	0	68	
7:40 AM	0	0	1	0	0	1	2	0	0	15	1	0	1	37	1	0	59	
7:45 AM	0	1	1	0	0	0	4	0	1	8	1	0	0	38	0	0	54	
7:50 AM	0	1	0	0	2	6	2	0	2	13	4	0	1	29	1	0	61	
7:55 AM	0	2	2	0	1	1	3	0	1	13	2	1	1	36	4	1	68	718
8:00 AM	0	2	2	0	1	1	1	0	0	14	0	0	0	39	4	0	64	721
8:05 AM	1	0	1	0	4	0	5	0	0	16	1	0	0	49	4	0	81	746
8:10 AM	1	3	1	0	1	3	3	0	1	11	1	0	1	35	2	0	63	746
8:15 AM	1	4	1	0	0	1	2	0	1	13	1	0	0	42	3	0	69	757
8:20 AM	1	2	1	0	0	3	2	0	0	11	1	0	1	38	1	0	61	763
8:25 AM	0	2	1	0	0	0	1	0	1	18	0	0	2	26	2	0	53	754
8:30 AM	0	1	1	0	2	1	2	0	1	8	0	0	1	30	7	0	54	755
8:35 AM	1	1	1	0	0	1	0	0	1	12	0	0	0	33	0	0	50	737
8:40 AM	1	3	0	0	0	2	3	0	2	13	0	0	0	28	4	0	56	734
8:45 AM	0	2	1	0	0	3	5	0	1	17	1	0	1	44	0	0	75	755
8:50 AM	1	2	1	0	1	1	4	0	0	11	1	0	2	28	3	0	55	749
8:55 AM	0	1	2	0	3	1	4	0	1	3	2	0	0	18	2	0	37	718
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	16	20	0	24	8	36	0	4	172	12	4	4	496	48	4	852	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	4	0	0	12	0	0	16	
Pedestrians		16				20				12				4			52	
Bicycles	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3	
Railroad																		
Stopped Buses																		

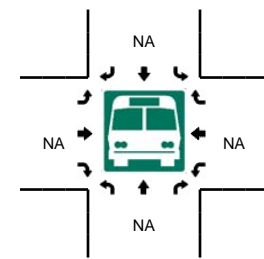
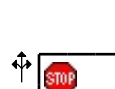
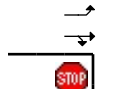
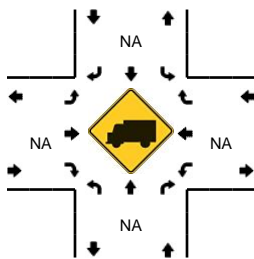
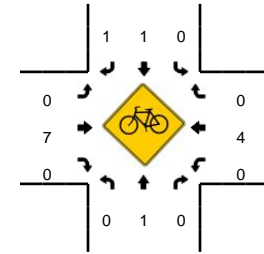
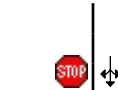
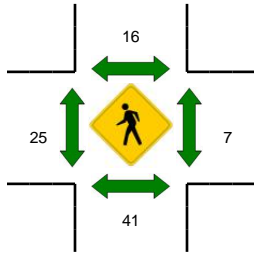
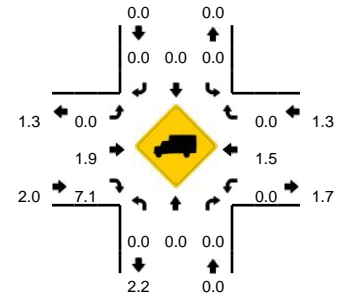
Comments:

LOCATION: 6. 24th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576206
DATE: Wed, Dec 13 2017



Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:20 PM -- 5:35 PM

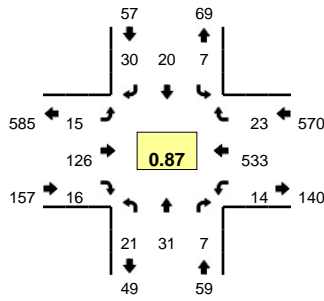


5-Min Count Period Beginning At	6. 24th St (Northbound)				6. 24th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	2	0	1	3	2	0	1	42	1	0	2	21	3	0	79	
4:05 PM	1	3	1	0	1	1	3	0	2	33	5	0	2	17	1	0	70	
4:10 PM	1	1	6	0	1	1	2	0	1	43	1	0	0	11	1	0	69	
4:15 PM	1	4	0	0	2	3	3	0	1	42	1	0	0	13	1	0	71	
4:20 PM	0	4	2	0	1	0	4	0	1	36	1	0	5	17	2	0	73	
4:25 PM	0	1	1	0	1	1	1	0	1	32	0	0	2	11	0	0	51	
4:30 PM	0	1	2	0	0	1	1	0	0	34	2	0	0	10	1	0	52	
4:35 PM	0	0	1	0	2	1	3	0	3	40	1	0	1	13	0	0	65	
4:40 PM	0	3	2	0	1	1	7	0	0	42	2	0	0	16	2	0	76	
4:45 PM	1	2	2	0	3	0	2	0	3	37	2	0	1	12	1	0	66	
4:50 PM	0	0	4	0	1	2	4	0	2	34	2	0	2	17	1	0	69	
4:55 PM	0	0	2	0	0	0	1	0	0	43	0	0	0	9	1	0	56	797
5:00 PM	2	1	6	0	6	1	2	0	3	30	1	0	1	20	2	0	75	793
5:05 PM	1	2	4	0	3	4	3	0	2	32	1	0	1	17	2	0	72	795
5:10 PM	2	1	2	0	1	1	2	0	1	42	0	0	2	19	2	0	75	801
5:15 PM	0	1	2	0	1	1	4	0	4	42	1	0	1	13	2	0	72	802
5:20 PM	0	1	3	0	2	2	1	0	0	39	1	0	1	23	2	0	75	804
5:25 PM	0	2	2	0	1	5	2	0	4	41	0	0	0	19	2	0	78	831
5:30 PM	1	3	4	0	4	2	0	0	0	42	1	0	1	16	2	0	76	855
5:35 PM	0	2	4	0	0	1	3	0	1	38	3	0	2	13	2	0	69	859
5:40 PM	0	3	0	0	0	0	1	0	3	45	3	0	1	7	0	0	63	846
5:45 PM	0	1	5	0	2	0	2	0	3	34	1	0	2	12	3	0	65	845
5:50 PM	0	0	3	0	6	0	1	0	1	27	1	0	1	10	1	0	51	827
5:55 PM	1	0	5	0	1	2	0	0	1	23	0	0	0	6	2	0	41	812
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	24	36	0	28	36	12	0	16	488	8	0	8	232	24	0	916	
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	8	0		20	
Pedestrians		44				4				16				12			76	
Bicycles	0	1	0		0	1	1		0	1	0		0	0	0		4	
Railroad																		
Stopped Buses																		

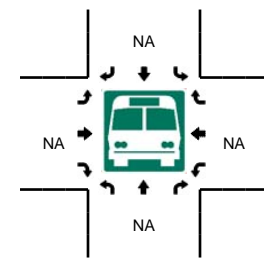
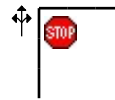
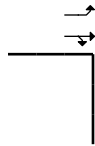
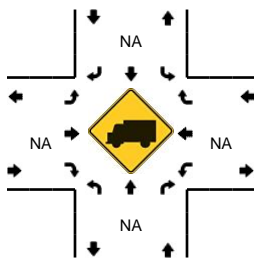
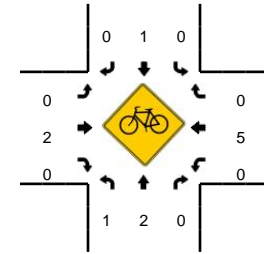
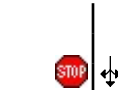
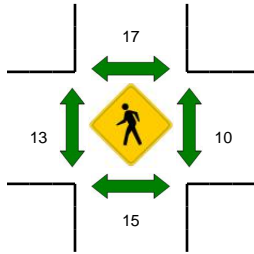
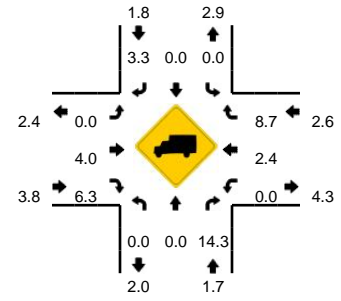
Comments:

LOCATION: 8. 26th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576207
DATE: Wed, Dec 13 2017



Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

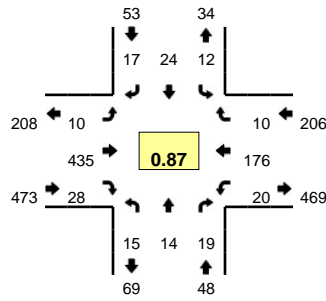


5-Min Count Period Beginning At	8. 26th St (Northbound)				8. 26th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	1	2	0	0	1	4	0	0	4	1	0	1	49	0	0	64	
7:05 AM	1	0	1	0	1	1	1	0	0	2	0	0	0	49	1	0	57	
7:10 AM	4	4	1	0	0	0	0	0	0	8	0	0	1	37	0	0	55	
7:15 AM	1	2	0	0	1	1	0	1	0	9	0	0	1	44	0	0	60	
7:20 AM	0	1	2	0	1	1	1	0	0	5	1	0	0	40	0	0	52	
7:25 AM	2	0	1	0	0	0	4	0	2	7	1	0	0	45	2	0	64	
7:30 AM	2	2	0	0	0	3	1	0	0	11	2	0	0	46	1	0	68	
7:35 AM	0	2	0	0	0	1	2	0	2	13	2	0	3	40	3	0	68	
7:40 AM	2	4	0	0	1	2	1	0	1	8	0	0	2	48	4	0	73	
7:45 AM	1	5	0	0	1	1	5	0	0	11	4	1	0	38	1	0	68	
7:50 AM	0	2	0	0	2	3	4	0	1	5	0	0	0	43	2	0	62	
7:55 AM	2	7	3	0	1	5	3	0	2	11	1	0	1	44	2	0	82	773
8:00 AM	1	5	1	0	0	0	1	0	2	17	2	0	3	51	2	0	85	794
8:05 AM	4	2	0	0	0	0	3	0	3	14	0	0	1	47	1	0	75	812
8:10 AM	2	2	1	0	0	0	1	0	1	10	2	0	1	43	3	1	67	824
8:15 AM	4	0	0	0	1	1	3	1	0	9	1	0	2	39	0	0	61	825
8:20 AM	1	0	1	0	0	4	2	0	0	10	1	0	0	49	2	0	70	843
8:25 AM	0	1	0	0	0	0	3	0	0	10	1	0	1	28	0	0	44	823
8:30 AM	0	1	4	0	0	1	3	0	1	7	2	0	4	29	0	0	52	807
8:35 AM	1	0	0	0	0	2	3	0	0	9	0	0	2	34	1	0	52	791
8:40 AM	3	2	3	0	1	0	0	0	2	9	1	0	0	35	1	0	57	775
8:45 AM	1	1	0	0	1	1	3	0	1	15	2	0	0	44	1	0	70	777
8:50 AM	4	2	1	0	0	0	0	0	1	8	1	0	0	31	0	0	48	763
8:55 AM	1	5	0	0	0	1	0	0	0	6	0	0	1	23	2	0	39	720
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	56	16	0	4	20	28	0	28	168	12	0	20	568	20	0	968	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	20	0		20	
Pedestrians		20				20				8				20			68	
Bicycles	1	2	0		0	0	0		0	1	0		0	1	0		5	
Railroad																		
Stopped Buses																		

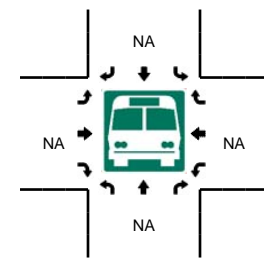
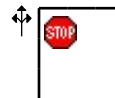
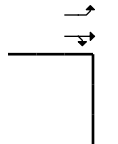
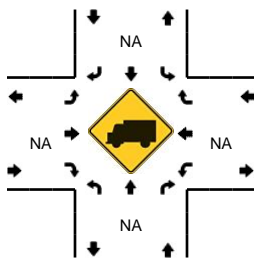
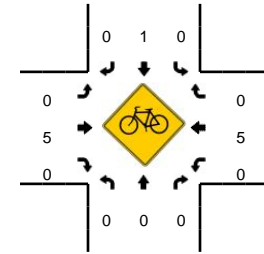
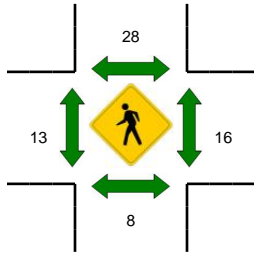
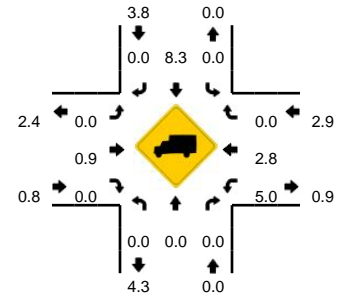
Comments:

LOCATION: 8. 26th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576208
DATE: Wed, Dec 13 2017



Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

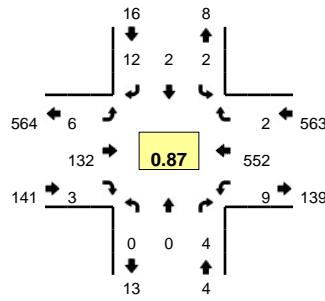


5-Min Count Period Beginning At	8. 26th St (Northbound)				8. 26th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	2	1	0	2	5	2	0	1	39	4	0	3	20	1	0	80	
4:05 PM	0	0	1	0	3	3	2	0	1	38	1	0	1	9	1	0	60	
4:10 PM	3	1	2	0	0	1	1	0	1	39	1	0	0	10	1	0	60	
4:15 PM	2	3	2	0	0	0	0	0	0	46	5	0	6	31	1	2	98	
4:20 PM	0	1	2	0	0	1	2	0	3	43	4	0	0	10	1	0	67	
4:25 PM	0	1	2	0	0	4	1	0	0	31	2	0	3	15	0	0	59	
4:30 PM	0	0	1	0	0	1	0	0	1	27	1	0	0	15	1	0	47	
4:35 PM	1	2	1	0	0	2	5	0	0	37	2	0	0	7	2	0	59	
4:40 PM	1	2	2	0	1	2	1	0	0	39	1	0	0	15	0	0	64	
4:45 PM	1	0	1	0	2	1	0	0	1	33	4	0	1	16	1	0	61	
4:50 PM	1	1	3	0	2	3	3	0	2	28	1	0	1	13	0	0	58	
4:55 PM	6	1	1	0	2	1	0	0	0	35	2	0	2	15	1	1	67	780
5:00 PM	1	0	2	0	0	0	3	0	1	34	1	0	2	17	3	0	64	764
5:05 PM	3	0	3	0	0	0	3	0	1	37	4	0	3	11	0	0	65	769
5:10 PM	2	0	0	0	0	2	0	0	2	38	1	0	1	14	1	0	61	770
5:15 PM	0	0	2	0	1	1	2	0	1	35	2	0	3	18	2	0	67	739
5:20 PM	2	1	1	0	0	1	1	0	1	36	2	0	3	17	1	0	66	738
5:25 PM	1	1	1	0	0	0	2	0	0	39	3	0	1	16	0	0	64	743
5:30 PM	0	0	0	0	1	0	1	0	1	38	3	1	1	19	0	0	65	761
5:35 PM	0	0	1	0	0	0	0	0	0	31	0	0	2	8	1	0	43	745
5:40 PM	0	0	0	0	1	2	2	0	1	36	3	0	2	6	0	0	53	734
5:45 PM	1	0	2	0	0	0	0	0	0	26	4	0	1	20	0	0	54	727
5:50 PM	1	0	0	0	3	0	1	0	3	19	2	0	1	11	0	0	41	710
5:55 PM	1	3	0	0	1	0	2	0	0	26	0	0	1	11	0	0	45	688
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	20	24	0	0	8	12	0	16	512	40	0	24	204	12	8	900	
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	8	0		12	
Pedestrians		16				32				8				16			72	
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1	
Railroad																		
Stopped Buses																		

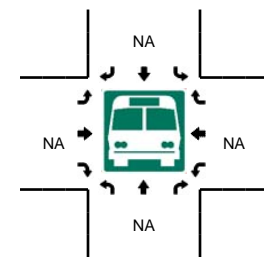
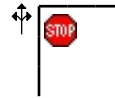
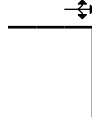
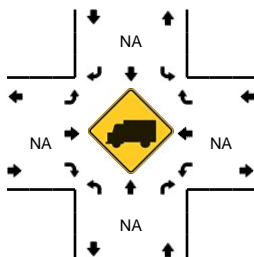
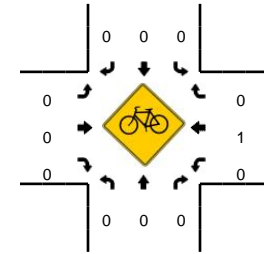
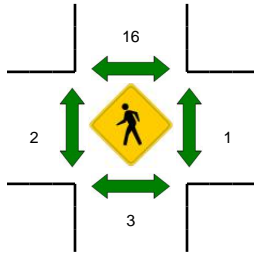
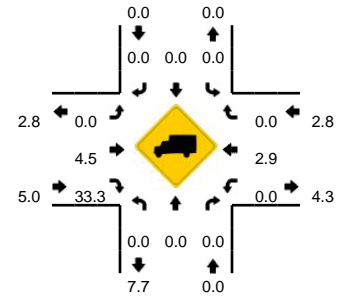
Comments:

LOCATION: 9. 27th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576209
DATE: Wed, Dec 13 2017



Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

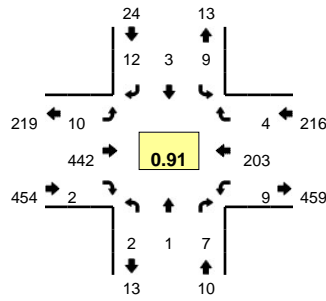


5-Min Count Period Beginning At	9. 27th St (Northbound)				9. 27th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	1	0	0	6	0	0	1	49	0	0	57	
7:05 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	49	0	0	55	
7:10 AM	0	0	0	0	0	0	0	0	0	9	0	0	0	37	0	0	46	
7:15 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	46	0	0	52	
7:20 AM	0	0	0	0	1	0	1	0	0	8	0	0	1	43	0	0	54	
7:25 AM	0	0	0	0	0	0	1	0	0	6	1	0	0	40	0	0	48	
7:30 AM	0	0	1	0	0	0	0	0	1	9	0	0	1	50	0	0	62	
7:35 AM	0	0	0	0	0	0	1	0	1	13	0	0	1	46	0	0	62	
7:40 AM	0	0	0	0	1	0	2	0	0	11	0	0	1	48	0	0	63	
7:45 AM	0	0	1	0	0	0	0	0	0	11	0	0	1	36	1	0	50	
7:50 AM	0	0	0	0	0	0	0	0	1	9	0	0	0	49	0	0	59	
7:55 AM	0	0	1	0	0	0	0	0	1	13	1	0	1	47	0	0	64	672
8:00 AM	0	0	1	0	0	1	3	0	1	17	0	0	2	54	0	0	79	694
8:05 AM	0	0	0	0	0	0	2	0	1	13	0	0	0	48	0	0	64	703
8:10 AM	0	0	0	0	0	1	0	0	0	10	0	0	0	46	1	0	58	715
8:15 AM	0	0	0	0	0	0	1	0	0	10	0	0	0	46	0	0	57	720
8:20 AM	0	0	0	0	1	0	2	0	0	10	1	0	1	42	0	1	58	724
8:25 AM	0	0	0	0	0	0	0	0	0	10	0	0	0	27	0	0	37	713
8:30 AM	0	0	0	0	0	0	1	0	0	11	0	0	0	37	0	0	49	700
8:35 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	34	0	0	42	680
8:40 AM	1	0	0	0	1	0	0	0	0	12	0	0	2	41	0	0	57	674
8:45 AM	0	0	0	0	0	0	0	0	2	11	0	0	0	43	0	0	56	680
8:50 AM	0	0	2	0	0	0	0	0	0	10	0	0	1	29	0	0	42	663
8:55 AM	0	0	1	0	0	0	2	0	0	6	0	0	0	28	1	0	38	637
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	8	0	0	4	20	0	12	172	4	0	12	596	0	0	828	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	
Pedestrians						12				8				4			24	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

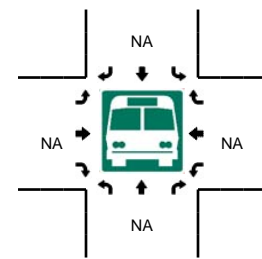
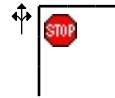
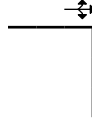
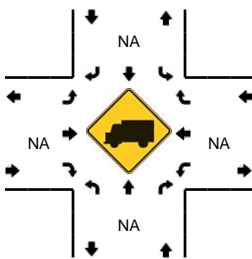
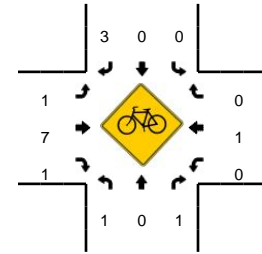
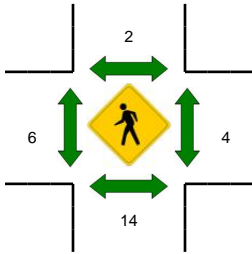
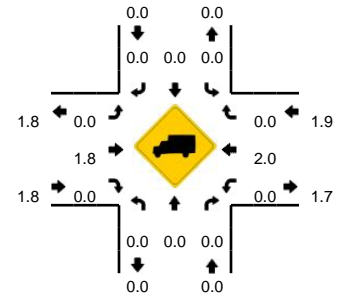
Comments:

LOCATION: 9. 27th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576210
DATE: Wed, Dec 13 2017



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

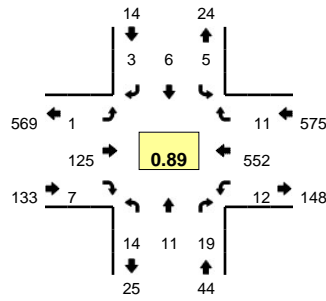


5-Min Count Period Beginning At	9. 27th St (Northbound)				9. 27th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	1	0	1	0	1	0	1	34	0	0	1	22	1	0	62	
4:05 PM	0	0	0	0	0	1	1	0	1	41	1	0	0	8	1	0	54	
4:10 PM	0	0	0	0	1	0	1	0	0	39	0	0	0	18	0	0	59	
4:15 PM	0	0	1	0	0	1	2	0	0	30	0	0	0	25	0	0	59	
4:20 PM	0	0	0	0	0	0	0	0	1	41	1	0	0	11	0	0	54	
4:25 PM	0	0	0	0	1	0	1	0	0	31	1	0	1	16	0	0	51	
4:30 PM	0	0	1	0	1	1	0	0	1	32	1	0	0	14	0	0	51	
4:35 PM	0	1	0	0	0	0	1	0	0	40	0	1	0	13	0	0	56	
4:40 PM	0	0	0	0	2	0	1	0	1	41	1	0	1	18	0	0	65	
4:45 PM	0	0	1	0	1	0	2	0	3	31	0	1	1	9	0	0	49	
4:50 PM	0	0	0	0	0	0	0	0	0	35	0	0	0	11	0	0	46	
4:55 PM	1	0	0	0	0	0	1	0	0	41	0	0	1	15	2	0	61	667
5:00 PM	1	0	3	0	0	0	1	0	2	33	0	0	1	18	0	0	59	664
5:05 PM	0	0	0	0	0	1	3	0	0	34	1	0	0	20	0	0	59	669
5:10 PM	0	0	0	0	0	1	0	0	0	37	0	0	1	18	0	0	57	667
5:15 PM	0	0	0	0	4	0	1	0	0	38	0	0	0	27	1	0	71	679
5:20 PM	0	0	2	0	0	0	0	0	0	40	0	0	0	19	1	0	62	687
5:25 PM	0	0	1	0	1	1	2	0	1	34	0	0	1	19	0	1	61	697
5:30 PM	0	0	0	0	1	0	0	0	1	38	0	0	2	16	0	0	58	704
5:35 PM	0	0	1	0	0	1	2	0	1	36	0	0	0	11	0	0	52	700
5:40 PM	0	0	1	0	0	0	0	0	0	34	1	0	0	15	0	0	51	686
5:45 PM	0	0	0	0	1	1	0	0	0	31	0	0	0	17	0	0	50	687
5:50 PM	0	0	1	0	1	0	1	0	1	18	0	0	0	9	0	0	31	672
5:55 PM	0	0	0	0	2	0	0	0	0	26	0	0	0	18	0	0	46	657
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	12	0	20	4	12	0	4	448	0	0	4	260	8	4	776	
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	8	0		16	
Pedestrians		24				0				0				12			36	
Bicycles	0	0	1		0	0	0		0	1	0		0	0	0		2	
Railroad																		
Stopped Buses																		

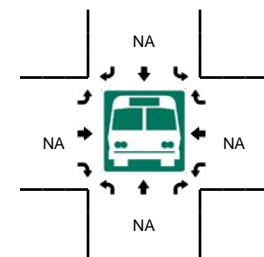
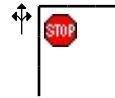
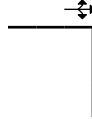
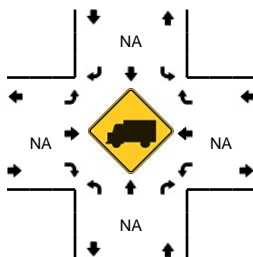
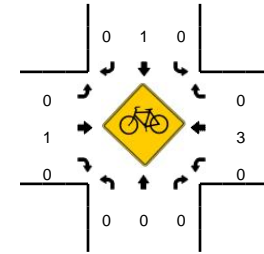
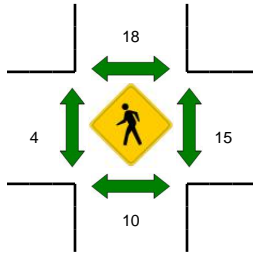
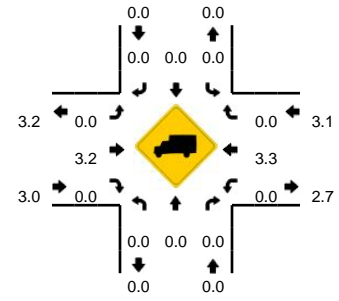
Comments:

LOCATION: 10. Evans St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576211
DATE: Wed, Dec 13 2017



Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

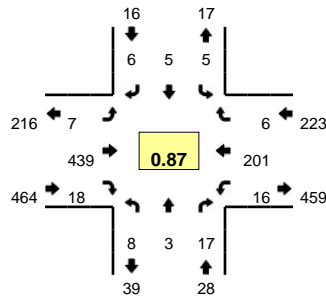


5-Min Count Period Beginning At	10. Evans St (Northbound)				10. Evans St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	0	0	0	0	0	0	0	8	0	0	0	52	0	0	61	
7:05 AM	3	1	0	0	0	0	0	0	0	1	0	0	0	49	0	0	54	
7:10 AM	2	0	0	0	0	1	0	0	1	12	0	0	0	35	0	0	51	
7:15 AM	0	0	0	0	0	0	0	0	0	9	0	0	2	45	0	0	56	
7:20 AM	0	0	1	0	0	0	0	0	0	6	2	0	0	38	0	0	47	
7:25 AM	2	1	1	0	0	0	0	0	0	5	2	0	1	43	0	0	55	
7:30 AM	2	2	1	0	2	0	0	0	0	6	0	0	1	45	0	0	59	
7:35 AM	2	0	4	0	0	0	0	0	0	12	0	0	0	46	1	0	65	
7:40 AM	1	2	0	0	1	1	0	0	0	10	1	0	0	48	0	0	64	
7:45 AM	1	1	1	0	0	1	0	0	0	15	0	0	1	40	2	0	62	
7:50 AM	3	0	4	0	0	1	0	1	0	7	1	0	0	43	2	0	62	
7:55 AM	0	3	0	0	0	1	1	0	0	11	2	0	1	44	0	0	63	699
8:00 AM	1	0	4	0	0	1	0	0	1	15	0	0	2	59	2	0	85	723
8:05 AM	0	1	1	0	0	0	0	0	0	17	0	0	0	49	0	0	68	737
8:10 AM	1	0	0	0	1	0	1	0	0	9	0	0	2	48	1	0	63	749
8:15 AM	0	0	0	0	0	0	1	0	0	9	0	0	4	42	3	0	59	752
8:20 AM	1	1	3	0	0	1	0	0	0	9	1	0	0	45	0	0	61	766
8:25 AM	1	0	0	0	0	0	0	0	0	13	0	1	0	24	3	0	42	753
8:30 AM	0	0	1	0	0	1	1	0	0	9	1	0	0	31	1	0	45	739
8:35 AM	0	0	4	0	0	0	0	0	0	7	0	0	0	38	1	0	50	724
8:40 AM	0	0	1	0	1	0	0	0	0	12	0	0	0	33	1	0	48	708
8:45 AM	0	1	0	0	0	0	2	0	1	12	0	0	1	50	0	0	67	713
8:50 AM	3	0	0	0	0	0	0	0	0	12	1	0	1	31	2	0	50	701
8:55 AM	0	1	0	0	0	0	0	0	0	6	0	0	2	26	1	0	36	674
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	16	20	0	0	8	4	0	4	172	8	0	12	608	8	0	864	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	28	0		28	
Pedestrians		20				20				12				32			84	
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1	
Railroad																		
Stopped Buses																		

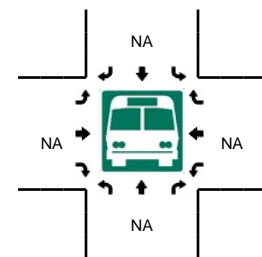
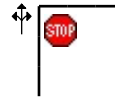
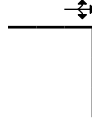
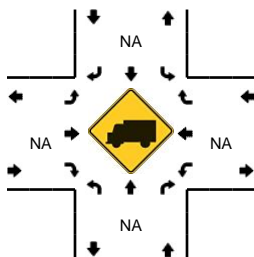
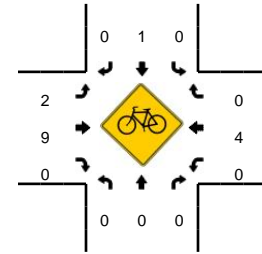
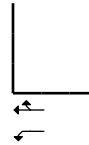
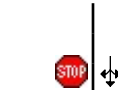
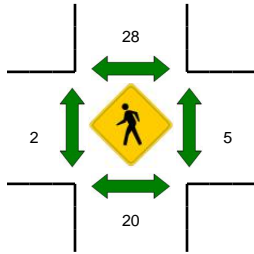
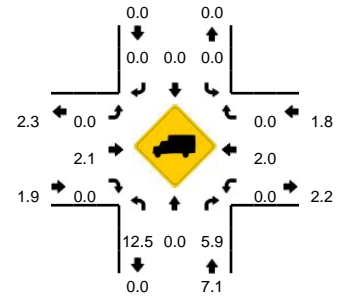
Comments:

LOCATION: 10. Evans St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576212
DATE: Wed, Dec 13 2017



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

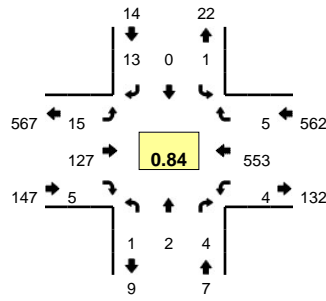


5-Min Count Period Beginning At	10. Evans St (Northbound)				10. Evans St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	1	2	0	0	0	0	0	0	44	3	0	2	24	1	0	77	
4:05 PM	1	0	0	0	0	1	0	0	0	39	0	0	0	11	0	0	52	
4:10 PM	0	2	0	0	1	0	0	0	0	41	0	0	1	12	0	0	57	
4:15 PM	0	1	3	0	0	0	0	0	2	35	2	0	1	30	1	0	75	
4:20 PM	0	0	2	0	1	3	0	0	1	36	0	0	1	12	0	0	56	
4:25 PM	0	0	2	0	0	0	1	0	0	36	2	0	0	17	1	0	59	
4:30 PM	0	0	2	0	0	1	0	0	0	25	0	0	1	15	1	0	45	
4:35 PM	0	0	1	0	1	0	1	0	1	39	3	0	2	8	1	0	57	
4:40 PM	0	0	1	0	0	0	0	0	2	40	1	0	1	17	0	0	62	
4:45 PM	0	0	0	0	0	1	1	1	0	34	2	0	1	17	0	0	57	
4:50 PM	0	1	3	0	0	0	0	0	1	26	0	0	1	9	0	0	41	
4:55 PM	0	0	1	0	0	0	0	1	0	39	1	0	2	16	1	0	61	699
5:00 PM	2	1	2	0	0	0	1	0	1	36	1	0	0	16	0	0	60	682
5:05 PM	1	0	3	0	0	1	0	0	0	34	3	0	1	17	0	0	60	690
5:10 PM	2	0	1	0	0	1	1	0	0	37	0	0	0	20	0	0	62	695
5:15 PM	0	0	1	0	1	1	0	0	0	38	4	1	4	22	1	0	73	693
5:20 PM	1	0	1	0	0	0	0	0	0	41	0	0	3	22	2	0	70	707
5:25 PM	2	0	2	0	1	1	1	0	1	42	1	0	0	15	1	0	67	715
5:30 PM	0	1	1	0	0	0	1	0	0	33	2	0	1	22	0	0	61	731
5:35 PM	0	1	1	0	0	0	0	0	0	31	3	0	0	10	1	0	47	721
5:40 PM	0	1	4	0	0	0	0	0	2	32	0	0	0	8	0	0	47	706
5:45 PM	0	1	1	0	0	1	1	0	2	36	1	0	1	19	0	0	63	712
5:50 PM	0	1	1	0	0	0	0	0	0	18	0	0	3	12	0	0	35	706
5:55 PM	0	2	4	0	0	0	0	0	0	26	1	0	0	13	0	1	47	692
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	0	16	0	8	8	4	0	4	484	20	4	28	236	16	0	840	
Heavy Trucks	4	0	0		0	0	0		0	12	0		0	4	0		20	
Pedestrians		28				28				0				0			56	
Bicycles	0	0	0		0	0	0		1	4	0		0	0	0		5	
Railroad																		
Stopped Buses																		

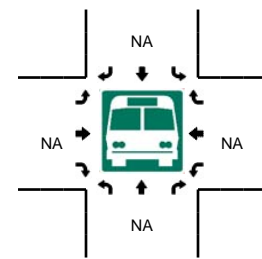
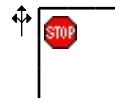
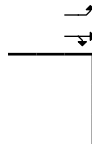
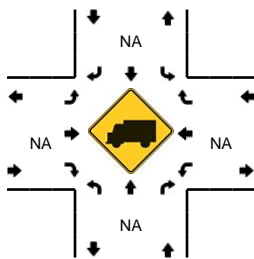
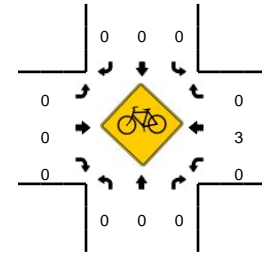
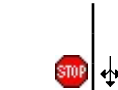
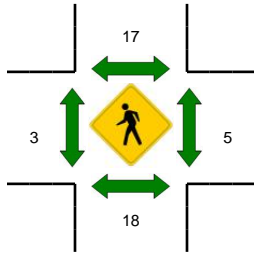
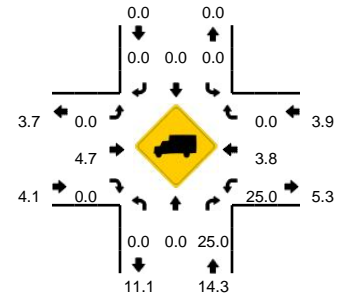
Comments:

LOCATION: 11. Hensley St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576213
DATE: Wed, Dec 13 2017



Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

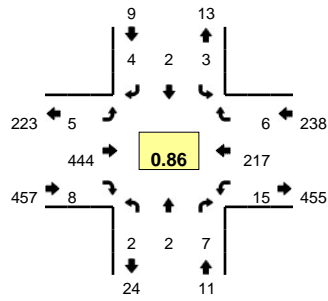


5-Min Count Period Beginning At	11. Hensley St (Northbound)				11. Hensley St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals		
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U				
7:00 AM	0	0	0	0	0	0	0	0	0	7	0	0	0	51	1	0	0	59		
7:05 AM	0	0	0	0	0	0	0	0	0	1	4	0	0	0	50	0	0	0	55	
7:10 AM	1	0	0	0	0	0	0	0	0	1	9	0	0	0	41	0	0	0	52	
7:15 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	45	0	0	0	52	
7:20 AM	0	0	0	0	0	0	0	0	0	0	6	0	0	1	40	0	0	0	47	
7:25 AM	0	0	0	0	0	0	0	0	0	2	5	0	0	0	43	1	0	0	51	
7:30 AM	0	0	0	0	0	0	0	0	0	2	7	0	0	1	44	0	0	0	54	
7:35 AM	1	1	0	0	0	0	0	0	0	3	12	1	0	0	47	1	0	0	66	
7:40 AM	0	0	0	0	1	0	0	0	0	1	12	0	0	0	47	1	0	0	62	
7:45 AM	0	0	1	0	0	0	1	0	0	2	14	0	0	0	40	0	0	0	58	
7:50 AM	0	0	1	0	0	0	1	0	0	1	9	1	0	0	48	1	0	0	62	
7:55 AM	0	1	1	0	0	0	1	0	0	2	8	1	0	0	54	0	0	0	68	686
8:00 AM	0	0	1	0	0	0	3	0	0	2	17	1	0	0	56	0	0	0	82	709
8:05 AM	0	0	0	0	0	0	4	0	0	0	18	0	0	0	45	1	0	0	68	722
8:10 AM	0	0	0	0	0	0	3	0	0	0	8	1	0	0	47	0	0	0	59	729
8:15 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	42	0	0	0	53	730
8:20 AM	0	0	0	0	0	0	0	0	0	0	11	0	0	0	33	0	0	0	44	727
8:25 AM	0	0	0	0	0	0	1	0	0	0	9	0	0	0	26	0	0	0	36	712
8:30 AM	0	1	0	0	0	0	0	0	0	2	8	1	0	0	41	0	0	0	53	711
8:35 AM	0	0	0	0	0	0	1	0	0	1	10	2	0	2	29	0	0	0	45	690
8:40 AM	1	1	0	0	0	0	1	0	0	2	11	0	0	0	40	0	0	0	56	684
8:45 AM	0	0	1	0	0	0	0	0	0	1	8	1	0	0	46	0	0	0	57	683
8:50 AM	0	0	0	0	2	0	2	0	0	1	11	0	0	1	29	0	0	0	46	667
8:55 AM	1	0	2	0	0	0	1	0	0	0	10	0	0	2	26	0	0	0	42	641
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total			
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U				
All Vehicles	0	4	8	0	0	0	32	0	16	172	8	0	8	620	4	0	0	872		
Heavy Trucks	0	0	0	0	0	0	0	0	0	8	0	0	0	36	0	0	0	44		
Pedestrians		40				16				4				16				76		
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1		
Railroad																				
Stopped Buses																				

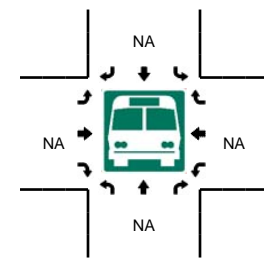
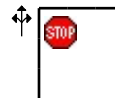
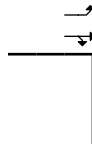
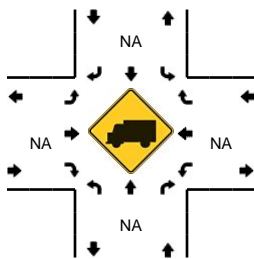
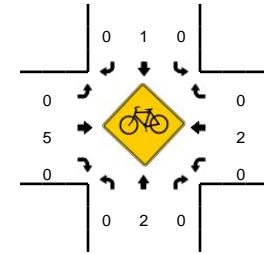
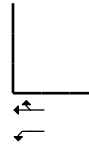
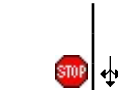
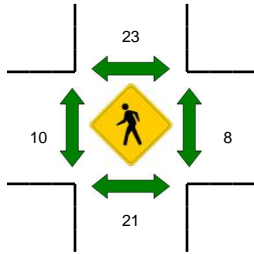
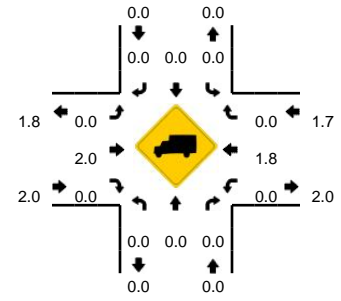
Comments:

LOCATION: 11. Hensley St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576214
DATE: Wed, Dec 13 2017



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

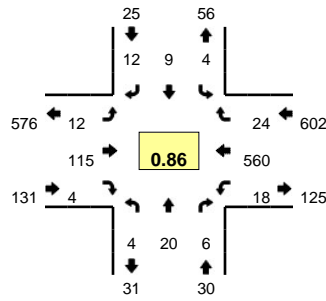


5-Min Count Period Beginning At	11. Hensley St (Northbound)				11. Hensley St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	1	1	0	0	0	2	0	1	34	1	0	2	21	0	0	63	
4:05 PM	0	0	1	0	0	0	0	0	1	43	0	0	0	9	1	0	55	
4:10 PM	1	0	1	0	0	0	1	1	0	37	2	1	1	20	0	0	65	
4:15 PM	0	0	1	0	2	0	1	0	0	36	1	0	0	25	4	0	70	
4:20 PM	1	1	1	0	0	1	2	0	3	41	3	0	1	11	0	0	65	
4:25 PM	0	0	3	0	0	0	0	0	0	33	0	0	0	17	2	1	56	
4:30 PM	0	0	0	0	0	0	0	1	0	35	0	0	0	14	1	0	51	
4:35 PM	1	0	2	0	0	0	0	0	0	36	0	0	2	16	1	0	58	
4:40 PM	0	1	1	0	0	0	0	0	1	39	4	0	1	19	0	0	66	
4:45 PM	0	0	1	0	0	1	0	0	1	29	0	0	2	13	0	0	47	
4:50 PM	1	0	0	0	0	0	0	0	0	35	1	0	3	11	1	1	53	
4:55 PM	0	0	0	0	0	0	0	0	1	39	1	0	1	19	0	0	61	710
5:00 PM	0	0	1	0	0	0	0	0	0	35	0	0	2	17	1	0	56	703
5:05 PM	0	0	0	0	1	0	0	0	0	36	0	0	0	19	0	0	56	704
5:10 PM	0	0	0	0	1	0	1	0	0	32	1	0	0	16	2	0	53	692
5:15 PM	0	0	1	0	0	0	0	0	0	44	0	0	2	32	1	0	80	702
5:20 PM	0	1	1	0	0	0	1	0	0	45	0	0	1	23	0	0	72	709
5:25 PM	0	0	0	0	1	1	2	0	1	37	0	0	0	15	0	0	57	710
5:30 PM	0	0	0	0	0	0	0	0	1	37	1	0	0	17	0	0	56	715
5:35 PM	0	1	1	0	0	1	0	0	1	32	0	0	0	9	0	0	45	702
5:40 PM	0	1	1	0	0	1	0	0	1	34	2	0	1	19	0	0	60	696
5:45 PM	0	0	1	0	0	0	0	0	2	32	0	0	0	18	0	0	53	702
5:50 PM	0	0	0	0	0	0	2	0	0	17	1	0	1	12	0	0	33	682
5:55 PM	0	0	2	0	0	0	0	0	4	29	0	0	0	19	0	0	54	675
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	4	8	0	4	4	12	0	4	504	0	0	12	280	4	0	836	
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	4	0		12	
Pedestrians		20				44				8				4			76	
Bicycles	0	0	0		0	0	0		0	2	0		0	0	0		2	
Railroad																		
Stopped Buses																		

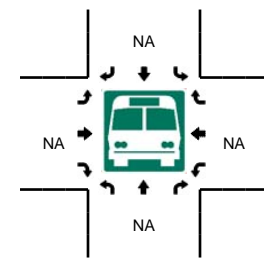
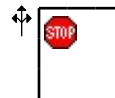
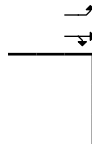
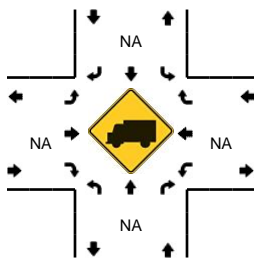
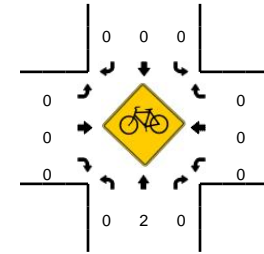
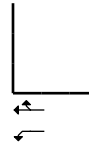
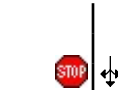
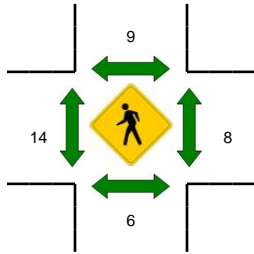
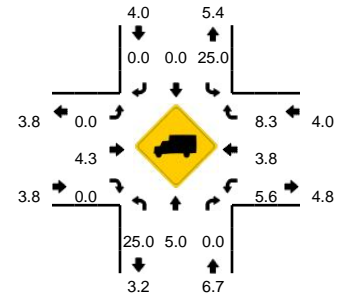
Comments:

LOCATION: 13. 29th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576215
DATE: Wed, Dec 13 2017



Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

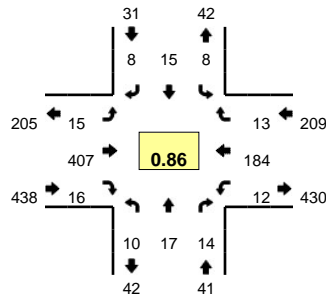


5-Min Count Period Beginning At	13. 29th St (Northbound)				13. 29th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	1	1	0	0	0	0	0	0	6	0	0	1	51	0	0	62	
7:05 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	52	1	0	55	
7:10 AM	1	2	1	0	0	0	0	0	1	9	0	0	2	37	1	0	54	
7:15 AM	0	0	0	0	0	0	1	0	1	6	0	0	1	46	1	0	56	
7:20 AM	1	0	1	0	0	0	1	0	0	6	0	0	0	34	0	0	43	
7:25 AM	0	0	0	0	0	0	2	0	0	6	0	0	0	56	1	0	65	
7:30 AM	0	0	0	0	0	0	1	0	0	5	0	0	3	46	2	0	57	
7:35 AM	0	3	0	0	0	0	1	0	1	6	1	0	1	48	3	0	64	
7:40 AM	0	3	0	0	0	3	0	0	0	13	0	0	3	48	1	0	71	
7:45 AM	1	1	1	0	0	0	0	0	2	13	0	0	2	39	0	0	59	
7:50 AM	0	2	1	0	0	1	2	0	3	8	0	0	1	53	2	0	73	
7:55 AM	0	4	1	0	1	4	0	0	1	6	0	0	1	41	2	0	61	720
8:00 AM	2	1	1	0	1	0	2	0	1	15	2	0	1	58	4	0	88	746
8:05 AM	0	2	0	0	1	0	1	0	2	15	0	0	0	45	3	0	69	760
8:10 AM	1	3	1	0	0	1	2	0	1	10	1	0	2	48	2	0	72	778
8:15 AM	0	1	0	0	1	0	1	0	1	7	0	0	1	44	4	0	60	782
8:20 AM	0	0	1	0	0	0	0	0	0	11	0	0	3	34	0	0	49	788
8:25 AM	1	0	0	0	0	1	0	0	0	10	0	0	2	28	2	0	44	767
8:30 AM	1	1	0	0	1	0	1	0	0	7	1	0	0	33	1	0	46	756
8:35 AM	0	1	1	0	0	0	1	0	1	5	2	0	0	31	0	0	42	734
8:40 AM	0	0	0	0	0	0	2	0	1	7	0	0	1	35	0	0	46	709
8:45 AM	1	1	1	0	0	0	1	0	0	10	1	0	1	39	0	0	55	705
8:50 AM	1	0	2	0	0	1	0	0	0	6	1	0	0	24	0	0	35	667
8:55 AM	0	3	0	0	1	1	0	0	1	10	0	0	0	21	0	0	37	643
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	24	8	0	8	4	20	0	16	160	12	0	12	604	36	0	916	
Heavy Trucks	0	0	0		4	0	0		0	8	0		0	28	0		40	
Pedestrians		12				12				16				8			48	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

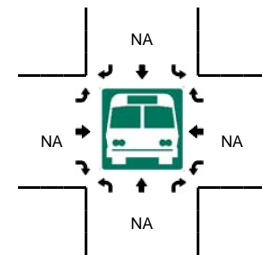
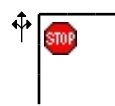
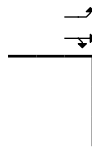
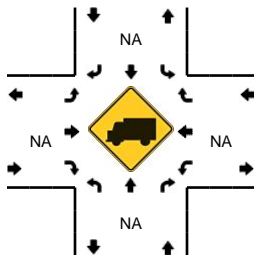
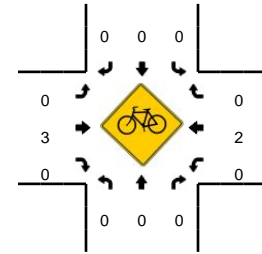
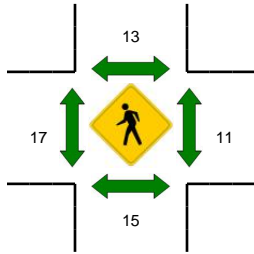
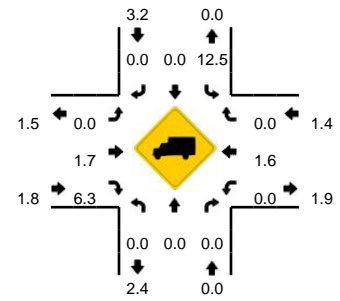
Comments:

LOCATION: 13. 29th St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576216
DATE: Wed, Dec 13 2017



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

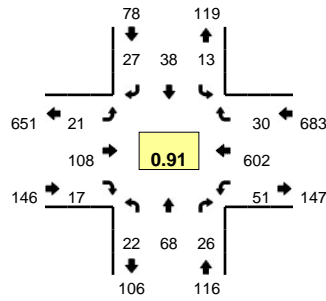


5-Min Count Period Beginning At	13. 29th St (Northbound)				13. 29th St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	2	4	0	0	1	1	0	2	40	1	0	1	16	0	0	69	
4:05 PM	3	1	2	0	2	0	1	0	2	35	0	1	1	9	3	0	60	
4:10 PM	0	1	0	0	1	0	1	0	1	38	2	0	0	13	1	0	58	
4:15 PM	1	0	0	0	2	0	0	0	1	35	1	0	0	22	2	0	64	
4:20 PM	2	2	0	0	0	0	2	0	0	35	2	1	0	8	1	0	53	
4:25 PM	0	0	1	0	1	1	0	0	1	40	2	0	1	22	0	0	69	
4:30 PM	1	0	0	0	1	0	1	0	1	31	1	0	0	13	1	0	50	
4:35 PM	2	0	0	0	0	2	0	0	0	32	0	0	2	13	0	0	51	
4:40 PM	1	3	0	0	0	0	0	0	2	39	0	0	1	15	1	0	62	
4:45 PM	1	2	0	0	2	0	1	0	2	31	1	0	1	17	0	0	58	
4:50 PM	1	2	1	0	1	1	3	0	1	26	1	0	0	9	0	0	46	
4:55 PM	0	1	2	0	1	2	0	0	1	37	0	0	0	14	1	0	59	699
5:00 PM	1	1	0	0	0	0	1	0	0	30	1	0	0	19	2	0	55	685
5:05 PM	0	2	4	0	0	1	0	0	0	30	2	1	2	14	2	0	58	683
5:10 PM	1	3	2	0	1	0	0	0	2	29	2	0	0	18	5	0	63	688
5:15 PM	0	0	2	0	0	3	2	0	3	34	4	1	1	19	0	1	70	694
5:20 PM	1	0	1	0	2	3	1	0	1	42	4	0	0	19	2	0	76	717
5:25 PM	2	2	0	0	1	1	0	0	0	36	1	1	1	12	0	0	57	705
5:30 PM	0	1	2	0	0	2	0	0	0	41	0	0	3	15	0	0	64	719
5:35 PM	0	5	1	0	2	0	0	0	0	30	0	0	0	9	2	0	49	717
5:40 PM	1	0	1	0	0	0	1	0	0	26	3	0	1	11	1	0	45	700
5:45 PM	1	0	0	0	1	0	1	0	1	37	1	0	2	15	0	0	59	701
5:50 PM	1	2	0	0	0	0	1	0	1	15	0	0	0	10	1	0	31	686
5:55 PM	0	2	0	0	0	1	1	0	1	26	1	0	1	15	2	0	50	677
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	12	20	0	12	24	12	0	24	420	40	4	4	224	28	4	836	
Heavy Trucks	0	0	0		4	0	0		0	12	0		0	4	0		20	
Pedestrians		4				0				16				8			28	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

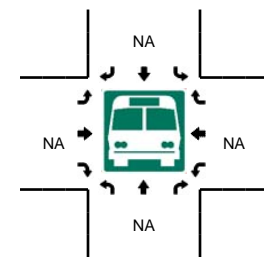
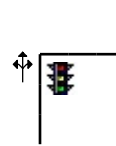
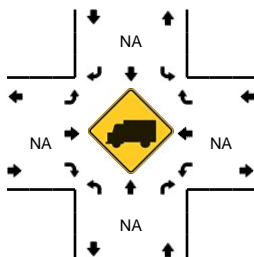
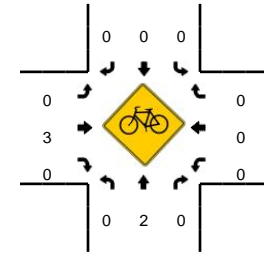
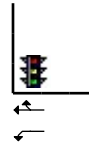
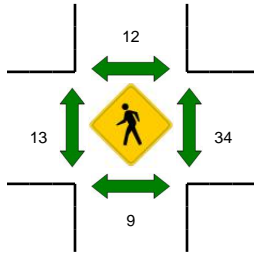
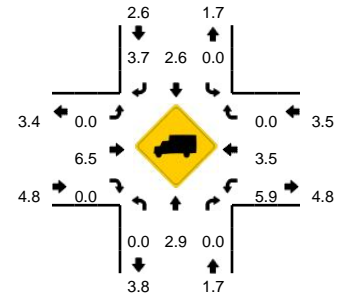
Comments:

LOCATION: 15. 31st St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576217
DATE: Wed, Dec 13 2017



Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

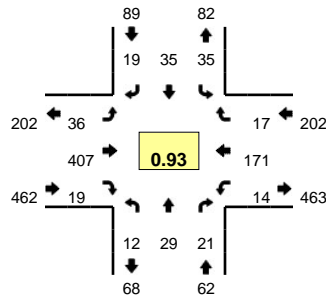


5-Min Count Period Beginning At	15. 31st St (Northbound)				15. 31st St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	0	4	0	2	1	1	0	0	2	1	0	4	53	0	0	71	
7:05 AM	0	4	1	0	1	2	2	0	0	2	1	0	5	39	0	0	57	
7:10 AM	2	4	3	0	1	0	1	0	1	10	0	0	5	45	1	0	73	
7:15 AM	2	3	1	0	0	1	4	0	0	5	2	0	5	39	1	0	63	
7:20 AM	0	0	4	0	0	2	3	0	2	13	1	0	1	43	0	0	69	
7:25 AM	2	8	0	0	0	4	4	0	2	4	1	0	5	61	1	0	92	
7:30 AM	0	10	2	0	0	3	2	0	1	3	0	0	5	50	5	0	81	
7:35 AM	1	5	1	0	0	1	1	0	3	4	1	0	8	57	4	0	86	
7:40 AM	1	11	1	0	3	0	2	0	2	14	2	0	0	48	5	0	89	
7:45 AM	4	8	1	0	0	1	3	0	2	9	1	0	5	40	5	0	79	
7:50 AM	1	7	0	0	3	4	4	0	1	11	3	0	6	55	2	0	97	
7:55 AM	1	6	3	0	4	6	0	0	3	5	3	0	3	51	3	0	88	945
8:00 AM	4	3	1	0	1	5	1	0	4	13	2	0	3	56	2	0	95	969
8:05 AM	2	2	6	0	2	11	6	0	1	12	1	0	5	51	0	0	99	1011
8:10 AM	3	3	4	0	0	0	0	0	0	10	0	0	6	43	2	0	71	1009
8:15 AM	3	5	3	0	0	1	1	0	0	10	2	0	4	47	1	0	77	1023
8:20 AM	0	1	3	0	1	2	0	0	1	9	0	0	1	29	2	0	49	1003
8:25 AM	1	0	5	0	0	1	0	0	3	6	1	0	7	36	2	0	62	973
8:30 AM	3	4	0	0	2	3	0	0	1	5	1	0	5	28	0	0	52	944
8:35 AM	1	1	1	0	0	1	2	0	1	9	1	0	2	29	0	0	48	906
8:40 AM	4	1	2	0	2	2	1	0	1	5	3	0	1	32	0	0	54	871
8:45 AM	0	2	4	0	0	2	0	0	3	9	1	0	6	27	2	0	56	848
8:50 AM	3	0	1	0	0	2	0	0	1	5	1	0	1	26	1	0	41	792
8:55 AM	2	3	1	0	1	1	3	0	1	9	0	0	0	14	1	0	36	740
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	44	40	0	28	88	28	0	32	120	24	0	44	632	20	0	1128	
Heavy Trucks	0	0	0		0	4	0		0	8	0		4	28	0		44	
Pedestrians		8				16				20				64			108	
Bicycles	0	0	0		0	0	0		0	1	0		0	0	0		1	
Railroad																		
Stopped Buses																		

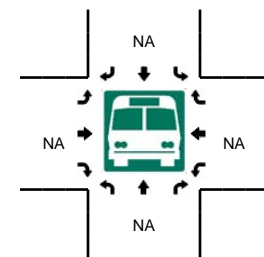
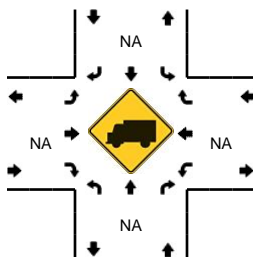
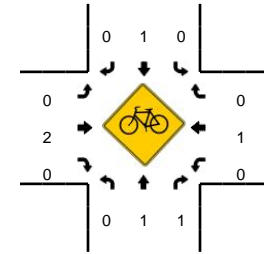
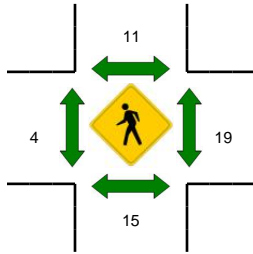
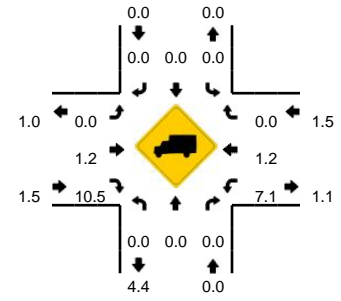
Comments:

LOCATION: 15. 31st St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576218
DATE: Wed, Dec 13 2017



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

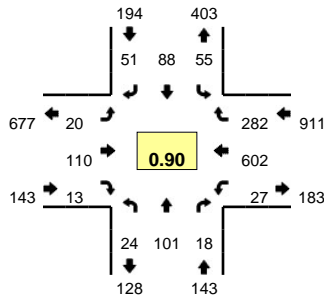


5-Min Count Period Beginning At	15. 31st St (Northbound)				15. 31st St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	2	4	0	1	4	1	0	1	37	3	0	0	8	0	0	63	
4:05 PM	1	2	1	0	2	4	2	0	1	39	1	0	0	9	0	0	62	
4:10 PM	1	2	1	0	1	5	1	0	1	36	1	0	5	17	0	0	71	
4:15 PM	1	2	0	0	2	2	0	0	3	28	0	0	1	15	1	0	55	
4:20 PM	1	4	0	0	1	2	6	0	1	41	1	0	0	11	0	0	68	
4:25 PM	3	2	3	0	1	1	4	0	0	39	3	0	3	13	1	0	73	
4:30 PM	0	2	3	0	3	1	3	0	3	29	1	0	2	14	0	0	61	
4:35 PM	1	2	2	0	1	6	2	0	4	27	1	0	1	18	1	0	66	
4:40 PM	0	2	3	0	0	3	1	0	2	34	4	0	1	13	1	0	64	
4:45 PM	1	4	3	0	1	2	2	0	1	35	0	0	2	14	0	0	65	
4:50 PM	1	2	0	0	2	2	2	0	3	27	2	0	0	16	2	0	59	
4:55 PM	1	4	1	0	4	4	1	0	4	36	1	0	1	17	5	0	79	786
5:00 PM	2	1	0	0	4	4	5	0	3	28	1	0	0	9	4	0	61	784
5:05 PM	1	3	2	0	6	4	1	0	5	28	2	0	2	13	2	0	69	791
5:10 PM	1	2	1	0	5	1	0	0	1	45	0	0	1	13	1	0	71	791
5:15 PM	1	2	0	0	1	2	2	0	2	42	3	0	1	18	1	0	75	811
5:20 PM	3	1	5	0	1	4	0	0	2	36	2	0	2	15	0	0	71	814
5:25 PM	0	4	1	0	7	2	0	0	6	40	2	0	1	11	0	0	74	815
5:30 PM	1	1	0	0	3	4	2	0	1	31	3	0	1	7	1	0	55	809
5:35 PM	0	1	3	0	4	2	1	0	6	25	1	0	3	14	1	0	61	804
5:40 PM	1	1	0	0	0	0	0	0	1	25	1	0	1	19	3	0	52	792
5:45 PM	2	2	1	0	3	4	6	0	2	30	2	0	2	11	1	0	66	793
5:50 PM	1	1	0	0	3	2	3	0	0	16	3	1	0	13	1	0	44	778
5:55 PM	1	2	2	0	2	5	1	0	1	23	0	0	0	5	1	0	43	742
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	28	24	0	36	32	8	0	40	472	28	0	16	176	4	0	880	
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	0	0		8	
Pedestrians		12				12				4				40			68	
Bicycles	0	1	1		0	0	0		0	0	0		0	0	0		2	
Railroad																		
Stopped Buses																		

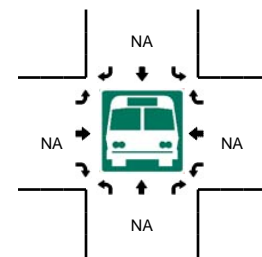
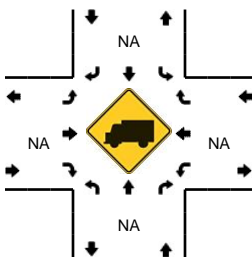
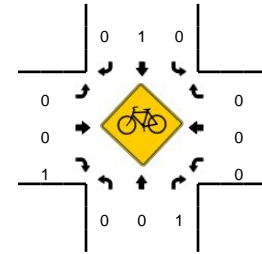
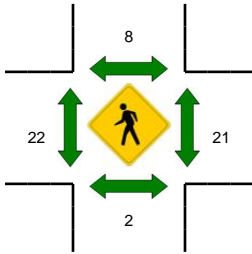
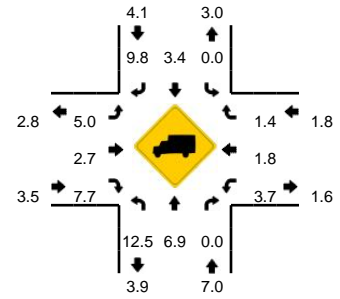
Comments:

LOCATION: 16. 32nd St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576219
DATE: Wed, Dec 13 2017



Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

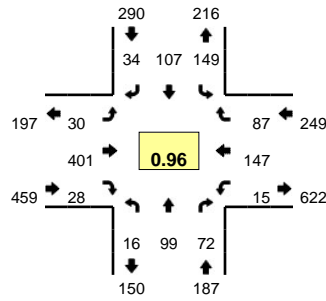


5-Min Count Period Beginning At	16. 32nd St (Northbound)				16. 32nd St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	4	1	0	2	1	9	0	0	5	0	0	5	44	24	0	97	
7:05 AM	3	10	3	0	2	4	3	0	3	5	2	0	3	45	22	0	105	
7:10 AM	1	7	3	0	0	5	7	0	0	7	1	0	2	44	25	0	102	
7:15 AM	1	7	3	0	4	1	5	0	0	9	0	0	2	44	28	0	104	
7:20 AM	0	3	1	0	2	5	1	0	2	10	1	0	3	37	17	0	82	
7:25 AM	6	15	1	0	2	5	5	0	2	6	1	0	5	50	26	0	124	
7:30 AM	1	9	1	0	3	12	5	0	2	5	0	0	2	54	30	0	124	
7:35 AM	4	8	0	0	6	9	8	0	0	4	0	0	1	57	24	0	121	
7:40 AM	2	11	2	0	4	6	2	0	0	15	0	0	4	50	28	0	124	
7:45 AM	3	8	3	0	7	9	3	0	3	6	0	0	1	53	29	0	125	
7:50 AM	0	8	0	0	2	7	5	0	2	12	2	0	3	48	37	0	126	
7:55 AM	1	14	0	0	12	10	4	0	1	10	1	0	2	54	26	0	135	1369
8:00 AM	1	3	2	0	2	8	6	0	2	8	2	0	3	55	16	0	108	1380
8:05 AM	1	9	1	0	6	9	4	0	2	13	3	0	1	54	10	0	113	1388
8:10 AM	4	6	4	0	5	7	3	0	4	12	3	0	0	46	11	0	105	1391
8:15 AM	0	3	1	0	4	4	4	0	3	10	0	0	0	45	7	0	81	1368
8:20 AM	0	7	0	0	1	6	1	0	4	7	1	0	2	33	4	0	66	1352
8:25 AM	3	4	5	0	3	5	4	0	1	12	1	0	2	31	5	0	76	1304
8:30 AM	1	6	2	0	2	7	2	0	2	6	1	0	0	38	7	0	74	1254
8:35 AM	0	9	2	0	3	0	4	0	0	6	0	0	3	28	11	0	66	1199
8:40 AM	2	8	2	0	0	1	1	0	1	6	3	0	2	30	4	0	60	1135
8:45 AM	2	7	5	0	2	4	1	0	0	7	3	0	3	29	4	0	67	1077
8:50 AM	1	1	1	0	1	6	4	0	2	7	2	0	5	20	5	0	55	1006
8:55 AM	1	2	2	0	1	5	3	0	0	7	1	0	1	20	8	0	51	922
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	120	12	0	84	104	48	0	24	112	12	0	24	620	368	0	1544	
Heavy Trucks	0	4	0	0	0	4	4	0	4	0	0	0	0	4	0	0	20	
Pedestrians		0				8				32				20			60	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																	0	
Stopped Buses																		

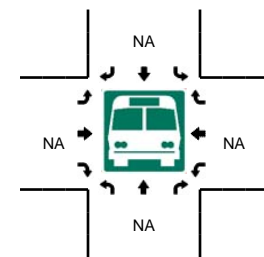
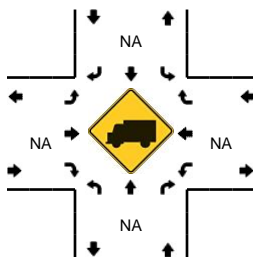
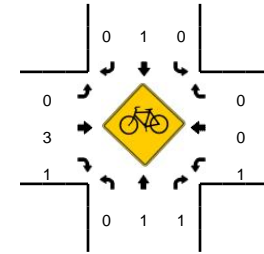
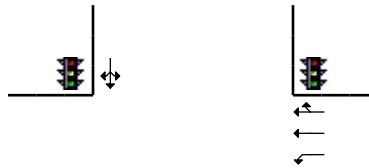
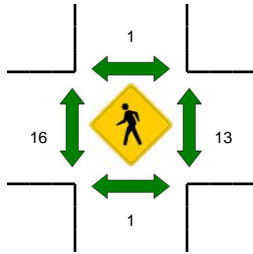
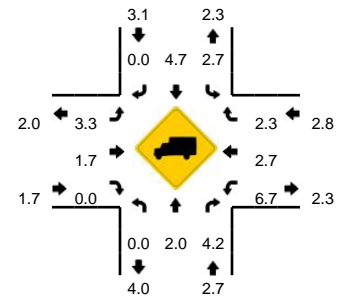
Comments:

LOCATION: 16. 32nd St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576220
DATE: Wed, Dec 13 2017



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

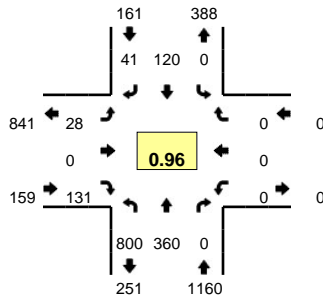


5-Min Count Period Beginning At	16. 32nd St (Northbound)				16. 32nd St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	11	3	0	13	7	1	0	3	27	2	0	2	7	10	0	86	
4:05 PM	0	7	3	0	10	11	3	0	4	33	4	0	1	4	5	0	85	
4:10 PM	0	9	5	0	8	7	3	0	3	36	1	0	0	15	3	0	90	
4:15 PM	3	11	5	0	12	9	4	0	3	29	0	0	0	12	5	0	93	
4:20 PM	0	6	1	0	4	10	2	0	1	29	2	0	0	8	2	0	65	
4:25 PM	1	5	1	0	11	5	2	0	1	42	3	1	0	11	8	0	91	
4:30 PM	4	8	11	0	8	7	3	0	3	31	3	0	1	10	7	0	96	
4:35 PM	1	12	4	0	12	13	3	0	3	28	3	0	3	14	7	0	103	
4:40 PM	1	8	7	0	8	5	2	0	3	30	1	0	5	17	8	0	95	
4:45 PM	1	4	3	0	14	11	4	0	5	32	2	0	2	11	14	0	103	
4:50 PM	2	7	6	0	13	10	4	0	3	27	1	0	1	10	2	0	86	
4:55 PM	3	6	8	0	15	8	4	0	2	33	2	0	0	13	3	0	97	1090
5:00 PM	1	5	10	0	13	6	3	0	2	38	3	0	0	11	8	0	100	1104
5:05 PM	1	17	5	0	13	8	1	0	1	27	3	0	2	14	6	0	98	1117
5:10 PM	0	9	3	0	10	13	1	0	4	36	4	0	0	13	7	0	100	1127
5:15 PM	0	8	2	0	16	4	3	0	3	37	2	0	0	12	9	0	96	1130
5:20 PM	1	8	6	0	11	14	2	0	1	40	1	0	0	14	9	0	107	1172
5:25 PM	1	7	7	0	16	8	4	0	0	42	3	0	1	8	7	0	104	1185
5:30 PM	1	9	4	0	17	10	1	0	0	36	0	0	0	9	5	0	92	1181
5:35 PM	3	6	1	0	12	9	8	0	3	37	0	0	3	10	12	0	104	1182
5:40 PM	2	4	5	0	12	11	8	0	3	21	4	0	1	11	2	0	84	1171
5:45 PM	5	1	0	0	7	5	5	0	0	21	4	0	1	9	3	0	61	1129
5:50 PM	2	3	3	0	8	6	7	0	2	23	3	0	0	4	3	0	64	1107
5:55 PM	2	5	0	0	14	3	3	0	1	17	1	0	1	4	5	0	56	1066
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	92	60	0	172	104	36	0	16	476	24	0	4	136	100	0	1228	
Heavy Trucks	0	0	0	0	0	4	0	0	4	12	0	0	0	0	4	0	24	
Pedestrians		4				0				8				8			20	
Bicycles	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	
Railroad																		
Stopped Buses																		

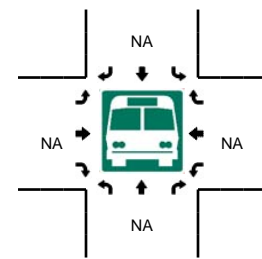
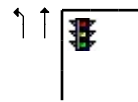
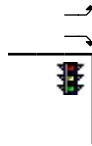
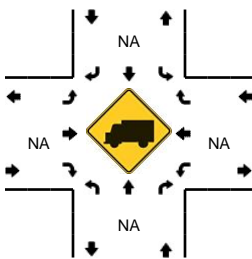
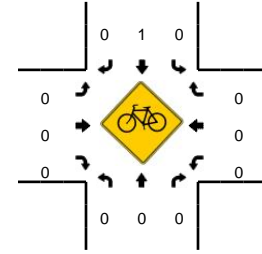
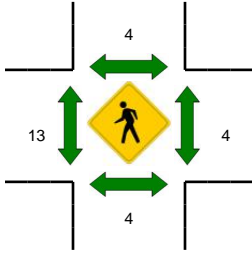
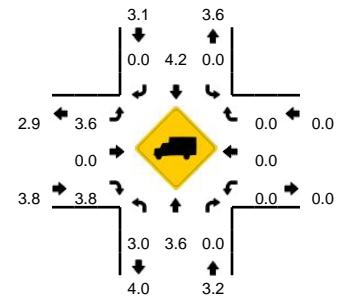
Comments:

LOCATION: 19. 36th St -- Imperial Ave (N)
CITY/STATE: San Diego, CA

QC JOB #: 14576221
DATE: Wed, Dec 13 2017



Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:20 AM -- 7:35 AM

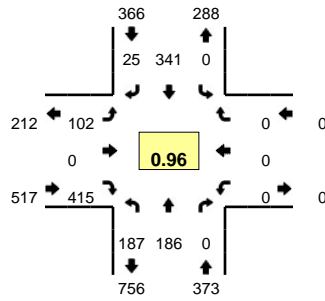


5-Min Count Period Beginning At	19. 36th St (Northbound)				19. 36th St (Southbound)				Imperial Ave (N) (Eastbound)				Imperial Ave (N) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	62	53	0	0	0	6	2	0	0	0	6	0	0	0	0	0	129	
7:05 AM	56	35	0	0	0	8	2	0	2	0	4	0	0	0	0	0	107	
7:10 AM	61	37	0	0	0	5	0	0	2	0	8	0	0	0	0	0	113	
7:15 AM	71	35	0	0	0	8	3	0	5	0	12	0	0	0	0	0	134	
7:20 AM	64	35	0	0	0	10	4	0	2	0	9	0	0	0	0	0	124	
7:25 AM	77	28	0	0	0	8	1	0	1	0	10	0	0	0	0	0	125	
7:30 AM	77	30	0	0	0	15	5	0	2	0	7	0	0	0	0	0	136	
7:35 AM	67	26	0	0	0	6	9	0	1	0	7	0	0	0	0	0	116	
7:40 AM	60	23	0	0	0	10	5	0	1	0	15	0	0	0	0	0	114	
7:45 AM	72	32	0	0	0	9	4	0	3	0	14	0	0	0	0	0	134	
7:50 AM	68	27	0	0	0	8	1	0	3	0	7	0	0	0	0	0	114	
7:55 AM	67	36	0	0	0	11	5	0	1	0	13	0	0	0	0	0	133	1479
8:00 AM	69	35	0	0	0	5	2	0	4	0	10	0	0	0	0	0	125	1475
8:05 AM	48	23	0	0	0	20	0	0	3	0	12	0	0	0	0	0	106	1474
8:10 AM	60	30	0	0	0	10	2	0	2	0	15	0	0	0	0	0	119	1480
8:15 AM	56	29	0	0	0	12	1	0	1	0	11	0	0	0	0	0	110	1456
8:20 AM	26	26	0	0	0	17	4	0	5	0	7	0	0	0	0	0	85	1417
8:25 AM	36	28	0	0	0	12	2	0	6	0	10	0	0	0	0	0	94	1386
8:30 AM	37	22	0	0	0	18	2	0	4	0	9	0	0	0	0	0	92	1342
8:35 AM	28	25	0	0	0	11	3	0	3	0	12	0	0	0	0	0	82	1308
8:40 AM	34	22	0	0	0	10	1	0	5	0	9	0	0	0	0	0	81	1275
8:45 AM	30	18	0	0	0	7	5	0	3	0	11	0	0	0	0	0	74	1215
8:50 AM	24	16	0	0	0	9	2	0	2	0	9	0	0	0	0	0	62	1163
8:55 AM	22	14	0	0	0	12	1	0	3	0	6	0	0	0	0	0	58	1088
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	872	372	0	0	0	132	40	0	20	0	104	0	0	0	0	0	1540	
Heavy Trucks	20	16	0	0	0	8	0	0	0	0	4	0	0	0	0	0	48	
Pedestrians	0	0	0	0	0	8	0	0	0	0	12	0	0	0	12	0	32	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

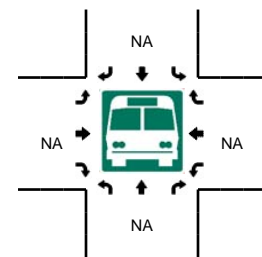
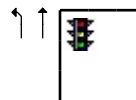
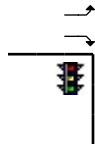
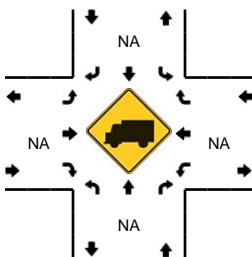
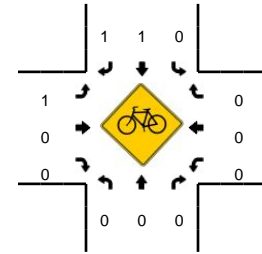
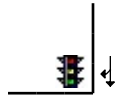
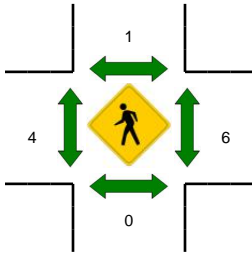
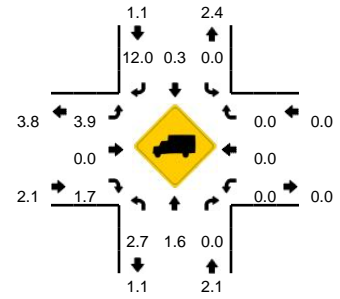
Comments:

LOCATION: 19. 36th St -- Imperial Ave (N)
CITY/STATE: San Diego, CA

QC JOB #: 14576222
DATE: Wed, Dec 13 2017



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:20 PM -- 5:35 PM

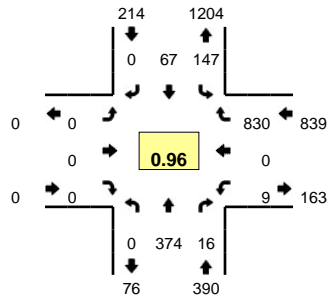


5-Min Count Period Beginning At	19. 36th St (Northbound)				19. 36th St (Southbound)				Imperial Ave (N) (Eastbound)				Imperial Ave (N) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	20	0	0	0	24	2	0	7	0	34	0	0	0	0	0	95	
4:05 PM	13	23	0	0	0	21	2	0	6	0	36	0	0	0	0	0	101	
4:10 PM	14	17	0	0	0	30	3	0	8	0	37	0	0	0	0	0	109	
4:15 PM	10	17	0	0	0	24	1	0	8	0	38	0	0	0	0	0	98	
4:20 PM	9	21	0	0	0	26	0	0	4	0	27	0	0	0	0	0	87	
4:25 PM	13	15	0	0	0	29	2	0	9	0	29	0	0	0	0	0	97	
4:30 PM	12	17	0	0	0	23	0	0	12	0	31	0	0	0	0	0	95	
4:35 PM	25	13	0	0	0	32	0	0	8	0	30	0	0	0	0	0	108	
4:40 PM	14	15	0	0	0	28	3	0	10	0	27	0	0	0	0	0	97	
4:45 PM	22	10	0	0	0	27	3	0	7	0	36	0	0	0	0	0	105	
4:50 PM	10	15	0	0	0	25	0	0	6	0	39	0	0	0	0	0	95	
4:55 PM	15	12	0	0	0	43	2	0	5	0	28	0	0	0	0	0	105	1192
5:00 PM	15	21	0	0	0	16	2	0	20	0	43	0	0	0	0	0	117	1214
5:05 PM	14	14	0	0	0	26	0	0	9	0	32	0	0	0	0	0	95	1208
5:10 PM	12	21	0	0	0	28	4	0	6	0	26	0	0	0	0	0	97	1196
5:15 PM	21	22	0	0	0	32	2	0	9	0	25	0	0	0	0	0	111	1209
5:20 PM	17	15	0	0	0	17	5	0	10	0	42	0	0	0	0	0	106	1228
5:25 PM	3	9	0	0	0	34	3	0	6	0	44	0	0	0	0	0	99	1230
5:30 PM	19	19	0	0	0	33	1	0	6	0	43	0	0	0	0	0	121	1256
5:35 PM	9	17	0	0	0	27	3	0	6	0	35	0	0	0	0	0	97	1245
5:40 PM	10	22	0	0	0	32	2	0	8	0	24	0	0	0	0	0	98	1246
5:45 PM	10	11	0	0	0	21	2	0	7	0	21	0	0	0	0	0	72	1213
5:50 PM	8	15	0	0	0	23	1	0	3	0	28	0	0	0	0	0	78	1196
5:55 PM	9	13	0	0	0	34	2	0	8	0	21	0	0	0	0	0	87	1178
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	156	172	0	0	0	336	36	0	88	0	516	0	0	0	0	0	1304	
Heavy Trucks	0	4	0	0	0	0	8	0	8	0	12	0	0	0	0	0	32	
Pedestrians		0				0				0			16				16	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

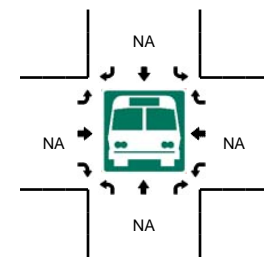
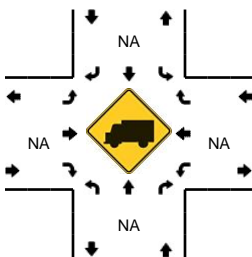
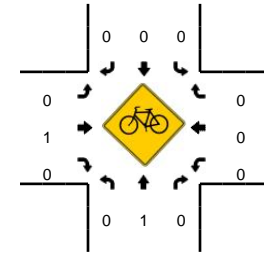
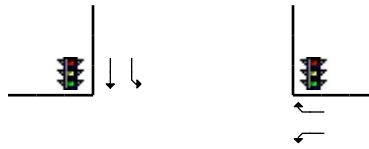
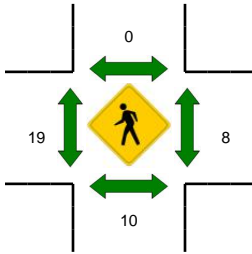
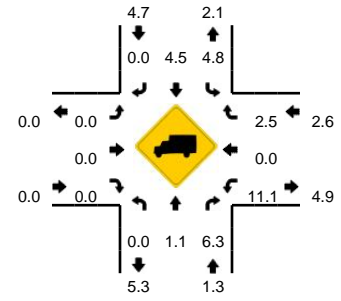
Comments:

LOCATION: 20. 36th St -- Imperial Ave (S)
CITY/STATE: San Diego, CA

QC JOB #: 14576223
DATE: Wed, Dec 13 2017



Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:20 AM -- 7:35 AM

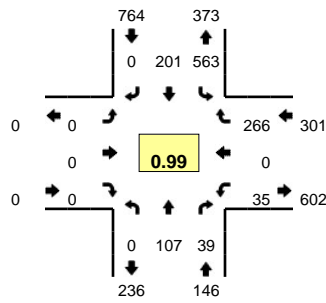


5-Min Count Period Beginning At	20. 36th St (Northbound)				20. 36th St (Southbound)				Imperial Ave (S) (Eastbound)				Imperial Ave (S) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	13	0	0	9	4	0	0	0	0	0	0	2	0	95	0	123	
7:05 AM	0	30	2	0	7	2	0	0	0	0	0	0	0	0	65	0	106	
7:10 AM	0	31	2	0	10	3	0	0	0	0	0	0	1	0	74	0	121	
7:15 AM	0	34	1	0	18	3	0	0	0	0	0	0	0	0	66	0	122	
7:20 AM	0	34	1	0	15	6	0	0	0	0	0	0	1	0	68	0	125	
7:25 AM	0	29	0	0	15	5	0	0	0	0	0	0	3	0	76	0	128	
7:30 AM	0	42	1	0	10	6	0	0	0	0	0	0	0	0	65	0	124	
7:35 AM	0	32	3	0	10	9	0	0	0	0	0	0	0	0	63	0	117	
7:40 AM	0	33	2	0	10	9	0	0	0	0	0	0	0	0	50	0	104	
7:45 AM	0	37	0	0	16	7	0	0	0	0	0	0	2	0	68	0	130	
7:50 AM	0	35	1	0	14	5	0	0	0	0	0	0	0	0	61	0	116	
7:55 AM	0	24	3	0	13	8	0	0	0	0	0	0	0	0	79	0	127	1443
8:00 AM	0	34	2	0	19	2	0	0	0	0	0	0	1	0	62	0	120	1440
8:05 AM	0	10	0	0	12	10	0	0	0	0	0	0	4	0	70	0	106	1440
8:10 AM	0	10	3	0	17	10	0	0	0	0	0	0	1	0	68	0	109	1428
8:15 AM	0	9	1	0	22	4	0	0	0	0	0	0	2	0	81	0	119	1425
8:20 AM	0	7	1	0	15	7	0	0	0	0	0	0	3	0	46	0	79	1379
8:25 AM	0	5	2	0	20	8	0	0	0	0	0	0	1	0	64	0	100	1351
8:30 AM	0	7	1	0	11	12	0	0	0	0	0	0	2	0	53	0	86	1313
8:35 AM	0	11	2	0	12	8	0	0	0	0	0	0	4	0	49	0	86	1282
8:40 AM	0	10	1	0	19	4	0	0	0	0	0	0	2	0	42	0	78	1256
8:45 AM	0	11	1	0	7	6	0	0	0	0	0	0	4	0	38	0	67	1193
8:50 AM	0	7	3	0	12	7	0	0	0	0	0	0	2	0	35	0	66	1143
8:55 AM	0	3	2	0	11	9	0	0	0	0	0	0	1	0	34	0	60	1076
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	420	8	0	160	68	0	0	0	0	0	0	16	0	836	0	1508	
Heavy Trucks	0	4	0	0	4	4	0	0	0	0	0	0	0	0	28	0	40	
Pedestrians	0	0	0	0	0	0	0	0	12	0	0	0	12	0	0	0	24	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

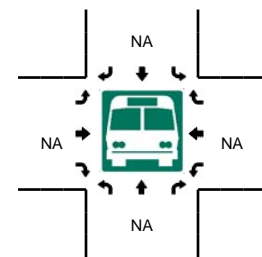
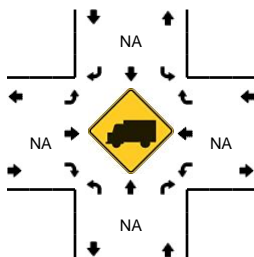
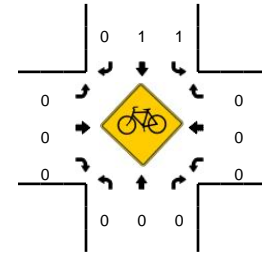
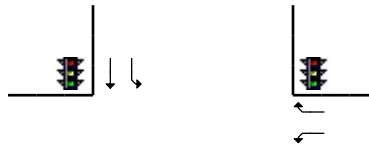
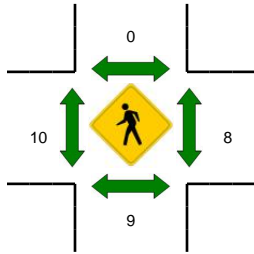
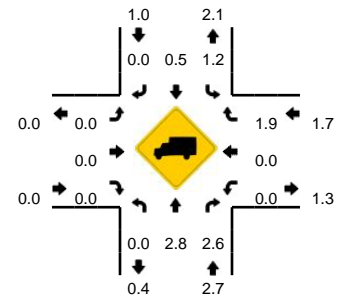
Comments:

LOCATION: 20. 36th St -- Imperial Ave (S)
CITY/STATE: San Diego, CA

QC JOB #: 14576224
DATE: Wed, Dec 13 2017



Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 4:50 PM -- 5:05 PM

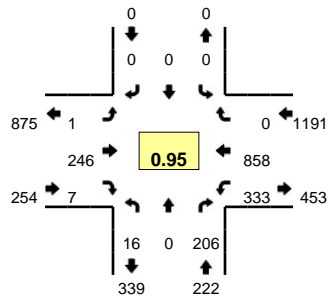


5-Min Count Period Beginning At	20. 36th St (Northbound)				20. 36th St (Southbound)				Imperial Ave (S) (Eastbound)				Imperial Ave (S) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	9	2	0	37	21	0	0	0	0	0	0	2	0	20	0	91	
4:05 PM	0	8	2	0	37	18	0	0	0	0	0	0	1	0	23	0	89	
4:10 PM	0	9	5	0	51	18	0	0	0	0	0	0	1	0	21	0	105	
4:15 PM	0	9	4	0	49	11	0	0	0	0	0	0	5	0	25	0	103	
4:20 PM	0	9	3	0	38	17	0	0	0	0	0	0	2	0	18	0	87	
4:25 PM	0	9	1	0	34	18	0	0	0	0	0	0	3	0	20	0	85	
4:30 PM	0	9	1	0	42	23	0	0	0	0	0	0	2	0	21	0	98	
4:35 PM	0	5	3	0	47	16	0	0	0	0	0	0	3	0	29	0	103	
4:40 PM	0	16	2	0	48	9	0	0	0	0	0	0	5	0	24	0	104	
4:45 PM	0	11	1	0	44	16	0	0	0	0	0	0	4	0	18	0	94	
4:50 PM	0	5	6	0	50	22	0	0	0	0	0	0	3	0	18	0	104	
4:55 PM	0	9	5	0	43	16	0	0	0	0	0	0	2	0	18	0	93	1156
5:00 PM	0	11	4	0	53	17	0	0	0	0	0	0	2	0	23	0	110	1175
5:05 PM	0	4	4	0	42	11	0	0	0	0	0	0	2	0	31	0	94	1180
5:10 PM	0	12	5	0	36	17	0	0	0	0	0	0	2	0	17	0	89	1164
5:15 PM	0	12	2	0	48	16	0	0	0	0	0	0	7	0	30	0	115	1176
5:20 PM	0	9	1	0	41	18	0	0	0	0	0	0	1	0	23	0	93	1182
5:25 PM	0	6	3	0	55	19	0	0	0	0	0	0	0	0	8	0	91	1188
5:30 PM	0	7	3	0	56	24	0	0	0	0	0	0	4	0	27	0	121	1211
5:35 PM	0	12	3	0	53	12	0	0	0	0	0	0	2	0	19	0	101	1209
5:40 PM	0	9	4	0	47	15	0	0	0	0	0	0	5	0	21	0	101	1206
5:45 PM	0	3	0	0	34	14	0	0	0	0	0	0	2	0	19	0	72	1184
5:50 PM	0	6	3	0	32	14	0	0	0	0	0	0	2	0	17	0	74	1154
5:55 PM	0	5	2	0	37	16	0	0	0	0	0	0	3	0	18	0	81	1142
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	100	60	0	584	220	0	0	0	0	0	0	28	0	236	0	1228	
Heavy Trucks	0	4	0	0	4	4	0	0	0	0	0	0	0	0	0	0	12	
Pedestrians	0	8	0	0	0	0	0	0	8	0	0	0	8	0	0	0	24	
Bicycles	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

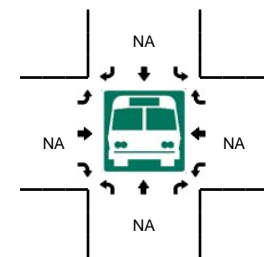
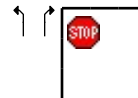
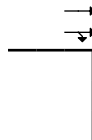
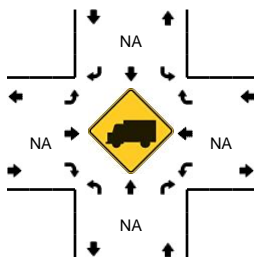
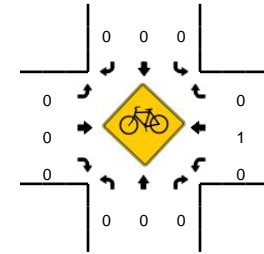
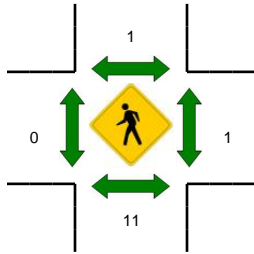
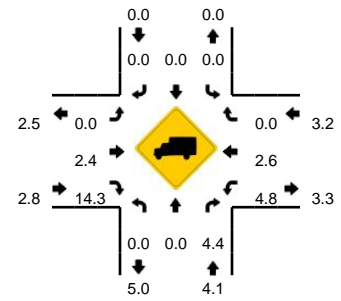
Comments:

LOCATION: 25. Marketplace Ave -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576225
DATE: Wed, Dec 13 2017



Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

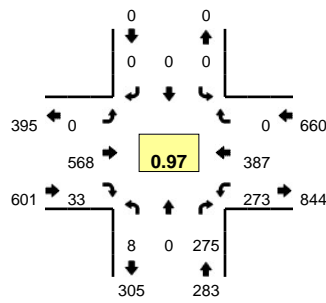


5-Min Count Period Beginning At	25. Marketplace Ave (Northbound)				25. Marketplace Ave (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	0	10	0	0	0	0	0	0	17	0	0	16	61	0	0	108	
7:05 AM	2	0	10	0	0	0	0	0	0	25	0	0	20	83	0	0	140	
7:10 AM	1	0	10	0	0	0	0	0	0	17	1	0	19	47	0	0	95	
7:15 AM	2	0	10	0	0	0	0	0	0	23	0	0	14	67	0	0	116	
7:20 AM	0	0	25	0	0	0	0	0	0	30	0	0	18	54	0	0	127	
7:25 AM	1	0	16	0	0	0	0	0	0	22	1	0	14	79	0	0	133	
7:30 AM	2	0	15	0	0	0	0	0	0	13	0	0	17	67	0	0	114	
7:35 AM	1	0	6	0	0	0	0	0	0	10	0	0	22	66	0	0	105	
7:40 AM	2	0	14	0	0	0	0	0	0	21	1	0	18	73	0	0	129	
7:45 AM	4	0	15	0	0	0	0	0	0	20	0	0	30	72	0	0	141	
7:50 AM	0	0	19	0	0	0	0	0	0	25	1	0	24	82	0	0	151	
7:55 AM	0	0	18	0	0	0	0	0	0	12	0	0	32	81	0	0	143	1502
8:00 AM	1	0	20	0	0	0	0	0	0	15	0	0	30	60	0	0	126	1520
8:05 AM	1	0	18	0	0	0	0	0	0	22	1	0	20	85	0	0	147	1527
8:10 AM	1	0	14	0	0	0	0	0	0	22	1	0	18	93	0	1	150	1582
8:15 AM	0	0	17	0	0	0	0	0	0	14	1	1	38	72	0	0	143	1609
8:20 AM	4	0	12	0	0	0	0	0	0	20	0	0	29	50	0	0	115	1597
8:25 AM	1	0	22	0	0	0	0	0	0	27	0	0	30	69	0	0	149	1613
8:30 AM	0	0	16	0	0	0	0	0	0	24	0	0	40	78	0	0	158	1657
8:35 AM	2	0	21	0	0	0	0	0	0	24	2	0	23	43	0	0	115	1667
8:40 AM	1	0	14	0	0	0	0	0	0	26	0	0	25	57	0	0	123	1661
8:45 AM	1	0	17	0	0	0	0	0	0	16	0	0	41	49	0	0	124	1644
8:50 AM	0	0	15	0	0	0	0	0	0	24	1	0	31	46	0	0	117	1610
8:55 AM	0	0	17	0	0	0	0	0	0	25	1	0	31	40	0	0	114	1581
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	0	196	0	0	0	0	0	0	232	12	4	304	1000	0	4	1760	
Heavy Trucks	0	0	12	0	0	0	0	0	0	0	0	0	12	28	0	0	52	
Pedestrians		8			0					0				0			8	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

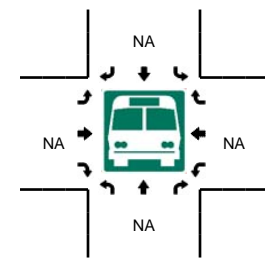
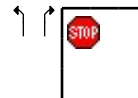
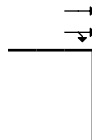
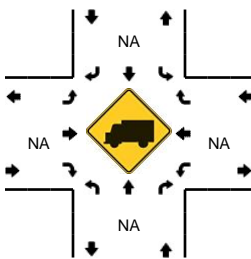
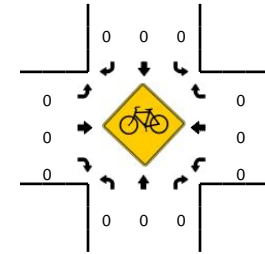
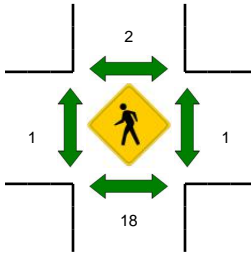
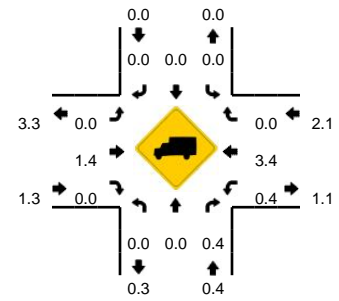
Comments:

LOCATION: 25. Marketplace Ave -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576226
DATE: Wed, Dec 13 2017



Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:55 PM -- 5:10 PM

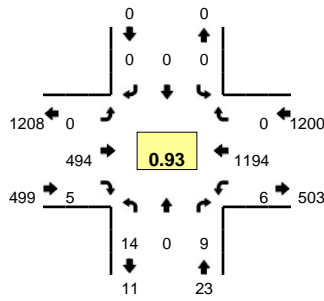


5-Min Count Period Beginning At	25. Marketplace Ave (Northbound)				25. Marketplace Ave (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	0	32	0	0	0	0	0	0	46	2	0	23	21	0	0	127	
4:05 PM	2	0	25	0	0	0	0	0	0	41	3	0	27	33	0	0	131	
4:10 PM	2	0	26	0	0	0	0	0	0	44	3	0	15	26	0	0	116	
4:15 PM	1	0	20	0	0	0	0	0	0	55	2	0	21	46	0	0	145	
4:20 PM	0	0	31	0	0	0	0	0	0	55	2	0	15	27	0	0	130	
4:25 PM	0	0	16	0	0	0	0	0	0	41	2	0	29	29	0	0	117	
4:30 PM	0	0	21	0	0	0	0	0	0	47	4	0	23	30	0	0	125	
4:35 PM	1	0	28	0	0	0	0	0	0	50	4	0	33	37	0	0	153	
4:40 PM	0	0	25	0	0	0	0	0	0	38	2	0	21	28	0	0	114	
4:45 PM	0	0	20	0	0	0	0	0	0	42	5	0	21	27	0	0	115	
4:50 PM	1	0	19	0	0	0	0	0	0	36	1	0	27	33	0	1	118	
4:55 PM	1	0	26	0	0	0	0	0	0	54	4	0	24	32	0	0	141	1532
5:00 PM	0	0	24	0	0	0	0	0	0	53	0	0	23	33	0	0	133	1538
5:05 PM	3	0	21	0	0	0	0	0	0	47	5	0	21	29	0	0	126	1533
5:10 PM	1	0	24	0	0	0	0	0	0	50	2	0	14	36	0	0	127	1544
5:15 PM	0	0	23	0	0	0	0	0	0	48	2	0	28	30	0	0	131	1530
5:20 PM	1	0	21	0	0	0	0	0	0	36	3	0	24	27	0	0	112	1512
5:25 PM	0	0	25	0	0	0	0	0	0	53	2	0	24	22	0	0	126	1521
5:30 PM	1	0	19	0	0	0	0	0	0	45	5	0	24	29	0	0	123	1519
5:35 PM	0	0	21	0	0	0	0	0	0	61	2	0	24	24	0	0	132	1498
5:40 PM	0	0	29	0	0	0	0	0	0	51	1	0	25	25	0	0	131	1515
5:45 PM	0	0	23	0	0	0	0	0	1	39	1	0	25	34	0	0	123	1523
5:50 PM	0	0	23	0	0	0	0	0	0	31	1	0	24	24	0	0	103	1508
5:55 PM	0	0	18	0	0	0	0	0	0	36	1	0	40	28	0	0	123	1490
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	0	284	0	0	0	0	0	0	616	36	0	272	376	0	0	1600	
Heavy Trucks	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8	
Pedestrians		28				0				0				4			32	
Bicycles	0	0	0		0	0	0			0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

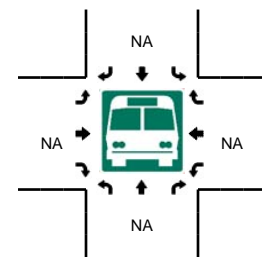
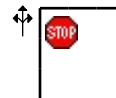
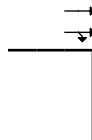
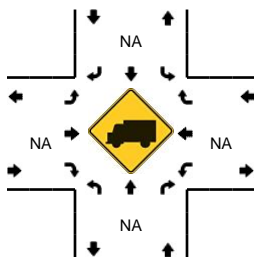
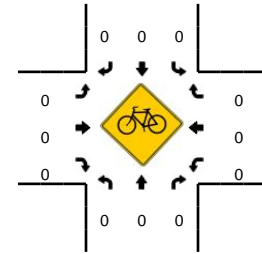
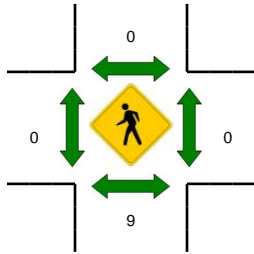
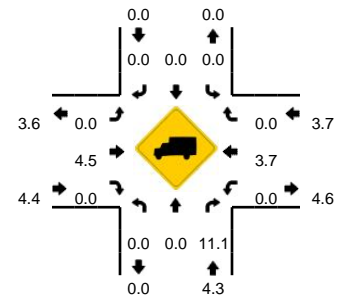
Comments:

LOCATION: 27. West St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576227
DATE: Wed, Dec 13 2017



Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 8:05 AM -- 8:20 AM

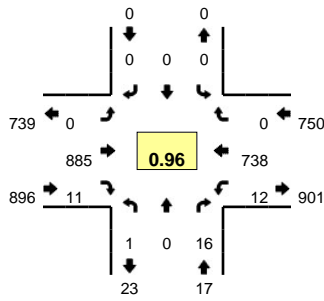


5-Min Count Period Beginning At	27. West St (Northbound)				27. West St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	3	0	0	0	0	0	0	32	0	0	0	65	0	1	102	
7:05 AM	1	0	1	0	0	0	0	0	0	39	0	0	0	99	0	0	141	
7:10 AM	0	0	1	0	0	0	0	0	0	40	1	0	0	61	0	0	107	
7:15 AM	2	0	1	0	0	0	0	0	0	37	0	0	0	83	0	1	124	
7:20 AM	1	0	0	0	0	0	0	0	0	56	2	0	0	76	0	0	137	
7:25 AM	2	0	3	0	0	0	0	0	0	50	0	0	0	92	0	0	148	
7:30 AM	2	0	0	0	0	0	0	0	0	43	0	0	0	84	0	0	130	
7:35 AM	1	0	1	0	0	0	0	0	0	23	2	0	0	89	0	0	117	
7:40 AM	1	0	2	0	0	0	0	0	0	36	0	0	0	91	0	0	131	
7:45 AM	2	0	0	0	0	0	0	0	0	42	2	0	0	98	0	0	144	
7:50 AM	0	0	2	0	0	0	0	0	0	42	1	0	0	108	0	0	153	
7:55 AM	2	0	0	0	0	0	0	0	0	38	0	0	0	106	0	0	146	1580
8:00 AM	0	0	0	0	0	0	0	0	0	36	0	0	0	90	0	0	127	1605
8:05 AM	4	0	1	0	0	0	0	0	0	44	0	0	0	101	0	0	151	1615
8:10 AM	1	0	0	0	0	0	0	0	0	42	0	0	0	113	0	0	156	1664
8:15 AM	0	0	2	0	0	0	0	0	0	38	1	0	0	116	0	0	158	1698
8:20 AM	0	0	1	0	0	0	0	0	0	35	0	0	0	82	0	0	119	1680
8:25 AM	2	0	1	0	0	0	0	0	0	46	1	0	0	107	0	0	157	1689
8:30 AM	1	0	0	0	0	0	0	0	0	48	0	0	0	111	0	0	161	1720
8:35 AM	1	0	0	0	0	0	0	0	0	47	0	0	0	71	0	0	119	1722
8:40 AM	1	0	1	0	0	0	0	0	0	43	0	0	0	79	0	0	125	1716
8:45 AM	2	0	2	0	0	0	0	0	0	31	1	0	0	95	0	0	131	1703
8:50 AM	0	0	0	0	0	0	0	0	0	42	2	0	0	85	0	0	129	1679
8:55 AM	0	0	2	0	0	0	0	0	0	45	1	0	0	80	0	0	128	1661
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	20	0	12	0	0	0	0	0	0	496	4	0	0	8	1320	0	0	1860
Heavy Trucks	0	0	0	0	0	0	0	0	0	24	0	0	0	48	0	0	72	
Pedestrians		4				0				0				0			4	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

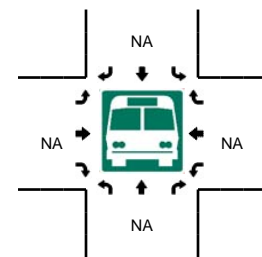
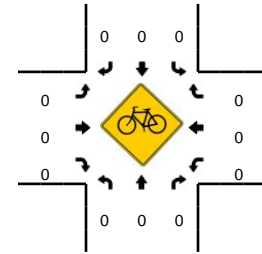
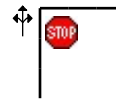
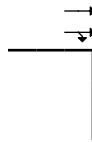
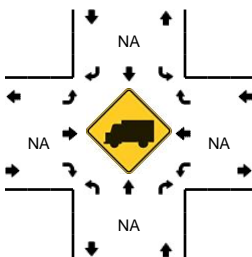
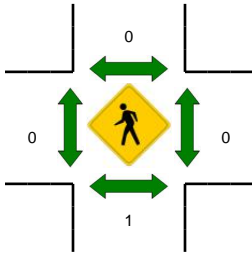
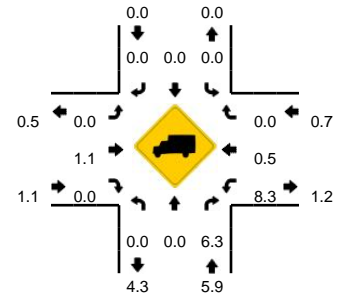
Comments:

LOCATION: 27. West St -- Imperial Ave
CITY/STATE: San Diego, CA

QC JOB #: 14576228
DATE: Wed, Dec 13 2017



Peak-Hour: 4:50 PM -- 5:50 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

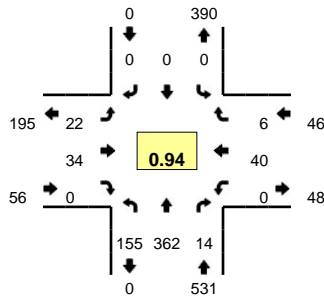


5-Min Count Period Beginning At	27. West St (Northbound)				27. West St (Southbound)				Imperial Ave (Eastbound)				Imperial Ave (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	1	0	0	0	0	0	0	76	0	0	2	47	0	0	126	
4:05 PM	1	0	0	0	0	0	0	0	0	73	3	0	1	62	0	0	140	
4:10 PM	0	0	0	0	0	0	0	0	0	69	1	0	3	51	0	0	124	
4:15 PM	0	0	2	0	0	0	0	0	0	72	1	0	0	75	0	0	150	
4:20 PM	0	0	3	0	0	0	0	0	0	88	3	0	0	48	0	1	143	
4:25 PM	1	0	1	0	0	0	0	0	0	65	2	0	2	73	0	0	144	
4:30 PM	0	0	1	0	0	0	0	0	0	51	0	0	1	65	0	0	118	
4:35 PM	0	0	5	0	0	0	0	0	0	88	3	0	0	67	0	0	163	
4:40 PM	0	0	2	0	0	0	0	0	0	58	1	0	1	56	0	0	118	
4:45 PM	0	0	0	0	0	0	0	0	0	63	0	0	0	60	0	0	123	
4:50 PM	0	0	0	0	0	0	0	0	0	64	0	0	1	75	0	0	140	
4:55 PM	0	0	0	0	0	0	0	0	0	70	1	0	1	57	0	0	129	1618
5:00 PM	0	0	3	0	0	0	0	0	0	83	0	0	1	62	0	0	149	1641
5:05 PM	0	0	2	0	0	0	0	0	0	78	0	0	1	54	0	0	135	1636
5:10 PM	0	0	3	0	0	0	0	0	0	85	1	0	1	60	0	0	150	1662
5:15 PM	0	0	2	0	0	0	0	0	0	67	1	0	2	69	0	0	141	1653
5:20 PM	0	0	2	0	0	0	0	0	0	68	2	0	1	56	0	0	129	1639
5:25 PM	0	0	0	0	0	0	0	0	0	75	2	0	1	56	0	0	134	1629
5:30 PM	0	0	1	0	0	0	0	0	0	76	0	0	0	74	0	0	151	1662
5:35 PM	0	0	1	0	0	0	0	0	0	79	1	0	1	56	0	0	138	1637
5:40 PM	0	0	1	0	0	0	0	0	0	67	0	0	2	55	0	0	125	1644
5:45 PM	1	0	1	0	0	0	0	0	0	73	3	0	0	64	0	0	142	1663
5:50 PM	0	0	3	0	0	0	0	0	0	61	0	0	1	64	0	0	129	1652
5:55 PM	1	0	0	0	0	0	0	0	0	51	2	0	2	70	0	0	126	1649
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	0	32	0	0	0	0	0	0	984	4	0	12	704	0	0	1736	
Heavy Trucks	0	0	4	0	0	0	0	0	0	8	0	0	4	8	0	0	24	
Pedestrians		4				0				0				0			4	
Bicycles	0	0	0		0	0	0			0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

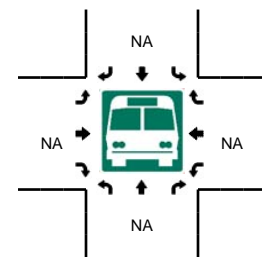
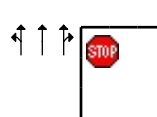
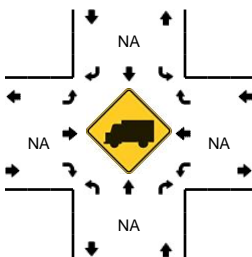
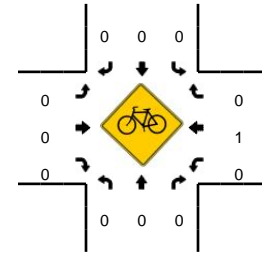
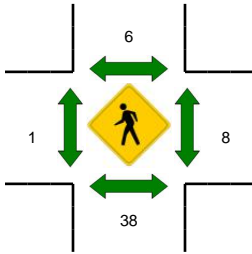
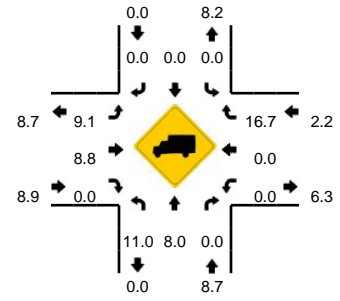
Comments:

LOCATION: 31. 19th St -- J St
CITY/STATE: San Diego, CA

QC JOB #: 14576229
DATE: Wed, Dec 13 2017



Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

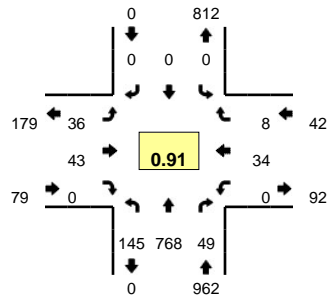


5-Min Count Period Beginning At	31. 19th St (Northbound)				31. 19th St (Southbound)				J St (Eastbound)				J St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	12	20	0	0	0	0	0	0	1	3	0	0	0	4	0	0	40	
7:05 AM	6	11	1	0	0	0	0	0	2	2	0	0	0	3	0	0	25	
7:10 AM	4	26	2	0	0	0	0	0	4	3	0	0	0	3	2	0	44	
7:15 AM	7	27	2	0	0	0	0	0	1	2	0	0	0	5	0	0	44	
7:20 AM	5	32	1	0	0	0	0	0	1	1	0	0	0	5	0	0	45	
7:25 AM	5	20	0	0	0	0	0	0	2	3	0	0	0	9	0	0	39	
7:30 AM	8	32	0	0	0	0	0	0	0	3	0	0	0	3	0	0	46	
7:35 AM	9	28	0	0	0	0	0	0	3	4	0	0	0	4	0	0	48	
7:40 AM	8	27	1	0	0	0	0	0	4	2	0	0	0	5	0	0	47	
7:45 AM	9	32	0	0	0	0	0	0	6	0	0	0	0	7	0	0	54	
7:50 AM	7	24	1	0	0	0	0	0	2	4	0	0	0	7	0	0	45	
7:55 AM	6	30	1	0	0	0	0	0	0	4	0	0	0	4	0	0	45	522
8:00 AM	12	30	1	0	0	0	0	0	0	2	0	0	0	3	0	0	48	530
8:05 AM	12	30	1	0	0	0	0	0	0	2	0	0	0	3	0	0	48	553
8:10 AM	11	22	0	0	0	0	0	0	7	2	0	0	0	5	0	0	47	556
8:15 AM	14	25	0	0	0	0	0	0	2	1	0	0	0	4	1	0	47	559
8:20 AM	13	40	3	0	0	0	0	0	4	1	0	0	0	0	1	0	62	576
8:25 AM	12	32	0	0	0	0	0	0	1	0	0	0	0	2	0	0	47	584
8:30 AM	6	39	1	0	0	0	0	0	0	7	0	0	0	2	0	0	55	593
8:35 AM	11	28	1	0	0	0	0	0	4	4	0	0	0	2	0	0	50	595
8:40 AM	19	33	1	0	0	0	0	0	0	3	0	0	0	4	1	0	61	609
8:45 AM	13	28	4	0	0	0	0	0	1	3	0	0	0	2	0	0	51	606
8:50 AM	17	16	2	0	0	0	0	0	3	8	0	0	0	4	1	0	51	612
8:55 AM	15	39	0	0	0	0	0	0	0	1	0	0	0	9	2	0	66	633
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	180	332	24	0	0	0	0	0	16	48	0	0	0	60	12	0	672	
Heavy Trucks	12	40	0	0	0	0	0	0	0	0	0	0	0	0	4	0	56	
Pedestrians		56				4				0				12			72	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

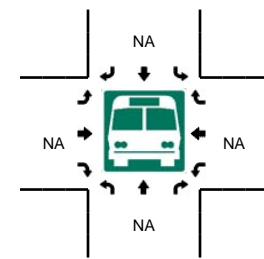
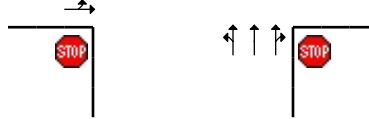
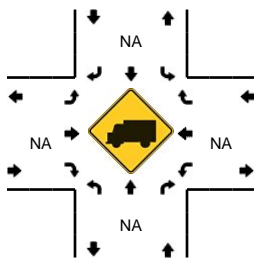
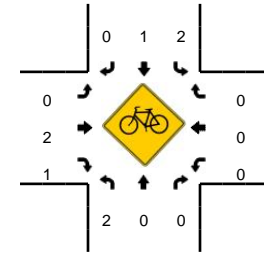
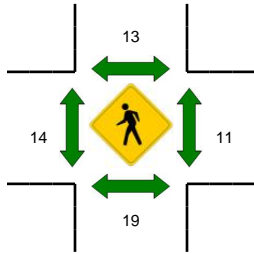
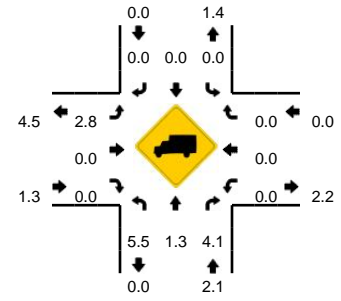
Comments:

LOCATION: 31. 19th St -- J St
CITY/STATE: San Diego, CA

QC JOB #: 14576230
DATE: Wed, Dec 13 2017



Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM



5-Min Count Period Beginning At	31. 19th St (Northbound)				31. 19th St (Southbound)				J St (Eastbound)				J St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	9	66	7	0	0	0	0	0	2	6	0	0	0	5	0	0	95	
4:05 PM	14	69	5	0	0	0	0	0	7	3	0	0	0	3	0	0	101	
4:10 PM	19	63	2	0	0	0	0	0	5	8	0	0	0	3	0	0	100	
4:15 PM	8	70	4	0	0	0	0	0	1	4	0	0	0	3	2	0	92	
4:20 PM	6	74	2	0	0	0	0	0	6	3	0	0	0	1	2	0	94	
4:25 PM	6	68	9	0	0	0	0	0	2	1	0	0	0	2	1	0	89	
4:30 PM	20	60	5	0	0	0	0	0	1	4	0	0	0	3	0	0	93	
4:35 PM	11	70	2	0	0	0	0	0	2	2	0	0	0	5	1	0	93	
4:40 PM	17	66	5	0	0	0	0	0	4	1	0	0	0	1	0	0	94	
4:45 PM	15	60	1	0	0	0	0	0	1	6	0	0	0	5	0	0	88	
4:50 PM	12	43	6	0	0	0	0	0	1	3	0	0	0	2	1	0	68	
4:55 PM	8	59	1	0	0	0	0	0	4	2	0	0	0	1	1	0	76	1083
5:00 PM	13	60	6	0	0	0	0	0	6	2	0	0	0	3	0	0	90	1078
5:05 PM	9	70	3	0	0	0	0	0	4	1	0	0	0	5	0	0	92	1069
5:10 PM	12	55	7	0	0	0	0	0	5	6	0	0	0	2	1	0	88	1057
5:15 PM	16	76	4	0	0	0	0	0	3	7	0	0	0	2	1	0	109	1074
5:20 PM	11	58	2	0	0	0	0	0	3	3	0	0	0	2	0	0	79	1059
5:25 PM	13	47	6	0	0	0	0	0	3	1	0	0	0	1	0	0	71	1041
5:30 PM	12	53	3	0	0	0	0	0	4	2	0	0	0	2	1	0	77	1025
5:35 PM	9	43	0	0	0	0	0	0	3	0	0	0	0	1	0	0	56	988
5:40 PM	16	52	3	0	0	0	0	0	7	5	0	0	0	6	0	0	89	983
5:45 PM	20	34	3	0	0	0	0	0	5	3	0	0	0	1	1	0	67	962
5:50 PM	11	46	2	0	0	0	0	0	5	5	0	0	0	1	1	0	71	965
5:55 PM	14	30	1	0	0	0	0	0	9	2	0	0	0	2	0	0	58	947
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	168	792	56	0	0	0	0	0	56	68	0	0	0	44	0	0	1184	
Heavy Trucks	12	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	
Pedestrians		20				12				16				12			60	
Bicycles	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	
Railroad																		
Stopped Buses																		

Comments:

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: EB DATE: Dec 13 2017		
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
12:00 AM	0	0	2	0	2	0	1	0	0	0	0	0	0	0	5	16-25	2
12:15 AM	1	0	0	3	2	2	0	0	0	0	0	0	0	0	8	26-35	5
12:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
12:45 AM	0	0	1	0	2	0	1	1	0	0	0	0	0	0	5	41-50	2
1:00 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	21-30	1
1:15 AM	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3	21-30	2
1:30 AM	0	0	0	1	3	0	0	0	0	0	0	0	0	0	4	26-35	4
1:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
2:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	31-40	1
2:15 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15-24	0
2:30 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3	31-40	3
2:45 AM	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	16-25	1
3:00 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	21-30	1
3:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	21-30	1
3:30 AM	0	0	0	1	2	1	0	0	0	0	0	0	0	0	4	31-40	3
3:45 AM	0	0	0	0	2	1	0	1	0	0	0	0	0	0	4	31-40	3
4:00 AM	0	0	1	0	3	2	0	0	0	0	0	0	0	0	6	31-40	5
4:15 AM	0	0	0	1	1	0	1	0	0	0	0	0	0	0	3	26-35	2
4:30 AM	0	0	0	2	2	1	0	0	0	0	0	0	0	0	5	26-35	4
4:45 AM	0	0	0	2	0	1	0	0	0	0	0	0	0	0	3	21-30	2
5:00 AM	0	0	2	0	3	1	1	0	0	0	0	0	0	0	7	31-40	4
5:15 AM	0	0	0	1	3	2	0	0	0	0	0	0	0	0	6	31-40	5
5:30 AM	2	0	2	2	4	0	1	0	0	0	0	0	0	0	11	26-35	6
5:45 AM	0	0	2	2	4	3	0	0	0	0	0	0	0	0	11	32-41	6
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: EB DATE: Dec 13 2017		
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
6:00 AM	2	3	1	4	7	2	1	0	0	0	0	0	0	0	20	28-37	10
6:15 AM	3	0	0	2	8	5	0	0	0	0	0	0	0	0	18	31-40	13
6:30 AM	3	0	6	16	7	1	0	0	0	0	0	0	0	0	33	26-35	22
6:45 AM	19	1	5	9	4	1	0	0	0	0	0	0	0	0	39	21-30	14
7:00 AM	6	1	5	8	1	2	0	0	0	0	0	0	0	0	23	21-30	13
7:15 AM	15	2	4	21	4	0	0	0	0	0	0	0	0	0	46	21-30	25
7:30 AM	6	2	8	11	1	0	0	0	0	0	0	0	0	0	28	21-30	19
7:45 AM	15	1	10	9	6	0	0	0	0	0	0	0	0	0	41	21-30	19
8:00 AM	14	0	2	16	3	2	0	0	0	0	0	0	0	0	37	26-35	19
8:15 AM	9	2	11	20	17	0	1	0	0	0	0	0	0	0	60	26-35	37
8:30 AM	4	0	7	21	15	0	1	0	0	0	0	0	0	0	48	26-35	36
8:45 AM	2	2	3	10	17	2	0	0	0	0	0	0	0	0	36	26-35	26
9:00 AM	2	0	5	11	8	5	1	0	0	0	0	0	0	0	32	26-35	19
9:15 AM	0	1	4	12	13	11	1	0	0	0	0	0	0	0	42	26-35	25
9:30 AM	5	1	10	27	8	0	0	0	0	0	0	0	0	0	51	21-30	37
9:45 AM	4	2	13	17	12	7	0	0	0	0	0	0	0	0	55	25-34	29
10:00 AM	2	1	16	21	9	3	1	0	0	0	0	0	0	0	53	21-30	37
10:15 AM	4	2	7	11	16	2	1	0	0	0	0	0	0	0	43	26-35	27
10:30 AM	5	0	9	19	14	6	1	0	0	0	0	0	0	0	54	26-35	32
10:45 AM	9	1	9	29	14	2	3	0	1	0	0	0	0	0	68	26-35	42
11:00 AM	7	3	7	16	17	2	1	0	0	0	0	0	0	0	53	26-35	33
11:15 AM	2	4	9	17	6	5	0	0	0	0	0	0	0	0	43	22-31	25
11:30 AM	1	1	9	27	9	3	1	0	0	0	0	0	0	0	51	21-30	36
11:45 AM	2	2	6	17	19	3	1	0	0	0	0	0	0	0	50	26-35	35
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: EB DATE: Dec 13 2017		
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Pace Speed	Number in Pace
12:00 PM	6	2	11	28	17	3	0	0	0	0	0	0	0	0	67	26-35	45
12:15 PM	1	0	8	22	13	5	2	0	0	0	0	0	0	0	51	26-35	35
12:30 PM	2	3	11	40	21	2	0	1	0	0	0	0	0	0	80	26-35	61
12:45 PM	3	1	22	33	20	3	0	0	0	0	0	0	0	0	82	23-32	54
1:00 PM	6	3	19	18	29	5	0	0	0	0	0	0	0	0	80	26-35	46
1:15 PM	4	1	20	32	18	1	0	0	0	0	0	0	0	0	76	21-30	52
1:30 PM	4	1	8	32	21	2	2	0	0	0	0	0	0	0	70	26-35	53
1:45 PM	2	2	19	29	23	4	0	0	0	0	0	0	0	0	79	26-35	51
2:00 PM	3	1	19	20	5	3	0	0	0	0	0	0	0	0	51	21-30	39
2:15 PM	2	0	15	29	19	2	0	0	0	0	0	0	0	0	67	26-35	47
2:30 PM	1	7	12	33	18	5	0	0	0	0	0	0	0	0	76	26-35	50
2:45 PM	5	4	17	52	32	3	0	0	0	0	0	0	0	0	113	26-35	84
3:00 PM	3	3	29	32	22	5	0	0	0	0	0	0	0	0	94	21-30	61
3:15 PM	5	1	43	54	16	1	0	0	0	0	0	0	0	0	120	21-30	97
3:30 PM	11	5	20	58	26	4	0	1	0	0	0	0	0	0	125	26-35	83
3:45 PM	8	4	33	57	15	1	0	0	0	0	0	0	0	0	118	21-30	90
4:00 PM	9	7	44	52	17	3	0	0	0	0	0	0	0	0	132	21-30	96
4:15 PM	5	1	38	63	18	4	0	0	0	0	0	0	0	0	129	21-30	100
4:30 PM	11	1	56	53	14	1	0	0	0	0	0	0	0	0	136	21-30	108
4:45 PM	2	5	55	61	16	5	0	0	0	0	0	0	0	0	144	21-30	115
5:00 PM	10	3	40	66	17	4	0	0	0	0	0	0	0	0	140	21-30	105
5:15 PM	8	14	52	53	17	2	0	0	0	0	0	0	0	0	146	21-30	104
5:30 PM	7	0	62	60	26	2	0	0	0	0	0	0	0	0	157	21-30	122
5:45 PM	5	5	28	37	27	4	0	0	0	0	0	0	0	0	106	21-30	65
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: EB DATE: Dec 13 2017						
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace				
6:00 PM	2	0	28	55	20	5	1	0	0	0	0	0	0	0	111	21-30	83				
6:15 PM	12	4	26	47	18	2	1	0	0	0	0	0	0	0	110	21-30	73				
6:30 PM	8	5	15	32	22	4	0	0	0	0	0	0	0	0	86	26-35	54				
6:45 PM	5	6	25	35	11	1	0	0	0	0	0	0	0	0	83	21-30	60				
7:00 PM	3	3	8	33	9	2	0	0	0	0	0	0	0	0	58	26-35	41				
7:15 PM	5	3	3	36	13	4	0	0	0	0	0	0	0	0	64	26-35	48				
7:30 PM	3	1	11	25	8	4	0	0	0	0	0	0	0	0	52	21-30	36				
7:45 PM	3	1	4	26	10	4	0	0	0	0	0	0	0	0	48	26-35	36				
8:00 PM	4	0	6	16	13	1	1	0	0	0	0	0	0	0	41	26-35	29				
8:15 PM	0	2	10	15	16	2	0	0	0	0	0	0	0	0	45	26-35	31				
8:30 PM	3	0	6	20	7	3	1	0	0	0	0	0	0	0	40	26-35	26				
8:45 PM	0	1	4	10	9	4	0	0	0	0	0	0	0	0	28	26-35	19				
9:00 PM	1	0	6	8	7	3	1	0	0	0	0	0	0	0	26	26-35	14				
9:15 PM	1	2	4	10	7	0	0	1	0	0	0	0	0	0	25	26-35	16				
9:30 PM	0	3	3	13	7	1	1	0	0	0	0	0	0	0	28	26-35	19				
9:45 PM	1	0	8	8	11	2	0	1	0	0	0	0	0	0	31	26-35	19				
10:00 PM	0	0	1	10	5	5	0	0	0	0	0	0	0	0	21	26-35	15				
10:15 PM	0	0	3	6	5	2	0	0	0	0	0	0	0	0	16	26-35	11				
10:30 PM	0	0	0	2	3	0	2	0	0	0	0	0	0	0	7	28-37	4				
10:45 PM	0	0	1	1	3	2	0	0	0	0	0	0	0	0	7	31-40	5				
11:00 PM	0	0	1	5	4	2	0	0	0	0	0	0	0	0	12	26-35	9				
11:15 PM	0	1	1	2	5	0	0	0	0	0	0	0	0	0	9	26-35	7				
11:30 PM	0	0	0	6	7	3	0	0	0	0	0	0	0	0	16	27-36	12				
11:45 PM	0	0	0	2	3	1	0	0	0	0	0	0	0	0	6	30-39	4				
Day Total	320	138	1034	1828	960	213	33	6	1	0	0	0	0	0	4533	21-30	2862				
Percent	7.1%	3.0%	22.8%	40.3%	21.2%	4.7%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%							
ADT 4533																					
AM Peak Volume	6:45 AM	11:15 AM	10:00 AM	10:45 AM	11:45 AM	9:15 AM	10:45 AM	12:45 AM	10:45 AM	19	4	16	29	19	11	3	1	1	10:45 AM	68	
PM Peak Volume	6:15 PM	5:15 PM	5:30 PM	5:00 PM	2:45 PM	12:15 PM	12:15 PM	12:30 PM	12	14	62	66	32	5	2	1	5:30 PM	157			
<i>Comments:</i>																					

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St														QC JOB #: 14576231			
SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St														DIRECTION: EB			
CITY/STATE: San Diego, CA														DATE: Dec 13 2017 - Dec 13 2017			
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	320	138	1034	1828	960	213	33	6	1	0	0	0	0	0	4533	21-30	2862
Percent	7.1%	3.0%	22.8%	40.3%	21.2%	4.7%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	7.1%	10.1%	32.9%	73.2%	94.4%	99.1%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			
ADT 4533															85th Percentile 32 MPH Mean Speed(Average): 26 MPH		
Comments:															Median 27 MPH Mode: 28 MPH		



LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: EB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			5			5			5	
12:15 AM			8			8			8	
12:30 AM			1			1			1	
12:45 AM			5			5			5	
1:00 AM			2			2			2	
1:15 AM			3			3			3	
1:30 AM			4			4			4	
1:45 AM			1			1			1	
2:00 AM			1			1			1	
2:15 AM			1			1			1	
2:30 AM			3			3			3	
2:45 AM			2			2			2	
3:00 AM			2			2			2	
3:15 AM			2			2			2	
3:30 AM			4			4			4	
3:45 AM			4			4			4	
4:00 AM			6			6			6	
4:15 AM			3			3			3	
4:30 AM			5			5			5	
4:45 AM			3			3			3	
5:00 AM			7			7			7	
5:15 AM			6			6			6	
5:30 AM			11			11			11	
5:45 AM			11			11			11	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: EB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			20			20			20	
6:15 AM			18			18			18	
6:30 AM			33			33			33	
6:45 AM			39			39			39	
7:00 AM			23			23			23	
7:15 AM			46			46			46	
7:30 AM			28			28			28	
7:45 AM			41			41			41	
8:00 AM			37			37			37	
8:15 AM			60			60			60	
8:30 AM			48			48			48	
8:45 AM			36			36			36	
9:00 AM			32			32			32	
9:15 AM			42			42			42	
9:30 AM			51			51			51	
9:45 AM			55			55			55	
10:00 AM			53			53			53	
10:15 AM			43			43			43	
10:30 AM			54			54			54	
10:45 AM			68			68			68	
11:00 AM			53			53			53	
11:15 AM			43			43			43	
11:30 AM			51			51			51	
11:45 AM			50			50			50	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: EB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			67			67			67	
12:15 PM			51			51			51	
12:30 PM			80			80			80	
12:45 PM			82			82			82	
1:00 PM			80			80			80	
1:15 PM			76			76			76	
1:30 PM			70			70			70	
1:45 PM			79			79			79	
2:00 PM			51			51			51	
2:15 PM			67			67			67	
2:30 PM			76			76			76	
2:45 PM			113			113			113	
3:00 PM			94			94			94	
3:15 PM			120			120			120	
3:30 PM			125			125			125	
3:45 PM			118			118			118	
4:00 PM			132			132			132	
4:15 PM			129			129			129	
4:30 PM			136			136			136	
4:45 PM			144			144			144	
5:00 PM			140			140			140	
5:15 PM			146			146			146	
5:30 PM			157			157			157	
5:45 PM			106			106			106	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: EB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			111			111			111	
6:15 PM			110			110			110	
6:30 PM			86			86			86	
6:45 PM			83			83			83	
7:00 PM			58			58			58	
7:15 PM			64			64			64	
7:30 PM			52			52			52	
7:45 PM			48			48			48	
8:00 PM			41			41			41	
8:15 PM			45			45			45	
8:30 PM			40			40			40	
8:45 PM			28			28			28	
9:00 PM			26			26			26	
9:15 PM			25			25			25	
9:30 PM			28			28			28	
9:45 PM			31			31			31	
10:00 PM			21			21			21	
10:15 PM			16			16			16	
10:30 PM			7			7			7	
10:45 PM			7			7			7	
11:00 PM			12			12			12	
11:15 PM			9			9			9	
11:30 PM			16			16			16	
11:45 PM			6			6			6	
Day Total			4533			4533			4533	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			10:45 AM			10:45 AM			10:45 AM	
Volume			68			68			68	
PM Peak			5:30 PM			5:30 PM			5:30 PM	
Volume			157			157			157	
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: EB/WB DATE: Dec 13 2017		
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
12:00 AM	0	0	3	1	4	1	2	0	0	0	0	0	0	0	11	26-35	5
12:15 AM	1	0	0	4	3	4	0	0	0	0	0	0	0	0	12	31-40	7
12:30 AM	0	1	3	2	4	0	1	0	0	0	0	0	0	0	11	26-35	6
12:45 AM	0	0	1	0	3	1	3	1	0	0	0	0	0	0	9	32-41	4
1:00 AM	0	0	0	1	0	1	1	1	0	0	0	0	0	0	4	41-50	2
1:15 AM	0	0	0	3	1	1	0	0	0	0	0	0	0	0	5	26-35	4
1:30 AM	0	0	0	2	3	3	0	0	0	0	0	0	0	0	8	32-41	5
1:45 AM	0	0	1	2	1	1	1	0	0	0	0	0	0	0	6	26-35	3
2:00 AM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	4	41-50	3
2:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	21-30	1
2:30 AM	0	0	0	0	4	1	1	0	0	0	0	0	0	0	6	32-41	4
2:45 AM	0	0	1	0	2	2	0	0	0	0	0	0	0	0	5	31-40	4
3:00 AM	0	0	1	1	1	0	1	0	0	0	0	0	0	0	4	26-35	2
3:15 AM	1	1	0	1	1	1	0	0	0	0	0	0	0	0	5	31-40	2
3:30 AM	0	0	2	1	4	2	0	0	0	0	0	0	0	0	9	31-40	6
3:45 AM	0	0	0	0	2	2	1	1	0	0	0	0	0	0	6	31-40	4
4:00 AM	0	0	1	4	5	3	0	0	0	0	0	0	0	0	13	26-35	9
4:15 AM	0	0	1	1	4	1	2	0	0	0	0	0	0	0	9	26-35	5
4:30 AM	0	0	2	2	5	2	0	1	1	0	0	0	0	0	13	31-40	7
4:45 AM	0	0	0	3	1	4	0	0	0	0	0	0	0	0	8	31-40	5
5:00 AM	0	0	3	3	5	4	3	0	0	0	0	0	0	0	18	31-40	9
5:15 AM	2	0	2	4	9	10	5	0	0	0	0	0	0	0	32	31-40	19
5:30 AM	3	1	2	3	17	15	6	0	0	0	0	0	0	0	47	31-40	32
5:45 AM	1	0	3	12	24	18	5	1	0	0	0	0	0	0	64	31-40	41
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: EB/WB DATE: Dec 13 2017		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
6:00 AM	3	3	3	10	55	22	8	0	0	0	0	0	0	0	104	31-40	77
6:15 AM	5	0	6	22	51	36	6	1	0	0	0	0	0	0	127	31-40	86
6:30 AM	15	3	24	102	77	14	1	0	0	0	0	0	0	0	236	26-35	178
6:45 AM	173	87	14	11	4	1	0	0	0	0	0	0	0	0	290	11-20	144
7:00 AM	191	31	5	8	1	2	0	0	0	0	0	0	0	0	238	6-15	127
7:15 AM	169	41	6	21	4	0	0	0	0	0	0	0	0	0	241	6-15	112
7:30 AM	163	6	8	11	1	0	0	0	0	0	0	0	0	0	189	6-15	108
7:45 AM	162	29	13	9	6	0	0	0	0	0	0	0	0	0	219	6-15	108
8:00 AM	164	57	6	16	3	2	0	0	0	0	0	0	0	0	248	11-20	111
8:15 AM	62	27	24	66	51	7	4	0	0	0	0	0	0	0	241	26-35	116
8:30 AM	6	2	19	74	73	13	2	0	0	0	0	0	0	0	189	26-35	147
8:45 AM	2	2	6	56	52	18	3	1	0	0	0	0	0	0	140	26-35	108
9:00 AM	3	0	7	33	31	12	2	0	0	0	0	0	0	0	88	26-35	64
9:15 AM	2	1	7	24	38	35	2	0	0	0	0	0	0	0	109	31-40	73
9:30 AM	9	3	14	48	33	5	1	2	0	0	0	0	0	0	115	26-35	80
9:45 AM	6	3	22	36	28	18	2	0	0	0	0	0	0	0	115	26-35	63
10:00 AM	6	3	19	31	19	10	3	0	0	0	0	0	0	0	91	21-30	50
10:15 AM	4	2	10	29	37	5	2	0	0	0	0	0	0	0	89	26-35	66
10:30 AM	11	2	17	46	30	8	1	0	0	0	0	0	0	0	115	26-35	76
10:45 AM	11	1	10	54	35	13	3	0	1	0	0	0	0	0	128	26-35	89
11:00 AM	8	4	14	41	34	9	3	0	0	0	0	0	0	0	113	26-35	75
11:15 AM	3	5	19	36	29	7	1	0	0	0	0	0	0	0	100	26-35	65
11:30 AM	3	2	20	63	36	5	1	0	0	0	0	0	0	0	130	26-35	98
11:45 AM	2	5	19	42	35	7	2	0	0	0	0	0	0	0	112	26-35	77
Day Total																	
Percent																	
AM Peak																	
Volume																	
PM Peak																	
Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: EB/WB DATE: Dec 13 2017		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 PM	10	6	16	56	37	8	1	1	0	0	0	0	0	0	135	26-35	93
12:15 PM	3	0	24	62	30	7	2	0	0	0	0	0	0	0	128	26-35	92
12:30 PM	2	4	15	70	53	13	0	2	0	0	0	0	0	0	159	26-35	122
12:45 PM	5	1	29	65	47	11	2	0	0	0	0	0	0	0	160	26-35	112
1:00 PM	9	5	22	33	54	11	2	0	0	0	0	0	0	0	136	26-35	87
1:15 PM	7	1	26	55	46	17	1	0	0	0	0	0	0	0	153	26-35	100
1:30 PM	7	6	13	62	46	10	6	0	0	0	0	0	0	0	150	26-35	107
1:45 PM	5	2	24	61	46	13	1	0	0	0	0	0	0	0	152	26-35	106
2:00 PM	6	1	20	40	25	15	1	1	0	0	0	0	0	0	109	26-35	65
2:15 PM	5	0	26	47	41	11	1	0	0	0	0	0	0	0	131	26-35	87
2:30 PM	12	7	17	53	41	20	1	0	0	0	0	0	0	0	151	26-35	93
2:45 PM	8	5	20	81	63	17	2	0	0	0	0	0	0	0	196	26-35	144
3:00 PM	7	3	31	55	49	17	2	0	0	0	0	0	0	0	164	26-35	104
3:15 PM	8	1	44	76	35	15	1	1	0	0	0	0	0	0	181	21-30	119
3:30 PM	21	6	26	75	50	12	0	1	0	0	0	0	0	0	191	26-35	125
3:45 PM	14	5	37	90	42	7	2	0	0	0	0	0	0	0	197	26-35	132
4:00 PM	14	7	48	81	37	13	0	0	0	0	0	0	0	0	200	21-30	128
4:15 PM	9	3	40	90	37	14	2	0	0	0	0	0	0	0	195	21-30	130
4:30 PM	19	6	74	70	42	13	1	0	0	0	0	0	0	0	225	21-30	144
4:45 PM	4	5	59	72	34	21	3	0	1	0	0	0	0	0	199	21-30	131
5:00 PM	19	5	50	95	46	8	2	0	1	0	0	0	0	0	226	21-30	145
5:15 PM	16	15	60	77	28	8	1	0	0	0	0	0	0	0	205	21-30	137
5:30 PM	13	0	70	89	50	11	0	0	0	0	0	0	0	0	233	21-30	159
5:45 PM	10	5	31	57	50	7	0	0	0	0	0	0	0	0	160	26-35	107
Day Total																	
Percent																	
AM Peak																	
Volume																	
PM Peak																	
Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: EB/WB DATE: Dec 13 2017		
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Pace Speed	Number in Pace
6:00 PM	5	1	33	79	48	11	2	0	0	0	0	0	0	0	179	26-35	126
6:15 PM	18	4	35	63	41	9	3	0	0	0	0	0	0	0	173	26-35	103
6:30 PM	13	5	23	48	46	12	3	0	0	0	0	0	0	0	150	26-35	93
6:45 PM	8	10	38	57	35	6	1	0	0	0	0	0	0	0	155	21-30	95
7:00 PM	6	3	12	53	25	11	0	0	0	0	0	1	0	0	111	26-35	78
7:15 PM	8	4	7	64	30	11	0	0	0	0	0	0	0	0	124	26-35	94
7:30 PM	5	1	14	44	24	8	1	0	0	0	0	0	0	0	97	26-35	68
7:45 PM	6	1	8	38	19	12	1	0	1	0	0	0	0	0	86	26-35	56
8:00 PM	6	0	14	34	32	3	1	0	0	0	0	0	0	0	90	26-35	66
8:15 PM	2	2	14	24	32	6	0	0	0	0	0	0	0	0	80	26-35	56
8:30 PM	5	0	10	32	22	8	5	0	0	0	0	0	0	0	82	26-35	54
8:45 PM	0	1	5	21	27	8	1	0	0	0	0	0	0	0	63	26-35	48
9:00 PM	2	0	7	17	19	10	2	0	0	0	0	0	0	0	57	26-35	35
9:15 PM	3	2	6	18	20	4	1	2	0	0	0	0	0	0	56	26-35	38
9:30 PM	0	3	6	16	14	4	1	0	0	0	0	0	0	0	44	26-35	29
9:45 PM	2	0	11	12	21	4	1	1	0	0	0	0	0	0	52	26-35	33
10:00 PM	0	1	2	17	9	7	2	0	0	0	0	0	0	0	38	26-35	25
10:15 PM	0	0	5	7	7	5	0	0	0	0	0	0	0	0	24	28-37	13
10:30 PM	0	0	0	4	8	5	2	0	0	0	0	0	0	0	19	31-40	13
10:45 PM	0	0	3	5	5	6	1	1	0	0	0	0	0	0	21	32-41	10
11:00 PM	0	0	2	12	10	2	1	0	0	0	0	0	0	0	27	26-35	22
11:15 PM	0	2	1	4	7	2	0	0	0	0	0	0	0	0	16	28-37	10
11:30 PM	3	0	1	10	9	5	0	0	0	0	0	0	0	0	28	26-35	19
11:45 PM	0	0	0	3	7	4	2	0	0	0	0	0	0	0	16	31-40	11
Day Total	1517	461	1417	3234	2412	789	145	21	5	0	0	1	0	0	10002	26-35	5645
Percent	15.2%	4.6%	14.2%	32.3%	24.1%	7.9%	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 10002																	
AM Peak Volume	7:00 AM	6:45 AM	6:30 AM	6:30 AM	6:30 AM	6:15 AM	6:00 AM	2:00 AM	4:30 AM						6:45 AM		
	191	87	24	102	77	36	8	2	1						290		
PM Peak Volume	3:30 PM	5:15 PM	4:30 PM	5:00 PM	2:45 PM	4:45 PM	1:30 PM	12:30 PM	4:45 PM	7:00 PM				5:30 PM			
	21	15	74	95	63	21	6	2	1	1				233			
<i>Comments:</i>																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St														QC JOB #: 14576231			
SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St														DIRECTION: EB/WB			
CITY/STATE: San Diego, CA														DATE: Dec 13 2017 - Dec 13 2017			
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	1517	461	1417	3234	2412	789	145	21	5	0	0	1	0	0	10002	26-35	5645
Percent	15.2%	4.6%	14.2%	32.3%	24.1%	7.9%	1.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	15.2%	19.8%	33.9%	66.3%	90.4%	98.3%	99.7%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			
ADT 10002															85th Percentile 33 MPH Mean Speed(Average) 25 MPH Median 27 MPH Mode: 28 MPH		
<i>Comments:</i>																	



LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: EB/WB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			11			11			11	
12:15 AM			12			12			12	
12:30 AM			11			11			11	
12:45 AM			9			9			9	
1:00 AM			4			4			4	
1:15 AM			5			5			5	
1:30 AM			8			8			8	
1:45 AM			6			6			6	
2:00 AM			4			4			4	
2:15 AM			2			2			2	
2:30 AM			6			6			6	
2:45 AM			5			5			5	
3:00 AM			4			4			4	
3:15 AM			5			5			5	
3:30 AM			9			9			9	
3:45 AM			6			6			6	
4:00 AM			13			13			13	
4:15 AM			9			9			9	
4:30 AM			13			13			13	
4:45 AM			8			8			8	
5:00 AM			18			18			18	
5:15 AM			32			32			32	
5:30 AM			47			47			47	
5:45 AM			64			64			64	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: EB/WB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			104			104			104	
6:15 AM			127			127			127	
6:30 AM			236			236			236	
6:45 AM			290			290			290	
7:00 AM			238			238			238	
7:15 AM			241			241			241	
7:30 AM			189			189			189	
7:45 AM			219			219			219	
8:00 AM			248			248			248	
8:15 AM			241			241			241	
8:30 AM			189			189			189	
8:45 AM			140			140			140	
9:00 AM			88			88			88	
9:15 AM			109			109			109	
9:30 AM			115			115			115	
9:45 AM			115			115			115	
10:00 AM			91			91			91	
10:15 AM			89			89			89	
10:30 AM			115			115			115	
10:45 AM			128			128			128	
11:00 AM			113			113			113	
11:15 AM			100			100			100	
11:30 AM			130			130			130	
11:45 AM			112			112			112	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: EB/WB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			135			135			135	
12:15 PM			128			128			128	
12:30 PM			159			159			159	
12:45 PM			160			160			160	
1:00 PM			136			136			136	
1:15 PM			153			153			153	
1:30 PM			150			150			150	
1:45 PM			152			152			152	
2:00 PM			109			109			109	
2:15 PM			131			131			131	
2:30 PM			151			151			151	
2:45 PM			196			196			196	
3:00 PM			164			164			164	
3:15 PM			181			181			181	
3:30 PM			191			191			191	
3:45 PM			197			197			197	
4:00 PM			200			200			200	
4:15 PM			195			195			195	
4:30 PM			225			225			225	
4:45 PM			199			199			199	
5:00 PM			226			226			226	
5:15 PM			205			205			205	
5:30 PM			233			233			233	
5:45 PM			160			160			160	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: EB/WB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			179			179			179	
6:15 PM			173			173			173	
6:30 PM			150			150			150	
6:45 PM			155			155			155	
7:00 PM			111			111			111	
7:15 PM			124			124			124	
7:30 PM			97			97			97	
7:45 PM			86			86			86	
8:00 PM			90			90			90	
8:15 PM			80			80			80	
8:30 PM			82			82			82	
8:45 PM			63			63			63	
9:00 PM			57			57			57	
9:15 PM			56			56			56	
9:30 PM			44			44			44	
9:45 PM			52			52			52	
10:00 PM			38			38			38	
10:15 PM			24			24			24	
10:30 PM			19			19			19	
10:45 PM			21			21			21	
11:00 PM			27			27			27	
11:15 PM			16			16			16	
11:30 PM			28			28			28	
11:45 PM			16			16			16	
Day Total			10002			10002			10002	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak Volume			6:45 AM 290			6:45 AM 290			6:45 AM 290	
PM Peak Volume			5:30 PM 233			5:30 PM 233			5:30 PM 233	
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: WB DATE: Dec 13 2017		
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Pace Speed	Number in Pace
12:00 AM	0	0	1	1	2	1	1	0	0	0	0	0	0	0	6	31-40	3
12:15 AM	0	0	0	1	1	2	0	0	0	0	0	0	0	0	4	31-40	3
12:30 AM	0	1	2	2	4	0	1	0	0	0	0	0	0	0	10	26-35	6
12:45 AM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	4	36-45	3
1:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	31-40	1
1:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	26-35	2
1:30 AM	0	0	0	1	0	3	0	0	0	0	0	0	0	0	4	31-40	3
1:45 AM	0	0	0	2	1	1	1	0	0	0	0	0	0	0	5	26-35	3
2:00 AM	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3	41-50	3
2:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	21-30	1
2:30 AM	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3	26-35	2
2:45 AM	0	0	0	0	2	1	0	0	0	0	0	0	0	0	3	31-40	3
3:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	16-25	1
3:15 AM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	3	31-40	2
3:30 AM	0	0	2	0	2	1	0	0	0	0	0	0	0	0	5	31-40	3
3:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	36-45	2
4:00 AM	0	0	0	4	2	1	0	0	0	0	0	0	0	0	7	26-35	6
4:15 AM	0	0	1	0	3	1	1	0	0	0	0	0	0	0	6	31-40	4
4:30 AM	0	0	2	0	3	1	0	1	1	0	0	0	0	0	8	31-40	4
4:45 AM	0	0	0	1	1	3	0	0	0	0	0	0	0	0	5	31-40	4
5:00 AM	0	0	1	3	2	3	2	0	0	0	0	0	0	0	11	36-45	5
5:15 AM	2	0	2	3	6	8	5	0	0	0	0	0	0	0	26	31-40	14
5:30 AM	1	1	0	1	13	15	5	0	0	0	0	0	0	0	36	31-40	28
5:45 AM	1	0	1	10	20	15	5	1	0	0	0	0	0	0	53	31-40	35
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: WB DATE: Dec 13 2017		
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
6:00 AM	1	0	2	6	48	20	7	0	0	0	0	0	0	0	84	31-40	68
6:15 AM	2	0	6	20	43	31	6	1	0	0	0	0	0	0	109	31-40	74
6:30 AM	12	3	18	86	70	13	1	0	0	0	0	0	0	0	203	26-35	156
6:45 AM	154	86	9	2	0	0	0	0	0	0	0	0	0	0	251	11-20	137
7:00 AM	185	30	0	0	0	0	0	0	0	0	0	0	0	0	215	6-15	123
7:15 AM	154	39	2	0	0	0	0	0	0	0	0	0	0	0	195	6-15	102
7:30 AM	157	4	0	0	0	0	0	0	0	0	0	0	0	0	161	6-15	104
7:45 AM	147	28	3	0	0	0	0	0	0	0	0	0	0	0	178	6-15	98
8:00 AM	150	57	4	0	0	0	0	0	0	0	0	0	0	0	211	11-20	107
8:15 AM	53	25	13	46	34	7	3	0	0	0	0	0	0	0	181	26-35	80
8:30 AM	2	2	12	53	58	13	1	0	0	0	0	0	0	0	141	26-35	110
8:45 AM	0	0	3	46	35	16	3	1	0	0	0	0	0	0	104	26-35	81
9:00 AM	1	0	2	22	23	7	1	0	0	0	0	0	0	0	56	26-35	44
9:15 AM	2	0	3	12	25	24	1	0	0	0	0	0	0	0	67	31-40	48
9:30 AM	4	2	4	21	25	5	1	2	0	0	0	0	0	0	64	26-35	46
9:45 AM	2	1	9	19	16	11	2	0	0	0	0	0	0	0	60	26-35	35
10:00 AM	4	2	3	10	10	7	2	0	0	0	0	0	0	0	38	26-35	20
10:15 AM	0	0	3	18	21	3	1	0	0	0	0	0	0	0	46	26-35	39
10:30 AM	6	2	8	27	16	2	0	0	0	0	0	0	0	0	61	26-35	43
10:45 AM	2	0	1	25	21	11	0	0	0	0	0	0	0	0	60	26-35	46
11:00 AM	1	1	7	25	17	7	2	0	0	0	0	0	0	0	60	26-35	42
11:15 AM	1	1	10	19	23	2	1	0	0	0	0	0	0	0	57	26-35	41
11:30 AM	2	1	11	36	27	2	0	0	0	0	0	0	0	0	79	26-35	63
11:45 AM	0	3	13	25	16	4	1	0	0	0	0	0	0	0	62	26-35	41
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: WB DATE: Dec 13 2017		
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
12:00 PM	4	4	5	28	20	5	1	1	0	0	0	0	0	0	68	26-35	48
12:15 PM	2	0	16	40	17	2	0	0	0	0	0	0	0	0	77	26-35	57
12:30 PM	0	1	4	30	32	11	0	1	0	0	0	0	0	0	79	26-35	62
12:45 PM	2	0	7	32	27	8	2	0	0	0	0	0	0	0	78	26-35	59
1:00 PM	3	2	3	15	25	6	2	0	0	0	0	0	0	0	56	26-35	40
1:15 PM	3	0	6	23	28	16	1	0	0	0	0	0	0	0	77	26-35	50
1:30 PM	3	5	5	30	25	8	4	0	0	0	0	0	0	0	80	26-35	55
1:45 PM	3	0	5	32	23	9	1	0	0	0	0	0	0	0	73	26-35	54
2:00 PM	3	0	1	20	20	12	1	1	0	0	0	0	0	0	58	26-35	40
2:15 PM	3	0	11	18	22	9	1	0	0	0	0	0	0	0	64	26-35	40
2:30 PM	11	0	5	20	23	15	1	0	0	0	0	0	0	0	75	26-35	42
2:45 PM	3	1	3	29	31	14	2	0	0	0	0	0	0	0	83	26-35	60
3:00 PM	4	0	2	23	27	12	2	0	0	0	0	0	0	0	70	26-35	50
3:15 PM	3	0	1	22	19	14	1	1	0	0	0	0	0	0	61	26-35	40
3:30 PM	10	1	6	17	24	8	0	0	0	0	0	0	0	0	66	26-35	40
3:45 PM	6	1	4	33	27	6	2	0	0	0	0	0	0	0	79	26-35	60
4:00 PM	5	0	4	29	20	10	0	0	0	0	0	0	0	0	68	26-35	49
4:15 PM	4	2	2	27	19	10	2	0	0	0	0	0	0	0	66	26-35	45
4:30 PM	8	5	18	17	28	12	1	0	0	0	0	0	0	0	89	26-35	44
4:45 PM	2	0	4	11	18	16	3	0	1	0	0	0	0	0	55	31-40	34
5:00 PM	9	2	10	29	29	4	2	0	1	0	0	0	0	0	86	26-35	57
5:15 PM	8	1	8	24	11	6	1	0	0	0	0	0	0	0	59	26-35	35
5:30 PM	6	0	8	29	24	9	0	0	0	0	0	0	0	0	76	26-35	52
5:45 PM	5	0	3	20	23	3	0	0	0	0	0	0	0	0	54	26-35	42
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA															QC JOB #: 14576231 DIRECTION: WB DATE: Dec 13 2017		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
6:00 PM	3	1	5	24	28	6	1	0	0	0	0	0	0	0	68	26-35	51
6:15 PM	6	0	9	16	23	7	2	0	0	0	0	0	0	0	63	26-35	39
6:30 PM	5	0	8	16	24	8	3	0	0	0	0	0	0	0	64	26-35	39
6:45 PM	3	4	13	22	24	5	1	0	0	0	0	0	0	0	72	26-35	45
7:00 PM	3	0	4	20	16	9	0	0	0	0	0	1	0	0	53	26-35	36
7:15 PM	3	1	4	28	17	7	0	0	0	0	0	0	0	0	60	26-35	45
7:30 PM	2	0	3	19	16	4	1	0	0	0	0	0	0	0	45	26-35	35
7:45 PM	3	0	4	12	9	8	1	0	1	0	0	0	0	0	38	27-36	20
8:00 PM	2	0	8	18	19	2	0	0	0	0	0	0	0	0	49	26-35	36
8:15 PM	2	0	4	9	16	4	0	0	0	0	0	0	0	0	35	26-35	25
8:30 PM	2	0	4	12	15	5	4	0	0	0	0	0	0	0	42	26-35	27
8:45 PM	0	0	1	11	18	4	1	0	0	0	0	0	0	0	35	26-35	29
9:00 PM	1	0	1	9	12	7	1	0	0	0	0	0	0	0	31	28-37	20
9:15 PM	2	0	2	8	13	4	1	1	0	0	0	0	0	0	31	26-35	21
9:30 PM	0	0	3	3	7	3	0	0	0	0	0	0	0	0	16	31-40	10
9:45 PM	1	0	3	4	10	2	1	0	0	0	0	0	0	0	21	26-35	14
10:00 PM	0	1	1	7	4	2	2	0	0	0	0	0	0	0	17	26-35	11
10:15 PM	0	0	2	1	2	3	0	0	0	0	0	0	0	0	8	33-42	4
10:30 PM	0	0	0	2	5	5	0	0	0	0	0	0	0	0	12	31-40	10
10:45 PM	0	0	2	4	2	4	1	1	0	0	0	0	0	0	14	31-40	6
11:00 PM	0	0	1	7	6	0	1	0	0	0	0	0	0	0	15	26-35	12
11:15 PM	0	1	0	2	2	2	0	0	0	0	0	0	0	0	7	31-40	4
11:30 PM	3	0	1	4	2	2	0	0	0	0	0	0	0	0	12	26-35	6
11:45 PM	0	0	0	1	4	3	2	0	0	0	0	0	0	0	10	33-42	6
Day Total	1197	323	383	1406	1452	576	112	15	4	0	0	1	0	0	5469	26-35	2857
Percent	21.9%	5.9%	7.0%	25.7%	26.5%	10.5%	2.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
ADT 5469																	
AM Peak	7:00 AM	6:45 AM	6:30 AM	6:30 AM	6:30 AM	6:15 AM	6:00 AM	2:00 AM	4:30 AM						6:45 AM		
Volume	185	86	18	86	70	31	7	2	1						251		
PM Peak	2:30 PM	1:30 PM	4:30 PM	12:15 PM	12:30 PM	1:15 PM	1:30 PM	12:00 PM	4:45 PM	7:00 PM					4:30 PM		
Volume	11	5	18	40	32	16	4	1	1	1					89		
<i>Comments:</i>																	

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St														QC JOB #: 14576231			
SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St														DIRECTION: WB			
CITY/STATE: San Diego, CA														DATE: Dec 13 2017 - Dec 13 2017			
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	1197	323	383	1406	1452	576	112	15	4	0	0	1	0	0	5469	26-35	2857
Percent	21.9%	5.9%	7.0%	25.7%	26.5%	10.5%	2.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	21.9%	27.8%	34.8%	60.5%	87.1%	97.6%	99.6%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			
ADT 5469															85th Percentile 34 MPH Mean Speed(Average) 24 MPH Median 27 MPH Mode: 33 MPH		
<i>Comments:</i>																	



LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: WB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			6			6			6	
12:15 AM			4			4			4	
12:30 AM			10			10			10	
12:45 AM			4			4			4	
1:00 AM			2			2			2	
1:15 AM			2			2			2	
1:30 AM			4			4			4	
1:45 AM			5			5			5	
2:00 AM			3			3			3	
2:15 AM			1			1			1	
2:30 AM			3			3			3	
2:45 AM			3			3			3	
3:00 AM			2			2			2	
3:15 AM			3			3			3	
3:30 AM			5			5			5	
3:45 AM			2			2			2	
4:00 AM			7			7			7	
4:15 AM			6			6			6	
4:30 AM			8			8			8	
4:45 AM			5			5			5	
5:00 AM			11			11			11	
5:15 AM			26			26			26	
5:30 AM			36			36			36	
5:45 AM			53			53			53	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: WB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM			84			84			84	
6:15 AM			109			109			109	
6:30 AM			203			203			203	
6:45 AM			251			251			251	
7:00 AM			215			215			215	
7:15 AM			195			195			195	
7:30 AM			161			161			161	
7:45 AM			178			178			178	
8:00 AM			211			211			211	
8:15 AM			181			181			181	
8:30 AM			141			141			141	
8:45 AM			104			104			104	
9:00 AM			56			56			56	
9:15 AM			67			67			67	
9:30 AM			64			64			64	
9:45 AM			60			60			60	
10:00 AM			38			38			38	
10:15 AM			46			46			46	
10:30 AM			61			61			61	
10:45 AM			60			60			60	
11:00 AM			60			60			60	
11:15 AM			57			57			57	
11:30 AM			79			79			79	
11:45 AM			62			62			62	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: WB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM			68			68			68	
12:15 PM			77			77			77	
12:30 PM			79			79			79	
12:45 PM			78			78			78	
1:00 PM			56			56			56	
1:15 PM			77			77			77	
1:30 PM			80			80			80	
1:45 PM			73			73			73	
2:00 PM			58			58			58	
2:15 PM			64			64			64	
2:30 PM			75			75			75	
2:45 PM			83			83			83	
3:00 PM			70			70			70	
3:15 PM			61			61			61	
3:30 PM			66			66			66	
3:45 PM			79			79			79	
4:00 PM			68			68			68	
4:15 PM			66			66			66	
4:30 PM			89			89			89	
4:45 PM			55			55			55	
5:00 PM			86			86			86	
5:15 PM			59			59			59	
5:30 PM			76			76			76	
5:45 PM			54			54			54	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St SPECIFIC LOCATION: S1. Imperial Ave btwn Southlook Ave and 37th St CITY/STATE: San Diego, CA							QC JOB #: 14576231 DIRECTION: WB DATE: Dec 13 2017 - Dec 13 2017			
Start Time	Mon	Tue	Wed 13-Dec-17	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM			68			68			68	
6:15 PM			63			63			63	
6:30 PM			64			64			64	
6:45 PM			72			72			72	
7:00 PM			53			53			53	
7:15 PM			60			60			60	
7:30 PM			45			45			45	
7:45 PM			38			38			38	
8:00 PM			49			49			49	
8:15 PM			35			35			35	
8:30 PM			42			42			42	
8:45 PM			35			35			35	
9:00 PM			31			31			31	
9:15 PM			31			31			31	
9:30 PM			16			16			16	
9:45 PM			21			21			21	
10:00 PM			17			17			17	
10:15 PM			8			8			8	
10:30 PM			12			12			12	
10:45 PM			14			14			14	
11:00 PM			15			15			15	
11:15 PM			7			7			7	
11:30 PM			12			12			12	
11:45 PM			10			10			10	
Day Total			5469			5469			5469	
% Weekday Average			100.0%							
% Week Average			100.0%			100.0%				
AM Peak			6:45 AM			6:45 AM			6:45 AM	
Volume			251			251			251	
PM Peak			4:30 PM			4:30 PM			4:30 PM	
Volume			89			89			89	
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: EB DATE: Jan 11 2018		
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
12:00 AM	0	7	8	4	3	1	0	0	0	0	0	0	0	0	23	16-25	15
12:15 AM	2	9	5	2	1	0	0	0	0	0	0	0	0	0	19	16-25	14
12:30 AM	2	10	4	0	1	2	0	0	0	0	0	0	0	0	19	16-25	14
12:45 AM	1	10	7	2	5	1	0	0	0	0	0	0	0	0	26	16-25	16
1:00 AM	0	3	7	1	3	0	1	0	0	0	0	0	0	0	15	16-25	10
1:15 AM	1	3	3	1	1	0	0	0	0	0	0	0	0	0	9	18-27	5
1:30 AM	1	8	4	0	2	0	0	0	0	0	0	0	0	0	15	16-25	12
1:45 AM	1	7	3	0	1	1	0	0	0	0	0	0	0	0	13	16-25	10
2:00 AM	1	4	3	2	0	3	1	0	0	0	0	0	0	0	14	18-27	6
2:15 AM	3	4	1	1	0	1	1	0	0	0	0	0	0	0	11	11-20	5
2:30 AM	0	7	2	1	2	0	0	0	0	0	0	0	0	0	12	16-25	8
2:45 AM	2	9	2	2	1	1	0	0	0	0	0	0	0	0	17	16-25	10
3:00 AM	1	5	2	0	3	0	0	1	0	0	0	0	0	0	12	16-25	7
3:15 AM	0	6	2	1	0	2	1	0	0	0	0	0	0	0	12	16-25	8
3:30 AM	2	6	2	0	2	2	1	0	0	0	0	0	0	0	15	16-25	8
3:45 AM	0	4	3	4	3	3	3	0	0	0	0	0	0	0	20	23-32	7
4:00 AM	0	2	9	5	1	2	0	0	0	0	0	0	0	0	19	21-30	14
4:15 AM	0	6	1	1	4	8	2	1	0	0	0	0	0	0	23	31-40	12
4:30 AM	0	5	4	5	7	7	0	0	0	0	0	0	0	0	28	31-40	13
4:45 AM	3	12	5	5	4	7	1	1	0	0	0	0	0	0	38	16-25	17
5:00 AM	1	11	9	5	6	11	3	1	0	0	0	0	0	0	47	16-25	19
5:15 AM	2	9	6	6	6	4	1	1	0	0	0	0	0	0	35	17-26	14
5:30 AM	0	16	8	8	7	12	3	1	0	0	0	0	0	0	55	16-25	24
5:45 AM	3	19	10	12	11	13	6	0	0	0	0	0	0	0	74	16-25	29
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: EB DATE: Jan 11 2018		
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
6:00 AM	1	20	27	10	17	15	3	1	0	0	0	0	0	0	94	16-25	47
6:15 AM	2	22	20	24	14	16	5	0	1	0	0	0	0	0	104	21-30	43
6:30 AM	3	40	28	27	22	10	4	0	0	0	0	0	0	0	134	16-25	67
6:45 AM	0	53	34	35	19	17	7	0	0	0	0	0	0	0	165	16-25	87
7:00 AM	1	51	55	20	20	16	3	0	0	0	0	0	0	0	166	16-25	106
7:15 AM	4	58	50	52	22	20	5	1	0	0	0	0	0	0	212	16-25	108
7:30 AM	3	78	80	43	18	8	1	0	0	0	0	0	0	0	231	16-25	158
7:45 AM	3	88	97	33	40	11	3	1	0	0	0	0	0	0	276	16-25	184
8:00 AM	6	74	57	57	29	14	1	0	0	0	0	0	0	0	238	16-25	131
8:15 AM	3	89	44	63	16	9	0	0	0	0	0	0	0	0	224	16-25	133
8:30 AM	4	86	65	30	14	9	6	0	0	0	0	0	0	0	214	16-25	151
8:45 AM	1	79	53	24	22	9	0	0	0	0	0	0	0	0	188	16-25	132
9:00 AM	7	68	52	16	12	6	2	0	0	0	0	0	0	0	163	16-25	120
9:15 AM	6	63	40	27	22	12	1	0	0	0	0	0	0	0	171	16-25	103
9:30 AM	1	45	33	29	17	4	1	0	0	0	0	0	0	0	130	16-25	77
9:45 AM	6	54	34	24	19	10	1	1	0	0	0	0	0	0	149	16-25	88
10:00 AM	3	60	49	25	19	5	1	0	0	0	0	0	0	0	162	16-25	109
10:15 AM	3	56	40	36	16	1	0	0	0	0	0	0	0	0	152	16-25	96
10:30 AM	2	74	47	32	11	5	0	0	0	0	0	0	0	0	171	16-25	121
10:45 AM	10	90	43	14	11	2	0	0	0	0	0	0	0	0	170	16-25	133
11:00 AM	5	75	45	27	15	3	0	0	0	0	0	0	0	0	170	16-25	120
11:15 AM	6	72	33	23	15	10	2	0	0	0	0	0	0	0	161	16-25	104
11:30 AM	2	74	41	25	12	6	0	0	0	0	0	0	0	0	160	16-25	114
11:45 AM	4	78	59	24	16	7	0	0	0	0	0	0	0	0	188	16-25	137
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: EB DATE: Jan 11 2018		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 PM	4	67	53	18	6	1	0	0	0	0	0	0	0	0	149	16-25	119
12:15 PM	6	75	57	29	6	4	1	0	0	0	0	0	0	0	178	16-25	132
12:30 PM	4	83	46	32	10	6	1	0	0	0	0	0	0	0	182	16-25	128
12:45 PM	5	80	47	34	14	2	3	0	0	0	0	0	0	0	185	16-25	127
1:00 PM	11	111	50	29	7	3	1	0	0	0	0	0	0	0	212	16-25	161
1:15 PM	14	84	38	20	18	5	0	0	0	0	0	0	0	0	179	16-25	121
1:30 PM	7	60	48	32	5	0	0	0	0	0	0	0	0	0	152	16-25	107
1:45 PM	4	56	51	17	6	7	0	0	0	0	0	0	0	0	141	16-25	106
2:00 PM	4	96	45	32	12	3	0	0	0	0	0	0	0	0	192	16-25	141
2:15 PM	4	72	26	24	23	11	1	0	0	0	0	0	0	0	161	16-25	97
2:30 PM	0	76	57	26	4	1	1	0	0	0	0	0	0	0	165	16-25	133
2:45 PM	5	67	33	25	5	0	0	0	0	0	0	0	0	0	135	16-25	99
3:00 PM	9	93	40	30	8	4	1	0	0	0	0	0	0	0	185	16-25	133
3:15 PM	4	82	62	21	4	4	0	0	0	0	0	0	0	0	177	16-25	144
3:30 PM	4	70	47	19	3	4	1	0	0	0	0	0	0	0	148	16-25	117
3:45 PM	8	62	67	17	7	0	0	0	0	0	0	0	0	0	161	16-25	129
4:00 PM	10	86	57	32	3	1	2	0	0	0	0	0	0	0	191	16-25	143
4:15 PM	15	57	48	20	8	1	0	0	0	0	0	0	0	0	149	16-25	104
4:30 PM	5	80	50	23	6	4	0	0	0	0	0	0	0	0	168	16-25	130
4:45 PM	10	78	59	21	4	0	0	0	0	0	0	0	0	0	172	16-25	137
5:00 PM	6	75	66	27	7	4	0	1	0	0	0	0	0	0	186	16-25	140
5:15 PM	4	69	81	9	16	4	0	0	0	0	0	0	0	0	183	16-25	149
5:30 PM	5	80	70	13	15	1	0	0	0	0	0	0	0	0	184	16-25	150
5:45 PM	7	55	75	19	6	6	1	0	0	0	0	0	0	0	169	16-25	130
Day Total																	
Percent																	
AM Peak																	
Volume																	
PM Peak																	
Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: EB DATE: Jan 11 2018					
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace			
6:00 PM	8	102	47	17	2	0	0	0	0	0	0	0	0	0	176	16-25	148			
6:15 PM	5	74	67	15	15	3	1	0	0	0	0	0	0	0	180	16-25	141			
6:30 PM	12	72	81	19	12	2	0	0	0	0	0	0	0	0	198	16-25	152			
6:45 PM	2	59	42	16	9	4	1	0	0	0	0	0	0	0	133	16-25	101			
7:00 PM	4	62	37	22	6	1	0	0	0	0	0	0	0	0	132	16-25	99			
7:15 PM	6	65	40	24	11	4	0	0	0	0	0	0	0	0	150	16-25	105			
7:30 PM	4	75	35	16	9	4	0	0	0	0	0	0	0	0	143	16-25	110			
7:45 PM	4	60	37	22	5	1	0	0	0	0	0	0	0	0	129	16-25	97			
8:00 PM	2	39	28	16	18	3	1	0	0	0	0	0	0	0	107	16-25	66			
8:15 PM	3	49	41	12	14	7	1	0	0	0	0	0	0	0	127	16-25	89			
8:30 PM	2	32	16	17	18	9	0	0	0	0	0	0	0	0	94	16-25	48			
8:45 PM	7	40	22	20	12	2	0	0	0	0	0	0	0	0	103	16-25	62			
9:00 PM	3	37	14	5	9	0	0	1	0	0	0	0	0	0	69	16-25	50			
9:15 PM	2	33	21	14	9	4	2	0	0	0	0	0	0	0	85	16-25	54			
9:30 PM	1	29	14	11	18	8	4	0	0	0	0	0	0	0	85	16-25	42			
9:45 PM	2	25	8	8	14	7	2	0	0	0	0	0	0	0	66	16-25	33			
10:00 PM	2	39	9	9	9	5	3	0	0	0	0	0	0	0	76	16-25	47			
10:15 PM	2	25	9	9	3	5	1	0	0	0	0	0	0	0	54	16-25	33			
10:30 PM	0	28	14	12	7	1	0	0	0	0	0	0	0	0	62	16-25	41			
10:45 PM	2	24	13	5	5	4	2	0	0	0	0	0	0	0	55	16-25	37			
11:00 PM	1	14	6	2	4	2	0	0	0	0	0	0	0	0	29	16-25	20			
11:15 PM	1	17	17	5	6	4	2	0	0	0	0	0	0	0	52	16-25	34			
11:30 PM	1	26	11	5	3	2	1	0	0	0	0	0	0	0	49	16-25	37			
11:45 PM	1	11	5	4	3	5	0	0	0	0	0	0	0	0	29	16-25	16			
Day Total	344	4580	3143	1662	936	469	104	12	1	0	0	0	0	0	11251	16-25	7723			
Percent	3.1%	40.7%	27.9%	14.8%	8.3%	4.2%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%						
ADT 11251																				
AM Peak Volume	10:45 AM	10:45 AM	7:45 AM	8:15 AM	7:45 AM	7:15 AM	6:45 AM	3:00 AM	6:15 AM							7:45 AM				
	10	90	97	63	40	20	7	1	1							276				
PM Peak Volume	4:15 PM	1:00 PM	5:15 PM	12:45 PM	2:15 PM	2:15 PM	9:30 PM	5:00 PM										1:00 PM		
	15	111	81	34	23	11	4	1										212		
<i>Comments:</i>																				

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps														QC JOB #: 14576232			
SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps														DIRECTION: EB			
CITY/STATE: San Diego, CA														DATE: Jan 11 2018 - Jan 11 2018			
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	344	4580	3143	1662	936	469	104	12	1	0	0	0	0	0	11251	16-25	7723
Percent	3.1%	40.7%	27.9%	14.8%	8.3%	4.2%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	3.1%	43.8%	71.7%	86.5%	94.8%	99.0%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			
ADT 11251															85th Percentile 29 MPH Mean Speed(Average): 22 MPH		
<i>Comments:</i>															Median 21 MPH Mode: 18 MPH		



LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA							QC JOB #: 14576232 DIRECTION: EB DATE: Jan 11 2018 - Jan 11 2018			
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				24		24			24	
12:15 AM				21		21			21	
12:30 AM				20		20			20	
12:45 AM				26		26			26	
1:00 AM				15		15			15	
1:15 AM				10		10			10	
1:30 AM				15		15			15	
1:45 AM				13		13			13	
2:00 AM				14		14			14	
2:15 AM				11		11			11	
2:30 AM				12		12			12	
2:45 AM				19		19			19	
3:00 AM				12		12			12	
3:15 AM				12		12			12	
3:30 AM				15		15			15	
3:45 AM				20		20			20	
4:00 AM				19		19			19	
4:15 AM				25		25			25	
4:30 AM				29		29			29	
4:45 AM				41		41			41	
5:00 AM				48		48			48	
5:15 AM				37		37			37	
5:30 AM				58		58			58	
5:45 AM				81		81			81	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA										QC JOB #: 14576232 DIRECTION: EB DATE: Jan 11 2018 - Jan 11 2018
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				97		97			97	
6:15 AM				113		113			113	
6:30 AM				145		145			145	
6:45 AM				177		177			177	
7:00 AM				178		178			178	
7:15 AM				228		228			228	
7:30 AM				247		247			247	
7:45 AM				302		302			302	
8:00 AM				253		253			253	
8:15 AM				243		243			243	
8:30 AM				224		224			224	
8:45 AM				201		201			201	
9:00 AM				172		172			172	
9:15 AM				180		180			180	
9:30 AM				140		140			140	
9:45 AM				161		161			161	
10:00 AM				167		167			167	
10:15 AM				163		163			163	
10:30 AM				180		180			180	
10:45 AM				180		180			180	
11:00 AM				178		178			178	
11:15 AM				167		167			167	
11:30 AM				164		164			164	
11:45 AM				200		200			200	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA										QC JOB #: 14576232 DIRECTION: EB DATE: Jan 11 2018 - Jan 11 2018	
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile	
12:00 PM				161		161			161		
12:15 PM				190		190			190		
12:30 PM				196		196			196		
12:45 PM				202		202			202		
1:00 PM				222		222			222		
1:15 PM				193		193			193		
1:30 PM				167		167			167		
1:45 PM				152		152			152		
2:00 PM				202		202			202		
2:15 PM				177		177			177		
2:30 PM				179		179			179		
2:45 PM				148		148			148		
3:00 PM				195		195			195		
3:15 PM				184		184			184		
3:30 PM				160		160			160		
3:45 PM				179		179			179		
4:00 PM				202		202			202		
4:15 PM				158		158			158		
4:30 PM				183		183			183		
4:45 PM				181		181			181		
5:00 PM				195		195			195		
5:15 PM				200		200			200		
5:30 PM				190		190			190		
5:45 PM				176		176			176		
Day Total											
% Weekday Average											
% Week Average											
AM Peak Volume											
PM Peak Volume											
<i>Comments:</i>											

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA							QC JOB #: 14576232 DIRECTION: EB DATE: Jan 11 2018 - Jan 11 2018			
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				188		188			188	
6:15 PM				185		185			185	
6:30 PM				208		208			208	
6:45 PM				141		141			141	
7:00 PM				140		140			140	
7:15 PM				155		155			155	
7:30 PM				147		147			147	
7:45 PM				135		135			135	
8:00 PM				113		113			113	
8:15 PM				130		130			130	
8:30 PM				95		95			95	
8:45 PM				109		109			109	
9:00 PM				71		71			71	
9:15 PM				92		92			92	
9:30 PM				86		86			86	
9:45 PM				69		69			69	
10:00 PM				76		76			76	
10:15 PM				58		58			58	
10:30 PM				63		63			63	
10:45 PM				56		56			56	
11:00 PM				30		30			30	
11:15 PM				52		52			52	
11:30 PM				49		49			49	
11:45 PM				30		30			30	
Day Total				11927		11927			11927	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				7:45 AM		7:45 AM			7:45 AM	
Volume				302		302			302	
PM Peak				1:00 PM		1:00 PM			1:00 PM	
Volume				222		222			222	
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: EB/WB DATE: Jan 11 2018		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	9	11	20	12	3	3	1	0	0	0	0	0	0	0	59	21-30	31
12:15 AM	6	9	7	4	4	0	0	0	0	0	0	0	0	0	30	16-25	15
12:30 AM	11	15	7	0	1	2	0	0	0	0	0	0	0	0	36	16-25	21
12:45 AM	7	13	9	4	6	1	0	0	0	0	0	0	0	0	40	16-25	21
1:00 AM	5	6	11	3	3	1	1	1	0	0	0	0	0	0	31	16-25	17
1:15 AM	5	3	3	4	3	2	0	0	0	0	0	0	0	0	20	23-32	7
1:30 AM	3	14	5	3	4	0	1	0	0	0	0	0	0	0	30	16-25	19
1:45 AM	4	9	5	0	1	2	0	0	0	0	0	0	0	0	21	16-25	14
2:00 AM	3	7	4	6	1	5	2	0	0	0	0	0	0	0	28	16-25	11
2:15 AM	5	7	1	3	1	2	1	0	0	0	0	0	0	0	20	15-24	8
2:30 AM	3	7	2	1	3	1	0	0	0	0	0	0	0	0	17	16-25	8
2:45 AM	4	10	3	3	1	5	0	0	0	0	0	0	0	0	26	16-25	13
3:00 AM	4	8	2	2	4	2	0	1	0	0	0	0	0	0	23	16-25	9
3:15 AM	1	8	5	3	1	2	1	0	0	0	0	0	0	0	21	16-25	13
3:30 AM	6	10	4	1	3	3	1	0	0	0	0	0	0	0	28	16-25	14
3:45 AM	1	8	5	5	6	5	3	0	0	0	0	0	0	0	33	16-25	13
4:00 AM	5	3	9	6	3	2	0	0	0	0	0	0	0	0	28	21-30	14
4:15 AM	4	8	2	1	6	9	2	1	0	0	0	0	0	0	33	31-40	15
4:30 AM	3	7	7	8	11	9	0	0	0	0	0	0	0	0	45	31-40	19
4:45 AM	6	15	7	6	8	9	2	1	0	0	0	0	0	0	54	16-25	21
5:00 AM	4	13	15	7	9	12	3	1	0	0	0	0	0	0	64	16-25	28
5:15 AM	16	13	8	8	7	6	2	1	0	0	0	0	0	0	61	16-25	21
5:30 AM	10	22	13	12	12	15	4	1	0	0	0	0	0	0	89	16-25	35
5:45 AM	13	30	18	18	13	18	7	0	0	0	0	0	0	0	117	16-25	47
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: EB/WB DATE: Jan 11 2018		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
6:00 AM	14	30	39	14	21	20	3	1	0	0	0	0	0	0	142	16-25	69
6:15 AM	25	28	30	27	17	20	5	0	1	0	0	0	0	0	153	16-25	58
6:30 AM	25	52	32	35	27	13	4	0	0	0	0	0	0	0	188	16-25	84
6:45 AM	22	69	42	40	22	21	7	1	0	0	0	0	0	0	224	16-25	111
7:00 AM	18	66	62	31	23	19	3	0	0	0	0	0	0	0	222	16-25	128
7:15 AM	18	77	62	59	28	21	7	1	0	0	0	0	0	0	273	16-25	139
7:30 AM	23	99	88	53	22	10	1	0	0	0	0	0	0	0	296	16-25	187
7:45 AM	18	97	114	41	44	11	4	1	0	0	0	0	0	0	330	16-25	211
8:00 AM	20	99	73	58	34	18	1	0	0	0	0	0	0	0	303	16-25	172
8:15 AM	23	103	48	67	21	13	1	0	0	0	0	0	0	0	276	16-25	151
8:30 AM	22	101	75	37	30	15	6	0	0	0	0	0	0	0	286	16-25	176
8:45 AM	24	93	67	31	33	13	1	1	0	0	0	0	0	0	263	16-25	159
9:00 AM	25	93	78	23	17	8	3	1	0	0	0	0	0	0	248	16-25	171
9:15 AM	18	81	49	44	44	19	3	0	1	0	0	0	0	0	259	16-25	130
9:30 AM	33	63	47	40	30	17	2	0	0	0	0	0	0	0	232	16-25	110
9:45 AM	23	75	48	33	35	14	5	2	0	0	0	0	0	0	235	16-25	122
10:00 AM	31	85	58	37	29	11	1	0	0	0	0	0	0	0	252	16-25	143
10:15 AM	28	78	55	52	28	6	1	0	0	0	0	0	0	0	249	16-25	133
10:30 AM	19	96	66	36	27	9	0	1	0	0	0	0	0	0	254	16-25	161
10:45 AM	32	115	58	24	31	8	1	0	0	0	0	0	0	0	269	16-25	173
11:00 AM	39	107	61	44	24	7	0	1	0	0	0	0	0	0	283	16-25	167
11:15 AM	35	90	51	39	32	14	4	0	0	0	0	0	0	0	265	16-25	140
11:30 AM	41	123	59	35	28	7	1	0	0	0	0	0	0	0	294	16-25	182
11:45 AM	23	93	86	42	25	8	2	0	0	0	0	0	0	0	279	16-25	178
Day Total																	
Percent																	
AM Peak																	
Volume																	
PM Peak																	
Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: EB/WB DATE: Jan 11 2018		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 PM	42	110	80	24	12	4	0	0	0	0	0	0	0	0	272	16-25	190
12:15 PM	33	117	75	40	15	8	1	0	0	0	0	0	0	0	289	16-25	192
12:30 PM	33	114	67	42	16	10	1	0	0	0	0	0	0	0	283	16-25	180
12:45 PM	18	109	62	51	27	4	5	0	1	0	0	0	0	0	277	16-25	170
1:00 PM	33	143	84	46	11	3	1	0	0	0	0	0	0	0	321	16-25	227
1:15 PM	26	120	66	39	27	6	0	0	0	0	0	0	0	0	284	16-25	185
1:30 PM	46	92	74	40	11	2	2	0	0	0	0	0	0	0	267	16-25	166
1:45 PM	31	88	82	25	11	12	2	1	0	0	0	0	0	0	252	16-25	169
2:00 PM	18	132	78	44	14	3	0	0	0	0	0	0	0	0	289	16-25	210
2:15 PM	25	113	58	42	37	15	3	0	0	0	0	0	0	0	293	16-25	171
2:30 PM	25	114	89	39	5	2	1	0	0	0	0	0	0	0	275	16-25	203
2:45 PM	35	111	51	32	7	0	0	0	0	0	0	0	0	0	236	16-25	161
3:00 PM	50	124	60	36	10	4	1	0	0	0	0	0	0	0	285	16-25	184
3:15 PM	28	113	88	34	14	8	0	0	0	0	0	0	0	0	285	16-25	201
3:30 PM	27	95	59	26	6	5	1	0	0	0	0	0	0	0	219	16-25	154
3:45 PM	42	96	87	27	8	0	0	0	0	0	0	0	0	0	260	16-25	182
4:00 PM	33	116	79	36	3	1	2	0	0	0	0	0	0	0	270	16-25	195
4:15 PM	60	89	51	20	8	1	0	0	0	0	0	0	0	0	229	16-25	139
4:30 PM	22	109	66	25	6	4	0	0	0	0	0	0	0	0	232	16-25	174
4:45 PM	40	116	77	27	4	0	0	0	0	0	0	0	0	0	264	16-25	192
5:00 PM	32	132	95	35	8	4	0	1	0	0	0	0	0	0	307	16-25	227
5:15 PM	23	112	94	19	24	4	0	0	0	0	0	0	0	0	276	16-25	206
5:30 PM	33	119	83	18	18	1	0	0	0	0	0	0	0	0	272	16-25	202
5:45 PM	37	88	82	19	6	6	1	0	0	0	0	0	0	0	239	16-25	169
Day Total																	
Percent																	
AM Peak																	
Volume																	
PM Peak																	
Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: EB/WB DATE: Jan 11 2018			
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace	
6:00 PM	23	137	49	18	2	0	0	0	0	0	0	0	0	0	229	16-25	186	
6:15 PM	27	107	92	25	21	6	1	0	0	0	0	0	0	0	279	16-25	198	
6:30 PM	45	102	108	31	15	2	0	0	0	0	0	0	0	0	303	16-25	210	
6:45 PM	38	97	57	27	12	8	2	0	0	0	0	0	0	0	241	16-25	153	
7:00 PM	22	79	48	39	12	1	1	0	0	0	0	0	0	0	202	16-25	126	
7:15 PM	22	95	53	32	20	6	2	0	0	0	0	0	0	0	230	16-25	148	
7:30 PM	28	94	62	31	15	4	0	0	0	0	0	0	0	0	234	16-25	155	
7:45 PM	42	85	47	35	10	4	0	1	0	0	0	0	0	0	224	16-25	132	
8:00 PM	44	63	40	26	24	4	1	0	0	0	0	0	0	0	202	16-25	103	
8:15 PM	21	57	48	31	27	11	1	0	0	0	0	0	0	0	196	16-25	104	
8:30 PM	39	58	32	29	24	10	0	0	0	0	0	0	0	0	192	16-25	90	
8:45 PM	45	61	30	30	17	3	0	0	0	0	0	0	0	0	186	16-25	91	
9:00 PM	28	58	29	16	18	4	0	1	0	0	0	0	0	0	154	16-25	87	
9:15 PM	30	49	31	19	16	5	4	0	0	0	0	0	0	0	154	16-25	79	
9:30 PM	36	35	18	23	31	11	4	0	0	0	0	0	0	0	158	26-35	54	
9:45 PM	30	43	19	13	21	9	3	0	0	0	0	0	0	0	138	16-25	61	
10:00 PM	21	47	13	13	13	9	3	0	0	0	0	0	0	0	119	16-25	59	
10:15 PM	19	33	15	14	5	6	1	0	0	0	0	0	0	0	93	16-25	48	
10:30 PM	14	37	22	15	10	1	1	0	0	0	0	0	0	0	100	16-25	59	
10:45 PM	15	29	13	10	9	7	2	0	0	0	0	0	0	0	85	16-25	41	
11:00 PM	15	19	10	6	6	4	0	0	0	0	0	0	0	0	60	16-25	29	
11:15 PM	14	20	22	7	10	4	2	0	0	0	0	0	0	0	79	16-25	42	
11:30 PM	6	27	16	8	4	3	1	0	0	0	0	0	0	0	65	16-25	43	
11:45 PM	8	14	11	11	5	7	3	0	0	0	0	0	0	0	59	16-25	25	
Day Total	2161	6387	4292	2357	1441	674	150	22	3	0	0	0	0	0	17487	16-25	10679	
Percent	12.4%	36.5%	24.5%	13.5%	8.2%	3.9%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
ADT 17487																		
AM Peak Volume	11:30 AM	11:30 AM	7:45 AM	8:15 AM	7:45 AM	6:45 AM	5:45 AM	9:45 AM	6:15 AM							7:45 AM		
	41	123	114	67	44	21	7	2	1							330		
PM Peak Volume	4:15 PM	1:00 PM	6:30 PM	12:45 PM	2:15 PM	2:15 PM	12:45 PM	1:45 PM	12:45 PM							1:00 PM		
	60	143	108	51	37	15	5	1	1							321		
<i>Comments:</i>																		

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps														QC JOB #: 14576232			
SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps														DIRECTION: EB/WB			
CITY/STATE: San Diego, CA														DATE: Jan 11 2018 - Jan 11 2018			
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	2161	6387	4292	2357	1441	674	150	22	3	0	0	0	0	0	17487	16-25	10679
Percent	12.4%	36.5%	24.5%	13.5%	8.2%	3.9%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	12.4%	48.9%	73.4%	86.9%	95.1%	99.0%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			
ADT 17487															85th Percentile 29 MPH Mean Speed(Average) 21 MPH Median 20 MPH Mode: 18 MPH		
<i>Comments:</i>																	



LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA						QC JOB #: 14576232 DIRECTION: EB/WB DATE: Jan 11 2018 - Jan 11 2018				
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				63		63			63	
12:15 AM				34		34			34	
12:30 AM				39		39			39	
12:45 AM				42		42			42	
1:00 AM				32		32			32	
1:15 AM				22		22			22	
1:30 AM				31		31			31	
1:45 AM				21		21			21	
2:00 AM				28		28			28	
2:15 AM				20		20			20	
2:30 AM				18		18			18	
2:45 AM				28		28			28	
3:00 AM				23		23			23	
3:15 AM				21		21			21	
3:30 AM				28		28			28	
3:45 AM				34		34			34	
4:00 AM				28		28			28	
4:15 AM				36		36			36	
4:30 AM				47		47			47	
4:45 AM				59		59			59	
5:00 AM				67		67			67	
5:15 AM				70		70			70	
5:30 AM				105		105			105	
5:45 AM				139		139			139	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA										QC JOB #: 14576232 DIRECTION: EB/WB DATE: Jan 11 2018 - Jan 11 2018	
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile	
6:00 AM				156		156			156		
6:15 AM				169		169			169		
6:30 AM				216		216			216		
6:45 AM				263		263			263		
7:00 AM				260		260			260		
7:15 AM				321		321			321		
7:30 AM				332		332			332		
7:45 AM				386		386			386		
8:00 AM				346		346			346		
8:15 AM				327		327			327		
8:30 AM				320		320			320		
8:45 AM				302		302			302		
9:00 AM				292		292			292		
9:15 AM				299		299			299		
9:30 AM				268		268			268		
9:45 AM				277		277			277		
10:00 AM				288		288			288		
10:15 AM				301		301			301		
10:30 AM				305		305			305		
10:45 AM				315		315			315		
11:00 AM				323		323			323		
11:15 AM				309		309			309		
11:30 AM				347		347			347		
11:45 AM				331		331			331		
Day Total											
% Weekday Average											
% Week Average											
AM Peak Volume											
PM Peak Volume											
<i>Comments:</i>											

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA							QC JOB #: 14576232 DIRECTION: EB/WB DATE: Jan 11 2018 - Jan 11 2018			
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				338		338			338	
12:15 PM				355		355			355	
12:30 PM				348		348			348	
12:45 PM				343		343			343	
1:00 PM				387		387			387	
1:15 PM				343		343			343	
1:30 PM				329		329			329	
1:45 PM				324		324			324	
2:00 PM				359		359			359	
2:15 PM				352		352			352	
2:30 PM				345		345			345	
2:45 PM				299		299			299	
3:00 PM				367		367			367	
3:15 PM				357		357			357	
3:30 PM				293		293			293	
3:45 PM				332		332			332	
4:00 PM				344		344			344	
4:15 PM				309		309			309	
4:30 PM				310		310			310	
4:45 PM				329		329			329	
5:00 PM				392		392			392	
5:15 PM				341		341			341	
5:30 PM				335		335			335	
5:45 PM				307		307			307	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA										QC JOB #: 14576232 DIRECTION: EB/WB DATE: Jan 11 2018 - Jan 11 2018	
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile	
6:00 PM				295		295			295		
6:15 PM				321		321			321		
6:30 PM				365		365			365		
6:45 PM				279		279			279		
7:00 PM				259		259			259		
7:15 PM				264		264			264		
7:30 PM				266		266			266		
7:45 PM				265		265			265		
8:00 PM				252		252			252		
8:15 PM				226		226			226		
8:30 PM				229		229			229		
8:45 PM				227		227			227		
9:00 PM				185		185			185		
9:15 PM				179		179			179		
9:30 PM				181		181			181		
9:45 PM				161		161			161		
10:00 PM				139		139			139		
10:15 PM				110		110			110		
10:30 PM				114		114			114		
10:45 PM				98		98			98		
11:00 PM				69		69			69		
11:15 PM				86		86			86		
11:30 PM				72		72			72		
11:45 PM				64		64			64		
Day Total				20932		20932			20932		
% Weekday Average				100.0%							
% Week Average				100.0%		100.0%					
AM Peak Volume				7:45 AM 386		7:45 AM 386			7:45 AM 386		
PM Peak Volume				5:00 PM 392		5:00 PM 392			5:00 PM 392		
<i>Comments:</i>											

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: WB DATE: Jan 11 2018		
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
12:00 AM	9	4	12	8	0	2	1	0	0	0	0	0	0	0	36	21-30	20
12:15 AM	4	0	2	2	3	0	0	0	0	0	0	0	0	0	11	28-37	4
12:30 AM	9	5	3	0	0	0	0	0	0	0	0	0	0	0	17	11-20	8
12:45 AM	6	3	2	2	1	0	0	0	0	0	0	0	0	0	14	16-25	5
1:00 AM	5	3	4	2	0	1	0	1	0	0	0	0	0	0	16	16-25	7
1:15 AM	4	0	0	3	2	2	0	0	0	0	0	0	0	0	11	26-35	5
1:30 AM	2	6	1	3	2	0	1	0	0	0	0	0	0	0	15	17-26	6
1:45 AM	3	2	2	0	0	1	0	0	0	0	0	0	0	0	8	16-25	4
2:00 AM	2	3	1	4	1	2	1	0	0	0	0	0	0	0	14	21-30	5
2:15 AM	2	3	0	2	1	1	0	0	0	0	0	0	0	0	9	26-35	3
2:30 AM	3	0	0	0	1	1	0	0	0	0	0	0	0	0	5	31-40	2
2:45 AM	2	1	1	1	0	4	0	0	0	0	0	0	0	0	9	31-40	4
3:00 AM	3	3	0	2	1	2	0	0	0	0	0	0	0	0	11	11-20	4
3:15 AM	1	2	3	2	1	0	0	0	0	0	0	0	0	0	9	21-30	5
3:30 AM	4	4	2	1	1	1	0	0	0	0	0	0	0	0	13	16-25	6
3:45 AM	1	4	2	1	3	2	0	0	0	0	0	0	0	0	13	16-25	6
4:00 AM	5	1	0	1	2	0	0	0	0	0	0	0	0	0	9	26-35	3
4:15 AM	4	2	1	0	2	1	0	0	0	0	0	0	0	0	10	31-40	3
4:30 AM	3	2	3	3	4	2	0	0	0	0	0	0	0	0	17	26-35	7
4:45 AM	3	3	2	1	4	2	1	0	0	0	0	0	0	0	16	31-40	6
5:00 AM	3	2	6	2	3	1	0	0	0	0	0	0	0	0	17	16-25	8
5:15 AM	14	4	2	2	1	2	1	0	0	0	0	0	0	0	26	8-17	9
5:30 AM	10	6	5	4	5	3	1	0	0	0	0	0	0	0	34	16-25	11
5:45 AM	10	11	8	6	2	5	1	0	0	0	0	0	0	0	43	16-25	19
Day Total																	
Percent																	
AM Peak Volume																	
PM Peak Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: WB DATE: Jan 11 2018		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
6:00 AM	13	10	12	4	4	5	0	0	0	0	0	0	0	0	48	16-25	21
6:15 AM	23	6	10	3	3	4	0	0	0	0	0	0	0	0	49	16-25	16
6:30 AM	22	12	4	8	5	3	0	0	0	0	0	0	0	0	54	11-20	19
6:45 AM	22	16	8	5	3	4	0	1	0	0	0	0	0	0	59	16-25	24
7:00 AM	17	15	7	11	3	3	0	0	0	0	0	0	0	0	56	17-26	21
7:15 AM	14	19	12	7	6	1	2	0	0	0	0	0	0	0	61	16-25	30
7:30 AM	20	21	8	10	4	2	0	0	0	0	0	0	0	0	65	16-25	29
7:45 AM	15	9	17	8	4	0	1	0	0	0	0	0	0	0	54	21-30	25
8:00 AM	14	25	16	1	5	4	0	0	0	0	0	0	0	0	65	16-25	41
8:15 AM	20	14	4	4	5	4	1	0	0	0	0	0	0	0	52	12-21	20
8:30 AM	18	15	10	7	16	6	0	0	0	0	0	0	0	0	72	16-25	25
8:45 AM	23	14	14	7	11	4	1	1	0	0	0	0	0	0	75	16-25	27
9:00 AM	18	25	26	7	5	2	1	1	0	0	0	0	0	0	85	16-25	51
9:15 AM	12	18	9	17	22	7	2	0	1	0	0	0	0	0	88	26-35	39
9:30 AM	32	18	14	11	13	13	1	0	0	0	0	0	0	0	102	16-25	31
9:45 AM	17	21	14	9	16	4	4	1	0	0	0	0	0	0	86	16-25	34
10:00 AM	28	25	9	12	10	6	0	0	0	0	0	0	0	0	90	15-24	34
10:15 AM	25	22	15	16	12	5	1	0	0	0	0	0	0	0	97	16-25	37
10:30 AM	17	22	19	4	16	4	0	1	0	0	0	0	0	0	83	16-25	40
10:45 AM	22	25	15	10	20	6	1	0	0	0	0	0	0	0	99	16-25	40
11:00 AM	34	32	16	17	9	4	0	1	0	0	0	0	0	0	113	16-25	48
11:15 AM	29	18	18	16	17	4	2	0	0	0	0	0	0	0	104	16-25	36
11:30 AM	39	49	18	10	16	1	1	0	0	0	0	0	0	0	134	16-25	66
11:45 AM	19	15	27	18	9	1	2	0	0	0	0	0	0	0	91	21-30	44
Day Total																	
Percent																	
AM Peak																	
Volume																	
PM Peak																	
Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: WB DATE: Jan 11 2018		
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 PM	38	43	27	6	6	3	0	0	0	0	0	0	0	0	123	16-25	70
12:15 PM	27	42	18	11	9	4	0	0	0	0	0	0	0	0	111	16-25	59
12:30 PM	29	31	21	10	6	4	0	0	0	0	0	0	0	0	101	16-25	52
12:45 PM	13	29	15	17	13	2	2	0	1	0	0	0	0	0	92	16-25	44
1:00 PM	22	32	34	17	4	0	0	0	0	0	0	0	0	0	109	16-25	66
1:15 PM	12	36	28	19	9	1	0	0	0	0	0	0	0	0	105	16-25	63
1:30 PM	39	32	26	8	6	2	2	0	0	0	0	0	0	0	115	16-25	58
1:45 PM	27	32	31	8	5	5	2	1	0	0	0	0	0	0	111	16-25	63
2:00 PM	14	36	33	12	2	0	0	0	0	0	0	0	0	0	97	16-25	68
2:15 PM	21	41	32	18	14	4	2	0	0	0	0	0	0	0	132	16-25	73
2:30 PM	25	38	32	13	1	1	0	0	0	0	0	0	0	0	110	16-25	70
2:45 PM	30	44	18	7	2	0	0	0	0	0	0	0	0	0	101	16-25	61
3:00 PM	41	31	20	6	2	0	0	0	0	0	0	0	0	0	100	16-25	51
3:15 PM	24	31	26	13	10	4	0	0	0	0	0	0	0	0	108	16-25	57
3:30 PM	23	25	12	7	3	1	0	0	0	0	0	0	0	0	71	16-25	37
3:45 PM	34	34	20	10	1	0	0	0	0	0	0	0	0	0	99	16-25	54
4:00 PM	23	30	22	4	0	0	0	0	0	0	0	0	0	0	79	16-25	52
4:15 PM	45	32	3	0	0	0	0	0	0	0	0	0	0	0	80	11-20	47
4:30 PM	17	29	16	2	0	0	0	0	0	0	0	0	0	0	64	16-25	45
4:45 PM	30	38	18	6	0	0	0	0	0	0	0	0	0	0	92	16-25	55
5:00 PM	26	57	29	8	1	0	0	0	0	0	0	0	0	0	121	16-25	86
5:15 PM	19	43	13	10	8	0	0	0	0	0	0	0	0	0	93	16-25	55
5:30 PM	28	39	13	5	3	0	0	0	0	0	0	0	0	0	88	16-25	51
5:45 PM	30	33	7	0	0	0	0	0	0	0	0	0	0	0	70	11-20	43
Day Total																	
Percent																	
AM Peak																	
Volume																	
PM Peak																	
Volume																	
Comments:																	

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA															QC JOB #: 14576232 DIRECTION: WB DATE: Jan 11 2018			
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace	
6:00 PM	15	35	2	1	0	0	0	0	0	0	0	0	0	0	53	11-20	40	
6:15 PM	22	33	25	10	6	3	0	0	0	0	0	0	0	0	99	16-25	58	
6:30 PM	33	30	27	12	3	0	0	0	0	0	0	0	0	0	105	16-25	57	
6:45 PM	36	38	15	11	3	4	1	0	0	0	0	0	0	0	108	16-25	53	
7:00 PM	18	17	11	17	6	0	1	0	0	0	0	0	0	0	70	18-27	28	
7:15 PM	16	30	13	8	9	2	2	0	0	0	0	0	0	0	80	16-25	42	
7:30 PM	24	19	27	15	6	0	0	0	0	0	0	0	0	0	91	16-25	46	
7:45 PM	38	25	10	13	5	3	0	1	0	0	0	0	0	0	95	12-21	37	
8:00 PM	42	24	12	10	6	1	0	0	0	0	0	0	0	0	95	13-22	37	
8:15 PM	18	8	7	19	13	4	0	0	0	0	0	0	0	0	69	26-35	32	
8:30 PM	37	26	16	12	6	1	0	0	0	0	0	0	0	0	98	16-25	42	
8:45 PM	38	21	8	10	5	1	0	0	0	0	0	0	0	0	83	11-20	33	
9:00 PM	25	21	15	11	9	4	0	0	0	0	0	0	0	0	85	16-25	36	
9:15 PM	28	16	10	5	7	1	2	0	0	0	0	0	0	0	69	16-25	26	
9:30 PM	35	6	4	12	13	3	0	0	0	0	0	0	0	0	73	26-35	25	
9:45 PM	28	18	11	5	7	2	1	0	0	0	0	0	0	0	72	16-25	29	
10:00 PM	19	8	4	4	4	4	0	0	0	0	0	0	0	0	43	11-20	14	
10:15 PM	17	8	6	5	2	1	0	0	0	0	0	0	0	0	39	17-26	13	
10:30 PM	14	9	8	3	3	0	1	0	0	0	0	0	0	0	38	16-25	17	
10:45 PM	13	5	0	5	4	3	0	0	0	0	0	0	0	0	30	26-35	9	
11:00 PM	14	5	4	4	2	2	0	0	0	0	0	0	0	0	31	16-25	9	
11:15 PM	13	3	5	2	4	0	0	0	0	0	0	0	0	0	27	8-17	8	
11:30 PM	5	1	5	3	1	1	0	0	0	0	0	0	0	0	16	22-31	7	
11:45 PM	7	3	6	7	2	2	3	0	0	0	0	0	0	0	30	22-31	12	
Day Total	1817	1807	1149	695	505	205	46	10	2	0	0	0	0	0	6236	16-25	2956	
Percent	29.1%	29.0%	18.4%	11.1%	8.1%	3.3%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
ADT 6236																		
AM Peak Volume	11:30 AM	11:30 AM	11:45 AM	11:45 AM	9:15 AM	9:30 AM	9:45 AM	1:00 AM	9:15 AM							11:30 AM		
	39	49	27	18	22	13	4	1	1							134		
PM Peak Volume	4:15 PM	5:00 PM	1:00 PM	1:15 PM	2:15 PM	1:45 PM	11:45 PM	1:45 PM	12:45 PM							2:15 PM		
	45	57	34	19	14	5	3	1	1							132		
<i>Comments:</i>																		

SUMMARY - Tube Count - Speed Data

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps														QC JOB #: 14576232			
SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps														DIRECTION: WB			
CITY/STATE: San Diego, CA														DATE: Jan 11 2018 - Jan 11 2018			
Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	1817	1807	1149	695	505	205	46	10	2	0	0	0	0	0	6236	16-25	2956
Percent	29.1%	29.0%	18.4%	11.1%	8.1%	3.3%	0.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Cumulative Percent	29.1%	58.1%	76.5%	87.7%	95.8%	99.1%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			
ADT 6236															85th Percentile 28 MPH Mean Speed(Average): 18 MPH Median 18 MPH Mode: 8 MPH		
<i>Comments:</i>																	



LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA							QC JOB #: 14576232 DIRECTION: WB DATE: Jan 11 2018 - Jan 11 2018			
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				39		39			39	
12:15 AM				13		13			13	
12:30 AM				19		19			19	
12:45 AM				16		16			16	
1:00 AM				17		17			17	
1:15 AM				12		12			12	
1:30 AM				16		16			16	
1:45 AM				8		8			8	
2:00 AM				14		14			14	
2:15 AM				9		9			9	
2:30 AM				6		6			6	
2:45 AM				9		9			9	
3:00 AM				11		11			11	
3:15 AM				9		9			9	
3:30 AM				13		13			13	
3:45 AM				14		14			14	
4:00 AM				9		9			9	
4:15 AM				11		11			11	
4:30 AM				18		18			18	
4:45 AM				18		18			18	
5:00 AM				19		19			19	
5:15 AM				33		33			33	
5:30 AM				47		47			47	
5:45 AM				58		58			58	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA							QC JOB #: 14576232 DIRECTION: WB DATE: Jan 11 2018 - Jan 11 2018			
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 AM				59		59			59	
6:15 AM				56		56			56	
6:30 AM				71		71			71	
6:45 AM				86		86			86	
7:00 AM				82		82			82	
7:15 AM				93		93			93	
7:30 AM				85		85			85	
7:45 AM				84		84			84	
8:00 AM				93		93			93	
8:15 AM				84		84			84	
8:30 AM				96		96			96	
8:45 AM				101		101			101	
9:00 AM				120		120			120	
9:15 AM				119		119			119	
9:30 AM				128		128			128	
9:45 AM				116		116			116	
10:00 AM				121		121			121	
10:15 AM				138		138			138	
10:30 AM				125		125			125	
10:45 AM				135		135			135	
11:00 AM				145		145			145	
11:15 AM				142		142			142	
11:30 AM				183		183			183	
11:45 AM				131		131			131	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA										QC JOB #: 14576232 DIRECTION: WB DATE: Jan 11 2018 - Jan 11 2018
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 PM				177		177			177	
12:15 PM				165		165			165	
12:30 PM				152		152			152	
12:45 PM				141		141			141	
1:00 PM				165		165			165	
1:15 PM				150		150			150	
1:30 PM				162		162			162	
1:45 PM				172		172			172	
2:00 PM				157		157			157	
2:15 PM				175		175			175	
2:30 PM				166		166			166	
2:45 PM				151		151			151	
3:00 PM				172		172			172	
3:15 PM				173		173			173	
3:30 PM				133		133			133	
3:45 PM				153		153			153	
4:00 PM				142		142			142	
4:15 PM				151		151			151	
4:30 PM				127		127			127	
4:45 PM				148		148			148	
5:00 PM				197		197			197	
5:15 PM				141		141			141	
5:30 PM				145		145			145	
5:45 PM				131		131			131	
Day Total										
% Weekday Average										
% Week Average										
AM Peak Volume										
PM Peak Volume										
<i>Comments:</i>										

LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps SPECIFIC LOCATION: S2.† Imperial Ave btwn West St and I-805 SB Ramps CITY/STATE: San Diego, CA							QC JOB #: 14576232 DIRECTION: WB DATE: Jan 11 2018 - Jan 11 2018			
Start Time	Mon	Tue	Wed	Thu 11-Jan-18	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
6:00 PM				107		107			107	
6:15 PM				136		136			136	
6:30 PM				157		157			157	
6:45 PM				138		138			138	
7:00 PM				119		119			119	
7:15 PM				109		109			109	
7:30 PM				119		119			119	
7:45 PM				130		130			130	
8:00 PM				139		139			139	
8:15 PM				96		96			96	
8:30 PM				134		134			134	
8:45 PM				118		118			118	
9:00 PM				114		114			114	
9:15 PM				87		87			87	
9:30 PM				95		95			95	
9:45 PM				92		92			92	
10:00 PM				63		63			63	
10:15 PM				52		52			52	
10:30 PM				51		51			51	
10:45 PM				42		42			42	
11:00 PM				39		39			39	
11:15 PM				34		34			34	
11:30 PM				23		23			23	
11:45 PM				34		34			34	
Day Total				9005		9005			9005	
% Weekday Average				100.0%						
% Week Average				100.0%		100.0%				
AM Peak				11:30 AM		11:30 AM			11:30 AM	
Volume				183		183			183	
PM Peak				5:00 PM		5:00 PM			5:00 PM	
Volume				197		197			197	
<i>Comments:</i>										

**APPENDIX C: CITY OF SAN DIEGO ROADWAY SEGMENT ANALYSIS
CRITERIA**

TABLE 2
Roadway Classifications, Levels of Service (LOS)
and Average Daily Traffic (ADT)

STREET CLASSIFICATION	LANES	CROSS SECTIONS	LEVEL OF SERVICE				
			A	B	C	D	E
Freeway	8 lanes		60,000	84,000	120,000	140,000	150,000
Freeway	6 lanes		45,000	63,000	90,000	110,000	120,000
Freeway	4 lanes		30,000	42,000	60,000	70,000	80,000
Expressway	6 lanes	102/122	30,000	42,000	60,000	70,000	80,000
Primary Arterial	6 lanes	102/122	25,000	35,000	50,000	55,000	60,000
Major Arterial	6 lanes	102/122	20,000	28,000	40,000	45,000	50,000
Major Arterial	4 lanes	78/98	15,000	21,000	30,000	35,000	40,000
Collector	4 lanes	72/92	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) continuous left-turn lane)	4 lanes 2 lanes	64/84 50/70	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2 lanes	40/60	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2 lanes	50/70	2,500	3,500	5,000	6,500	8,000
Collector (multifamily)	2 lanes	40/60	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2 lanes	36/56	—	—	2,200	—	—

LEGEND:

XXX/XXX = Curb to curb width (feet)/right-of-way width (feet): based on the City of San Diego Street Design Manual

XX/XXX= Approximate recommended ADT based on the City of San Diego Street Design Manual.

NOTES:

1. The volumes and the average daily level of service listed above are only intended as a general planning guideline.
2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

APPENDIX D: LEVEL OF SERVICE CALCULATION SHEETS

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↕				
Traffic Vol, veh/h	22	34	0	0	40	6	155	362	14	0	0	0
Future Vol, veh/h	22	34	0	0	40	6	155	362	14	0	0	0
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
Heavy Vehicles, %	4	8	2	2	2	2	5	2	2	2	2	2
Mvmt Flow	23	36	0	0	43	6	165	385	15	0	0	0
Number of Lanes	0	1	0	0	1	0	1	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	9.5	9	9.7
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	39%	0%
Vol Thru, %	0%	100%	90%	61%	87%
Vol Right, %	0%	0%	10%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	241	135	56	46
LT Vol	155	0	0	22	0
Through Vol	0	241	121	34	40
RT Vol	0	0	14	0	6
Lane Flow Rate	165	257	143	60	49
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.248	0.346	0.19	0.101	0.079
Departure Headway (Hd)	5.41	4.857	4.784	6.08	5.777
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	665	742	751	590	620
Service Time	3.134	2.582	2.509	3.814	3.511
HCM Lane V/C Ratio	0.248	0.346	0.19	0.102	0.079
HCM Control Delay	9.9	10.1	8.6	9.5	9
HCM Lane LOS	A	B	A	A	A
HCM 95th-tile Q	1	1.5	0.7	0.3	0.3

HCM 2010 Signalized Intersection Summary
 2: 17th St & Imperial Ave

Existing AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	127	12	6	198	0	0	0	0	170	91	249
Future Volume (veh/h)	0	127	12	6	198	0	0	0	0	170	91	249
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00				1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	148	14	7	230	0				132	161	315
Adj No. of Lanes	0	2	0	0	2	0				1	1	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, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2187	204	88	2280	0				319	335	538
Arrive On Green	0.00	0.67	0.67	0.22	0.22	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	3361	305	44	3490	0				1774	1863	2990
Grp Volume(v), veh/h	0	79	83	127	110	0				132	161	315
Grp Sat Flow(s),veh/h/ln	0	1770	1803	1839	1610	0				1774	1863	1495
Q Serve(g_s), s	0.0	1.0	1.0	0.0	3.5	0.0				4.3	5.0	6.3
Cycle Q Clear(g_c), s	0.0	1.0	1.0	3.5	3.5	0.0				4.3	5.0	6.3
Prop In Lane	0.00		0.17	0.06		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1185	1207	1289	1078	0				319	335	538
V/C Ratio(X)	0.00	0.07	0.07	0.10	0.10	0.00				0.41	0.48	0.59
Avail Cap(c_a), veh/h	0	1185	1207	1289	1078	0				822	863	1385
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.95	0.95	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	3.7	3.7	9.7	9.7	0.0				23.6	23.9	24.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.1	0.2	0.0				0.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.5	1.9	1.6	0.0				2.1	2.6	2.6
LnGrp Delay(d),s/veh	0.0	3.8	3.8	9.9	9.9	0.0				23.9	24.3	24.8
LnGrp LOS		A	A	A	A					C	C	C
Approach Vol, veh/h		162			237						608	
Approach Delay, s/veh		3.8			9.9						24.5	
Approach LOS		A			A						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		48.4		16.6		48.4						
Change Period (Y+Rc), s		4.9		4.9		4.9						
Max Green Setting (Gmax), s		25.1		30.1		25.1						
Max Q Clear Time (g_c+I1), s		3.0		8.3		5.5						
Green Ext Time (p_c), s		1.4		1.5		1.4						
Intersection Summary												
HCM 2010 Ctrl Delay				17.7								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
 3: 19th St & Imperial Ave

Existing AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	145	0	0	195	375	26	341	12	0	0	0
Future Volume (veh/h)	145	145	0	0	195	375	26	341	12	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	156	156	0	0	210	403	28	367	13			
Adj No. of Lanes	1	1	0	0	2	0	0	3	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	2	0	0	2	2	0	2	0			
Cap, veh/h	575	1329	0	0	1035	926	47	659	24			
Arrive On Green	0.10	1.00	0.00	0.00	0.58	0.58	0.14	0.14	0.14			
Sat Flow, veh/h	1774	1863	0	0	1863	1583	347	4849	176			
Grp Volume(v), veh/h	156	156	0	0	210	403	149	124	135			
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	1770	1583	1845	1695	1832			
Q Serve(g_s), s	2.1	0.0	0.0	0.0	3.6	9.2	4.9	4.4	4.5			
Cycle Q Clear(g_c), s	2.1	0.0	0.0	0.0	3.6	9.2	4.9	4.4	4.5			
Prop In Lane	1.00		0.00	0.00		1.00	0.19		0.10			
Lane Grp Cap(c), veh/h	575	1329	0	0	1035	926	251	230	249			
V/C Ratio(X)	0.27	0.12	0.00	0.00	0.20	0.44	0.59	0.54	0.54			
Avail Cap(c_a), veh/h	793	1329	0	0	1035	926	571	524	566			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	4.7	0.0	0.0	0.0	6.4	7.5	26.4	26.2	26.2			
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.4	1.5	2.2	1.9	1.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	0.1	0.0	0.0	1.9	4.3	2.7	2.2	2.4			
LnGrp Delay(d),s/veh	4.8	0.2	0.0	0.0	6.8	9.0	28.6	28.1	28.0			
LnGrp LOS	A	A			A	A	C	C	C			
Approach Vol, veh/h		312			613			408				
Approach Delay, s/veh		2.5			8.2			28.3				
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		51.3			8.3	42.9		13.7				
Change Period (Y+Rc), s		4.9			4.4	4.9		4.9				
Max Green Setting (Gmax), s		35.1			11.9	18.8		20.1				
Max Q Clear Time (g_c+I1), s		2.0			4.1	11.2		6.9				
Green Ext Time (p_c), s		14.3			0.1	5.0		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay					13.0							
HCM 2010 LOS					B							

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	7	189	7	6	523	6	5	4	7	2	4	57
Future Vol, veh/h	7	189	7	6	523	6	5	4	7	2	4	57
Conflicting Peds, #/hr	25	0	44	44	0	25	6	0	1	1	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	203	8	6	562	6	5	4	8	2	4	61

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	594	0	0	255	0	0	883	873	252	832	873	597
Stage 1	-	-	-	-	-	-	266	266	-	603	603	-
Stage 2	-	-	-	-	-	-	617	607	-	229	270	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	982	-	-	1310	-	-	266	289	787	288	289	503
Stage 1	-	-	-	-	-	-	739	689	-	486	488	-
Stage 2	-	-	-	-	-	-	477	486	-	774	686	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	977	-	-	1309	-	-	218	269	758	273	269	490
Mov Cap-2 Maneuver	-	-	-	-	-	-	218	269	-	273	269	-
Stage 1	-	-	-	-	-	-	705	658	-	472	476	-
Stage 2	-	-	-	-	-	-	410	474	-	754	655	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			16.2			14.3		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	340	977	-	-	1309	-	-	455
HCM Lane V/C Ratio	0.051	0.008	-	-	0.005	-	-	0.149
HCM Control Delay (s)	16.2	8.7	0	-	7.8	-	-	14.3
HCM Lane LOS	C	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.5

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	19	143	30	18	477	15	28	21	32	4	24	40
Future Vol, veh/h	19	143	30	18	477	15	28	21	32	4	24	40
Conflicting Peds, #/hr	15	0	48	48	0	15	7	0	8	8	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	20	154	32	19	513	16	30	23	34	4	26	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	544	0	0	234	0	0	860	842	226	822	850	543
Stage 1	-	-	-	-	-	-	259	259	-	575	575	-
Stage 2	-	-	-	-	-	-	601	583	-	247	275	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1025	-	-	1333	-	-	276	301	813	293	295	540
Stage 1	-	-	-	-	-	-	746	694	-	503	500	-
Stage 2	-	-	-	-	-	-	487	499	-	757	679	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1019	-	-	1324	-	-	219	276	775	251	270	530
Mov Cap-2 Maneuver	-	-	-	-	-	-	219	276	-	251	270	-
Stage 1	-	-	-	-	-	-	702	653	-	487	487	-
Stage 2	-	-	-	-	-	-	415	486	-	680	639	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.3			19.8			16.8		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	330	1019	-	-	1324	-	-	377
HCM Lane V/C Ratio	0.264	0.02	-	-	0.015	-	-	0.194
HCM Control Delay (s)	19.8	8.6	-	-	7.8	-	-	16.8
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	0.7

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	126	20	31	426	20	19	39	28	8	42	27
Future Vol, veh/h	14	126	20	31	426	20	19	39	28	8	42	27
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	129	20	32	435	20	19	40	29	8	43	28
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.6	16.3	9.4	9.3
HCM LOS	A	C	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %		22%	100%	0%	100%	0%
Vol Thru, %		45%	0%	86%	0%	96%
Vol Right, %		33%	0%	14%	0%	4%
Sign Control		Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane		86	14	146	31	446
LT Vol		19	14	0	31	0
Through Vol		39	0	126	0	426
RT Vol		28	0	20	0	20
Lane Flow Rate		88	14	149	32	455
Geometry Grp		2	7	7	7	7
Degree of Util (X)		0.134	0.024	0.221	0.05	0.645
Departure Headway (Hd)		5.484	5.951	5.349	5.638	5.103
Convergence, Y/N		Yes	Yes	Yes	Yes	Yes
Cap		647	597	664	631	701
Service Time		3.576	3.737	3.135	3.406	2.871
HCM Lane V/C Ratio		0.136	0.023	0.224	0.051	0.649
HCM Control Delay		9.4	8.9	9.7	8.7	16.8
HCM Lane LOS		A	A	A	A	C
HCM 95th-tile Q		0.5	0.1	0.8	0.2	4.7

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	10	150	14	8	458	22	6	19	13	10	21	32
Future Vol, veh/h	10	150	14	8	458	22	6	19	13	10	21	32
Conflicting Peds, #/hr	9	0	10	10	0	9	12	0	1	1	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	11	167	16	9	509	24	7	21	14	11	23	36




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	542	0	0	192	0	0	787	767	185	763	762	542
Stage 1	-	-	-	-	-	-	207	207	-	548	548	-
Stage 2	-	-	-	-	-	-	580	560	-	215	214	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1027	-	-	1381	-	-	309	332	857	321	332	540
Stage 1	-	-	-	-	-	-	795	731	-	521	514	-
Stage 2	-	-	-	-	-	-	500	511	-	787	722	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1017	-	-	1380	-	-	264	321	849	293	321	531
Mov Cap-2 Maneuver	-	-	-	-	-	-	264	321	-	293	321	-
Stage 1	-	-	-	-	-	-	780	717	-	511	507	-
Stage 2	-	-	-	-	-	-	438	504	-	742	708	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.1			15.3			16.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	391	1017	-	-	1380	-	-	394
HCM Lane V/C Ratio	0.108	0.011	-	-	0.006	-	-	0.178
HCM Control Delay (s)	15.3	8.6	-	-	7.6	-	-	16.1
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.6

HCM 2010 Signalized Intersection Summary
8: 25th St & Imperial Ave

Existing AM Peak Hour
03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	95	68	35	452	50	26	107	19	20	146	45
Future Volume (veh/h)	17	95	68	35	452	50	26	107	19	20	146	45
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	99	71	36	471	52	27	111	20	21	152	47
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	732	717	514	931	1170	129	114	347	61	90	342	101
Arrive On Green	0.71	0.71	0.71	1.00	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	876	1010	725	1210	1649	182	289	2480	437	175	2445	724
Grp Volume(v), veh/h	18	0	170	36	0	523	84	0	74	118	0	102
Grp Sat Flow(s),veh/h/ln	876	0	1735	1210	0	1831	1589	0	1618	1778	0	1567
Q Serve(g_s), s	0.4	0.0	2.1	0.1	0.0	0.0	0.0	0.0	2.7	0.0	0.0	3.9
Cycle Q Clear(g_c), s	0.4	0.0	2.1	2.1	0.0	0.0	3.9	0.0	2.7	3.8	0.0	3.9
Prop In Lane	1.00		0.42	1.00		0.10	0.32		0.27	0.18		0.46
Lane Grp Cap(c), veh/h	732	0	1231	931	0	1299	295	0	226	314	0	219
V/C Ratio(X)	0.02	0.00	0.14	0.04	0.00	0.40	0.28	0.00	0.33	0.38	0.00	0.46
Avail Cap(c_a), veh/h	732	0	1231	931	0	1299	631	0	572	681	0	555
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	2.8	0.0	3.0	0.0	0.0	0.0	25.2	0.0	25.2	25.7	0.0	25.7
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	0.9	0.9	0.0	1.4	1.3	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.0	0.0	0.0	0.3	1.4	0.0	1.3	2.1	0.0	1.8
LnGrp Delay(d),s/veh	2.9	0.0	3.3	0.1	0.0	0.9	26.1	0.0	26.6	27.0	0.0	28.3
LnGrp LOS	A		A	A		A	C		C	C		C
Approach Vol, veh/h		188			559			158			220	
Approach Delay, s/veh		3.2			0.9			26.3			27.6	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.0		14.0		51.0		14.0				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		32.2		23.0		32.2		23.0				
Max Q Clear Time (g_c+I1), s		4.1		5.9		4.1		5.9				
Green Ext Time (p_c), s		5.4		3.2		5.4		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

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	15	126	16	14	533	23	21	31	7	7	20	30
Future Vol, veh/h	15	126	16	14	533	23	21	31	7	7	20	30
Conflicting Peds, #/hr	17	0	15	15	0	17	13	0	10	10	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	75	-	-	-	-	-	-	-	-
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, %	2	3	2	2	2	4	2	2	2	2	2	3
Mvmt Flow	17	145	18	16	613	26	24	36	8	8	23	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	656	0	0	178	0	0	904	892	179	895	888	656
Stage 1	-	-	-	-	-	-	204	204	-	675	675	-
Stage 2	-	-	-	-	-	-	700	688	-	220	213	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.327
Pot Cap-1 Maneuver	931	-	-	1398	-	-	258	281	864	261	283	464
Stage 1	-	-	-	-	-	-	798	733	-	444	453	-
Stage 2	-	-	-	-	-	-	430	447	-	782	726	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	921	-	-	1386	-	-	213	265	846	222	267	452
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	265	-	222	267	-
Stage 1	-	-	-	-	-	-	773	710	-	430	441	-
Stage 2	-	-	-	-	-	-	368	436	-	716	704	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.2			23.3			18.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	264	921	-	-	1386	-	-	330
HCM Lane V/C Ratio	0.257	0.019	-	-	0.012	-	-	0.199
HCM Control Delay (s)	23.3	9	-	-	7.6	-	-	18.6
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	0.7

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕			↕			↕	
Traffic Vol, veh/h	6	132	3	9	552	2	0	0	4	2	2	12
Future Vol, veh/h	6	132	3	9	552	2	0	0	4	2	2	12
Conflicting Peds, #/hr	16	0	3	3	0	16	2	0	1	1	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	-	-	-	-	-	-
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, %	2	3	33	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	152	3	10	634	2	0	0	5	2	2	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	653	0	0	158	0	0	836	843	157	843	844	654
Stage 1	-	-	-	-	-	-	170	170	-	672	672	-
Stage 2	-	-	-	-	-	-	666	673	-	171	172	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	934	-	-	1422	-	-	287	300	889	284	300	467
Stage 1	-	-	-	-	-	-	832	758	-	445	454	-
Stage 2	-	-	-	-	-	-	449	454	-	831	756	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	932	-	-	1421	-	-	272	290	886	275	290	460
Mov Cap-2 Maneuver	-	-	-	-	-	-	272	290	-	275	290	-
Stage 1	-	-	-	-	-	-	824	750	-	436	443	-
Stage 2	-	-	-	-	-	-	428	443	-	820	748	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.1			9.1			14.5		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	886	932	-	-	1421	-	-	397
HCM Lane V/C Ratio	0.005	0.007	-	-	0.007	-	-	0.046
HCM Control Delay (s)	9.1	8.9	-	-	7.6	0	-	14.5
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	1	125	7	12	552	11	14	11	19	5	6	3
Future Vol, veh/h	1	125	7	12	552	11	14	11	19	5	6	3
Conflicting Peds, #/hr	18	0	10	10	0	18	4	0	15	15	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	60	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	140	8	13	620	12	16	12	21	6	7	3

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	651	0	0	158
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	935	-	-	1422
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	932	-	-	1404
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	15.2	17.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	402	932	-	-	1404	-	-	302
HCM Lane V/C Ratio	0.123	0.001	-	-	0.01	-	-	0.052
HCM Control Delay (s)	15.2	8.9	0	-	7.6	-	-	17.6
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.2

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	15	127	5	4	553	5	1	2	4	1	0	13
Future Vol, veh/h	15	127	5	4	553	5	1	2	4	1	0	13
Conflicting Peds, #/hr	17	0	18	18	0	17	3	0	5	5	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	3	2	25	2	2	2	2	2	2	2	2
Mvmt Flow	18	151	6	5	658	6	1	2	5	1	0	15




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	681	0	0	175	0	0	890	899	177	886	899	681
Stage 1	-	-	-	-	-	-	208	208	-	688	688	-
Stage 2	-	-	-	-	-	-	682	691	-	198	211	-
Critical Hdwy	4.12	-	-	4.35	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.425	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	912	-	-	1274	-	-	264	279	866	265	279	450
Stage 1	-	-	-	-	-	-	794	730	-	436	447	-
Stage 2	-	-	-	-	-	-	440	446	-	804	728	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	910	-	-	1269	-	-	246	265	849	252	265	443
Mov Cap-2 Maneuver	-	-	-	-	-	-	246	265	-	252	265	-
Stage 1	-	-	-	-	-	-	767	705	-	421	439	-
Stage 2	-	-	-	-	-	-	422	438	-	778	703	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.1			13.6			13.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	429	910	-	-	1269	-	-	420
HCM Lane V/C Ratio	0.019	0.02	-	-	0.004	-	-	0.04
HCM Control Delay (s)	13.6	9	-	-	7.8	-	-	13.9
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

HCM 2010 Signalized Intersection Summary
 13: 28th St & Imperial Ave

Existing AM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	95	2	6	501	31	10	179	30	12	137	33
Future Volume (veh/h)	30	95	2	6	501	31	10	179	30	12	137	33
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	33	106	2	7	557	34	11	199	33	13	152	37
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	671	1241	23	975	1184	72	64	279	45	69	259	60
Arrive On Green	0.91	0.91	0.91	1.00	1.00	1.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	822	1822	34	1280	1738	106	35	1520	244	53	1410	328
Grp Volume(v), veh/h	33	0	108	7	0	591	243	0	0	202	0	0
Grp Sat Flow(s),veh/h/ln	822	0	1857	1280	0	1844	1800	0	0	1791	0	0
Q Serve(g_s), s	0.3	0.0	0.4	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.4	0.4	0.0	0.0	8.2	0.0	0.0	6.7	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.06	0.05		0.14	0.06		0.18
Lane Grp Cap(c), veh/h	671	0	1265	975	0	1256	388	0	0	388	0	0
V/C Ratio(X)	0.05	0.00	0.09	0.01	0.00	0.47	0.63	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	671	0	1265	975	0	1256	909	0	0	886	0	0
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.0	0.0	1.0	0.0	0.0	0.0	25.0	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.0	1.3	0.6	0.0	0.0	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(50%),veh/ln	0.1	0.0	0.2	0.0	0.0	0.4	4.2	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	1.1	0.0	0.0	1.3	25.6	0.0	0.0	24.8	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		141			598			243			202	
Approach Delay, s/veh		1.1			1.3			25.6			24.8	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.5		16.5		48.5		16.5				
Change Period (Y+Rc), s		* 4.2		4.6		* 4.2		* 4.6				
Max Green Setting (Gmax), s		* 26		30.6		* 26		* 31				
Max Q Clear Time (g_c+I1), s		2.4		8.7		2.4		10.2				
Green Ext Time (p_c), s		1.7		1.7		1.7		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay				10.3								
HCM 2010 LOS				B								
Notes												

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	12	115	4	18	560	24	4	20	6	4	9	12
Future Vol, veh/h	12	115	4	18	560	24	4	20	6	4	9	12
Conflicting Peds, #/hr	9	0	6	6	0	9	14	0	8	8	0	14
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	4	2	2	2	2	2	2
Mvmt Flow	14	134	5	21	651	28	5	23	7	5	10	14




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	688	0	0	144	0	0	903	900	150	903	888	688
Stage 1	-	-	-	-	-	-	170	170	-	716	716	-
Stage 2	-	-	-	-	-	-	733	730	-	187	172	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	906	-	-	1438	-	-	258	278	896	258	283	446
Stage 1	-	-	-	-	-	-	832	758	-	421	434	-
Stage 2	-	-	-	-	-	-	412	428	-	815	756	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	895	-	-	1428	-	-	233	266	886	230	271	437
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	266	-	230	271	-
Stage 1	-	-	-	-	-	-	815	742	-	411	424	-
Stage 2	-	-	-	-	-	-	379	419	-	766	740	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.2			18.4			17.4		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	303	895	-	-	1428	-	-	320
HCM Lane V/C Ratio	0.115	0.016	-	-	0.015	-	-	0.091
HCM Control Delay (s)	18.4	9.1	-	-	7.6	-	-	17.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3

HCM 2010 Signalized Intersection Summary
 15: 30th St & Imperial Ave

Existing AM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	133	6	45	545	45	25	38	11	15	54	15
Future Volume (veh/h)	15	133	6	45	545	45	25	38	11	15	54	15
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	17	155	7	52	634	52	29	44	13	17	63	17
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	691	1363	62	968	1310	107	114	91	23	84	111	27
Arrive On Green	0.25	0.25	0.25	1.00	1.00	1.00	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	753	1769	80	1219	1699	139	449	1018	261	207	1243	308
Grp Volume(v), veh/h	17	0	162	52	0	686	86	0	0	97	0	0
Grp Sat Flow(s),veh/h/ln	753	0	1849	1219	0	1838	1729	0	0	1759	0	0
Q Serve(g_s), s	1.1	0.0	4.4	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	4.4	4.6	0.0	0.0	2.9	0.0	0.0	3.4	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.08	0.34		0.15	0.18		0.18
Lane Grp Cap(c), veh/h	691	0	1425	968	0	1417	228	0	0	222	0	0
V/C Ratio(X)	0.02	0.00	0.11	0.05	0.00	0.48	0.38	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	691	0	1425	968	0	1417	854	0	0	876	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.86	0.00	0.86	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	7.2	0.2	0.0	0.0	28.3	0.0	0.0	28.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	1.0	0.4	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.3	0.1	0.0	0.4	1.5	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	6.0	0.0	7.3	0.3	0.0	1.0	28.7	0.0	0.0	29.0	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		179			738			86			97	
Approach Delay, s/veh		7.2			1.0			28.7			29.0	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.7		10.3		54.7		10.3				
Change Period (Y+Rc), s		* 4.6		4.5		4.6		* 4.5				
Max Green Setting (Gmax), s		* 25		30.9		25.0		* 31				
Max Q Clear Time (g_c+I1), s		6.4		5.4		6.6		4.9				
Green Ext Time (p_c), s		5.3		0.7		5.3		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			6.6									
HCM 2010 LOS			A									
Notes												

HCM 2010 Signalized Intersection Summary
 16: 31st St & Imperial Ave

Existing AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	108	17	51	602	30	22	68	26	13	38	27
Future Volume (veh/h)	21	108	17	51	602	30	22	68	26	13	38	27
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	0.92		0.88	0.93		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1845	1863	1900	1900	1863	1900	1900	1856	1900
Adj Flow Rate, veh/h	23	119	19	56	662	33	24	75	29	14	42	30
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	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, %	2	2	2	3	2	2	2	2	2	2	2	2
Cap, veh/h	599	1099	175	973	1238	62	95	191	64	85	161	97
Arrive On Green	1.00	1.00	1.00	0.94	0.94	0.94	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	745	1561	249	1225	1759	88	171	1102	373	122	931	564
Grp Volume(v), veh/h	23	0	138	56	0	695	128	0	0	86	0	0
Grp Sat Flow(s),veh/h/ln	745	0	1810	1225	0	1846	1647	0	0	1617	0	0
Q Serve(g_s), s	0.1	0.0	0.0	0.2	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.0	0.2	0.0	3.1	4.3	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.05	0.19		0.23	0.16		0.35
Lane Grp Cap(c), veh/h	599	0	1274	973	0	1300	350	0	0	344	0	0
V/C Ratio(X)	0.04	0.00	0.11	0.06	0.00	0.53	0.37	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	599	0	1274	973	0	1300	540	0	0	529	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.80	0.00	0.80	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.1	0.0	0.0	0.6	0.0	0.7	24.0	0.0	0.0	23.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	1.3	0.6	0.0	0.0	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(50%),veh/ln	0.0	0.0	0.1	0.1	0.0	1.7	2.1	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	0.2	0.0	0.2	0.7	0.0	2.0	24.6	0.0	0.0	23.8	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		161			751			128			86	
Approach Delay, s/veh		0.2			1.9			24.6			23.8	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.8		15.2		49.8		15.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		38.0		19.0		38.0		19.0				
Max Q Clear Time (g_c+I1), s		5.3		4.9		5.1		6.3				
Green Ext Time (p_c), s		7.2		1.0		7.2		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				5.9								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 17: 32nd St & Imperial Ave

Existing AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	114	13	27	602	262	24	101	18	55	88	51
Future Volume (veh/h)	20	114	13	27	602	262	24	101	18	55	88	51
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.97		0.97	0.98		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1844	1900	1900	1863	1900
Adj Flow Rate, veh/h	22	127	14	30	669	291	27	112	20	61	98	57
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	423	933	103	46	659	554	100	301	48	144	192	95
Arrive On Green	0.08	0.19	0.19	0.05	0.71	0.71	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	1648	182	1774	1863	1565	158	1348	217	325	859	425
Grp Volume(v), veh/h	22	0	141	30	669	291	159	0	0	216	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1829	1774	1863	1565	1723	0	0	1609	0	0
Q Serve(g_s), s	0.7	0.0	4.2	1.1	23.0	5.6	0.0	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	4.2	1.1	23.0	5.6	4.9	0.0	0.0	7.4	0.0	0.0
Prop In Lane	1.00		0.10	1.00		1.00	0.17		0.13	0.28		0.26
Lane Grp Cap(c), veh/h	423	0	1036	46	659	554	449	0	0	430	0	0
V/C Ratio(X)	0.05	0.00	0.14	0.66	1.01	0.53	0.35	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	423	0	1036	218	659	554	639	0	0	607	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.92	0.92	0.92	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.1	0.0	13.2	30.5	9.5	7.0	21.5	0.0	0.0	22.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	13.7	37.3	3.2	0.5	0.0	0.0	0.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.2	0.7	17.6	2.8	2.5	0.0	0.0	3.5	0.0	0.0
LnGrp Delay(d),s/veh	23.2	0.0	13.4	44.3	46.8	10.2	22.0	0.0	0.0	23.3	0.0	0.0
LnGrp LOS	C		B	D	F	B	C			C		
Approach Vol, veh/h		163			990			159			216	
Approach Delay, s/veh		14.7			36.0			22.0			23.3	
Approach LOS		B			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	40.8		18.5	19.5	27.0		18.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	23.0	23.0		22.0	8.0	23.0		22.0				
Max Q Clear Time (g_c+1), s	6.2	6.2		9.4	2.7	25.0		6.9				
Green Ext Time (p_c), s	0.0	0.7		1.8	0.3	0.0		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			30.5									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
 18: 33rd St & Imperial Ave

Existing AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	175	24	25	750	48	43	11	9	10	12	62
Future Volume (veh/h)	15	175	24	25	750	48	43	11	9	10	12	62
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	222	30	32	949	61	54	14	11	13	15	78
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	486	2074	277	862	2115	136	194	48	24	74	33	124
Arrive On Green	0.12	1.00	1.00	0.03	0.63	0.63	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1774	3139	419	1774	3377	217	958	457	229	114	312	1187
Grp Volume(v), veh/h	19	124	128	32	497	513	79	0	0	106	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1789	1774	1770	1824	1644	0	0	1613	0	0
Q Serve(g_s), s	0.2	0.0	0.0	0.4	9.5	9.5	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.4	9.5	9.5	2.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.23	1.00		0.12	0.68		0.14	0.12		0.74
Lane Grp Cap(c), veh/h	486	1169	1181	862	1108	1143	266	0	0	231	0	0
V/C Ratio(X)	0.04	0.11	0.11	0.04	0.45	0.45	0.30	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	487	1169	1181	923	1108	1143	714	0	0	737	0	0
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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.7	0.0	0.0	4.0	6.3	6.3	27.2	0.0	0.0	27.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	1.3	1.3	0.6	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.2	5.0	5.1	1.4	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	3.7	0.2	0.2	4.0	7.6	7.6	27.9	0.0	0.0	29.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C			C		
Approach Vol, veh/h		271			1042			79			106	
Approach Delay, s/veh		0.4			7.5			27.9			29.3	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	47.4		11.3	8.5	45.2		11.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	1.0	20.0		27.5	4.0	20.0		27.5				
Max Q Clear Time (g_c+1), s	1.0	2.0		6.0	2.2	11.5		4.7				
Green Ext Time (p_c), s	0.0	7.9		1.0	0.0	4.9		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				8.8								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh	15
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Traffic Vol, veh/h	23	171	750	42	7	50
Future Vol, veh/h	23	171	750	42	7	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	186	815	46	8	54
Number of Lanes	0	2	2	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	9.5	16.8	9
HCM LOS	A	C	A

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	0%	0%	0%	12%
Vol Thru, %	71%	100%	100%	86%	0%
Vol Right, %	0%	0%	0%	14%	88%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	114	500	292	57
LT Vol	23	0	0	0	7
Through Vol	57	114	500	250	0
RT Vol	0	0	0	42	50
Lane Flow Rate	87	124	543	317	62
Geometry Grp	7	7	7	7	2
Degree of Util (X)	0.137	0.19	0.739	0.422	0.093
Departure Headway (Hd)	5.663	5.519	4.893	4.792	5.412
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	631	648	739	752	660
Service Time	3.413	3.268	2.627	2.526	3.465
HCM Lane V/C Ratio	0.138	0.191	0.735	0.422	0.094
HCM Control Delay	9.3	9.6	20.2	11	9
HCM Lane LOS	A	A	C	B	A
HCM 95th-tile Q	0.5	0.7	6.6	2.1	0.3



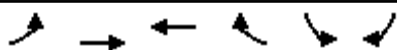
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	28	131	800	360	120	41		
Future Volume (veh/h)	28	131	800	360	120	41		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	29	136	833	375	125	43		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	191	170	769	1497	427	147		
Arrive On Green	0.11	0.11	0.58	1.00	0.33	0.33		
Sat Flow, veh/h	1774	1583	1774	1863	1310	451		
Grp Volume(v), veh/h	29	136	833	375	0	168		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1761		
Q Serve(g_s), s	1.3	7.5	39.0	0.0	0.0	6.4		
Cycle Q Clear(g_c), s	1.3	7.5	39.0	0.0	0.0	6.4		
Prop In Lane	1.00	1.00	1.00			0.26		
Lane Grp Cap(c), veh/h	191	170	769	1497	0	574		
V/C Ratio(X)	0.15	0.80	1.08	0.25	0.00	0.29		
Avail Cap(c_a), veh/h	355	317	769	1497	0	574		
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.38	0.38	0.00	1.00		
Uniform Delay (d), s/veh	36.4	39.2	19.1	0.0	0.0	22.6		
Incr Delay (d2), s/veh	0.4	8.3	46.9	0.2	0.0	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	6.8	28.7	0.1	0.0	3.1		
LnGrp Delay(d),s/veh	36.8	47.5	66.0	0.2	0.0	22.9		
LnGrp LOS	D	D	F	A		C		
Approach Vol, veh/h	165			1208	168			
Approach Delay, s/veh	45.6			45.5	22.9			
Approach LOS	D			D	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		76.3		13.7	43.0	33.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		64.0		18.0	39.0	21.0		
Max Q Clear Time (g_c+I1), s		2.0		9.5	41.0	8.4		
Green Ext Time (p_c), s		3.8		0.3	0.0	2.7		
Intersection Summary								
HCM 2010 Ctrl Delay			43.1					
HCM 2010 LOS			D					

HCM Signalized Intersection Capacity Analysis
21: Imperial Ave & 36th St

Existing AM Peak Hour
03/09/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	830	374	16	147	67
Future Volume (vph)	9	830	374	16	147	67
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1571	1849		1755	1848
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1571	1849		1755	1848
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	9	865	390	17	153	70
RTOR Reduction (vph)	0	271	2	0	0	0
Lane Group Flow (vph)	9	594	405	0	153	70
Confl. Peds. (#/hr)	10			8	8	
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	2	0	0	2	2
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	44.4	44.4	20.9		12.7	37.6
Effective Green, g (s)	44.4	44.4	20.9		12.7	37.6
Actuated g/C Ratio	0.49	0.49	0.23		0.14	0.42
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	873	775	429		247	772
v/s Ratio Prot	0.01		c0.22		c0.09	0.04
v/s Ratio Perm		c0.38				
v/c Ratio	0.01	0.77	0.95		0.62	0.09
Uniform Delay, d1	11.6	18.6	34.0		36.4	15.9
Progression Factor	1.00	1.00	1.00		0.80	0.53
Incremental Delay, d2	0.0	7.2	29.7		4.4	0.0
Delay (s)	11.6	25.7	63.7		33.5	8.5
Level of Service	B	C	E		C	A
Approach Delay (s)	25.6		63.7			25.7
Approach LOS	C		E			C
Intersection Summary						
HCM 2000 Control Delay			35.9		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.79			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			78.7%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	164	58	139	534	176	40		
Future Volume (veh/h)	164	58	139	534	176	40		
Number	5	2	6	16	7	14		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	174	62	148	0	187	43		
Adj No. of Lanes	1	2	1	1	0	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	247	1581	296	251	271	62		
Arrive On Green	0.14	0.45	0.16	0.00	0.19	0.19		
Sat Flow, veh/h	1774	3632	1863	1583	1405	323		
Grp Volume(v), veh/h	174	62	148	0	231	0		
Grp Sat Flow(s),veh/h/ln	1774	1770	1863	1583	1735	0		
Q Serve(g_s), s	2.5	0.3	2.0	0.0	3.3	0.0		
Cycle Q Clear(g_c), s	2.5	0.3	2.0	0.0	3.3	0.0		
Prop In Lane	1.00			1.00	0.81	0.19		
Lane Grp Cap(c), veh/h	247	1581	296	251	334	0		
V/C Ratio(X)	0.70	0.04	0.50	0.00	0.69	0.00		
Avail Cap(c_a), veh/h	264	2027	436	371	1678	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	11.0	4.2	10.3	0.0	10.1	0.0		
Incr Delay (d2), s/veh	6.2	0.0	1.9	0.0	3.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6	0.1	1.1	0.0	1.9	0.0		
LnGrp Delay(d),s/veh	17.3	4.2	12.3	0.0	13.5	0.0		
LnGrp LOS	B	A	B		B			
Approach Vol, veh/h		236	148		231			
Approach Delay, s/veh		13.8	12.3		13.5			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.4		9.5	7.7	9.7		
Change Period (Y+Rc), s		* 5.4		* 4.3	4.0	5.4		
Max Green Setting (Gmax), s		* 15		* 26	4.0	6.3		
Max Q Clear Time (g_c+I1), s		2.3		5.3	4.5	4.0		
Green Ext Time (p_c), s		1.2		1.0	0.0	0.3		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	231	3	12	665	12	48
Future Vol, veh/h	231	3	12	665	12	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	251	3	13	723	13	52

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	254	0	641	127
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	388	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1308	-	407	900
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	655	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1308	-	403	900
Mov Cap-2 Maneuver	-	-	-	-	403	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	648	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	722	-	-	1308	-
HCM Lane V/C Ratio	0.09	-	-	0.01	-
HCM Control Delay (s)	10.5	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↖
Traffic Vol, veh/h	236	43	25	683	1	12
Future Vol, veh/h	236	43	25	683	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	262	48	28	759	1	13






















Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	310	0	721	155
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	435	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1247	-	362	863
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1247	-	354	863
Mov Cap-2 Maneuver	-	-	-	-	354	-
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	863	-	-	1247	-
HCM Lane V/C Ratio	0.015	-	-	0.022	-
HCM Control Delay (s)	9.2	-	-	8	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

HCM 2010 Signalized Intersection Summary
 25: Redworks Dwy/Greenwood & Imperial Ave

Existing AM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	167	69	235	598	27	113	3	95	6	2	1
Future Volume (veh/h)	2	167	69	235	598	27	113	3	95	6	2	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	2	174	72	245	623	28	118	3	99	6	2	1
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	462	184	393	1437	643	474	272	582	329	89	24
Arrive On Green	0.00	0.19	0.19	0.22	0.41	0.41	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1774	2473	985	1774	3539	1583	1408	1863	1583	730	609	167
Grp Volume(v), veh/h	2	123	123	245	623	28	118	3	99	9	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1689	1774	1770	1583	1408	1863	1583	1507	0	0
Q Serve(g_s), s	0.0	1.6	1.7	3.4	3.4	0.3	2.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.6	1.7	3.4	3.4	0.3	2.1	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	0.67		0.11
Lane Grp Cap(c), veh/h	7	331	316	393	1437	643	474	272	582	443	0	0
V/C Ratio(X)	0.30	0.37	0.39	0.62	0.43	0.04	0.25	0.01	0.17	0.02	0.00	0.00
Avail Cap(c_a), veh/h	264	1512	1443	593	3682	1647	2152	2492	2468	2127	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	9.6	9.6	9.5	5.8	4.8	10.7	9.8	5.7	9.9	0.0	0.0
Incr Delay (d2), s/veh	23.9	0.7	0.8	1.6	0.2	0.0	0.3	0.0	0.1	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(50%),veh/ln	0.1	0.8	0.9	1.8	1.7	0.1	0.8	0.0	0.5	0.1	0.0	0.0
LnGrp Delay(d),s/veh	37.3	10.3	10.4	11.1	6.0	4.9	11.0	9.8	5.9	9.9	0.0	0.0
LnGrp LOS	D	B	B	B	A	A	B	A	A	A		
Approach Vol, veh/h		248			896			220			9	
Approach Delay, s/veh		10.5			7.3			8.7			9.9	
Approach LOS		B			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.9	10.0	9.0		7.9	4.1	14.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		36.0	9.0	23.0		36.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		4.1	5.4	3.7		2.1	2.0	5.4				
Green Ext Time (p_c), s		0.7	1.7	1.3		0.7	0.0	5.3				
Intersection Summary												
HCM 2010 Ctrl Delay			8.1									
HCM 2010 LOS			A									

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑		↑		↑		↑↓	
Traffic Vol, veh/h	1	246	7	333	858	0	16	0	206	0	0	0
Future Vol, veh/h	1	246	7	333	858	0	16	0	206	0	0	0
Conflicting Peds, #/hr	1	0	11	11	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	14	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	259	7	351	903	0	17	0	217	0	0	0



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	904	0	0	277	0	0	1429	-	145	1738	1884	453
Stage 1	-	-	-	-	-	-	276	-	-	1605	1605	-
Stage 2	-	-	-	-	-	-	1153	-	-	133	279	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	748	-	-	1283	-	-	95	0	876	56	70	554
Stage 1	-	-	-	-	-	-	707	0	-	110	163	-
Stage 2	-	-	-	-	-	-	210	0	-	857	678	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	748	-	-	1282	-	-	74	-	867	33	50	554
Mov Cap-2 Maneuver	-	-	-	-	-	-	74	-	-	33	50	-
Stage 1	-	-	-	-	-	-	699	-	-	110	118	-
Stage 2	-	-	-	-	-	-	153	-	-	641	670	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.5			14.6			0		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	74	867	748	-	-	1282	-	-	-
HCM Lane V/C Ratio	0.228	0.25	0.001	-	-	0.273	-	-	-
HCM Control Delay (s)	67.4	10.5	9.8	-	-	8.9	-	-	0
HCM Lane LOS	F	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.8	1	0	-	-	1.1	-	-	-

HCM 2010 Signalized Intersection Summary
27: 45th St & Imperial Ave

Existing AM Peak Hour
03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	428	12	45	1123	26	46	11	65	6	3	1
Future Volume (veh/h)	2	428	12	45	1123	26	46	11	65	6	3	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	465	13	49	1221	28	50	12	71	7	3	1
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	2276	64	64	2408	55	130	29	95	191	72	17
Arrive On Green	0.00	0.65	0.65	0.04	0.68	0.68	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	3502	98	1774	3522	81	474	254	834	883	629	151
Grp Volume(v), veh/h	2	235	243	49	613	636	133	0	0	11	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1831	1774	1770	1834	1562	0	0	1663	0	0
Q Serve(g_s), s	0.1	3.5	3.5	1.8	10.9	10.9	4.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.5	3.5	1.8	10.9	10.9	5.3	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.04	0.38		0.53	0.64		0.09
Lane Grp Cap(c), veh/h	4	1150	1189	64	1210	1254	255	0	0	281	0	0
V/C Ratio(X)	0.52	0.20	0.20	0.76	0.51	0.51	0.52	0.00	0.00	0.04	0.00	0.00
Avail Cap(c_a), veh/h	109	1150	1189	164	1210	1254	692	0	0	695	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	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	4.6	4.6	31.1	5.0	5.0	27.8	0.0	0.0	25.7	0.0	0.0
Incr Delay (d2), s/veh	78.8	0.4	0.4	17.0	1.5	1.5	1.7	0.0	0.0	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.8	1.9	1.2	5.6	6.0	2.4	0.0	0.0	0.2	0.0	0.0
LnGrp Delay(d),s/veh	111.2	5.0	5.0	48.0	6.5	6.4	29.5	0.0	0.0	25.7	0.0	0.0
LnGrp LOS	F	A	A	D	A	A	C			C		
Approach Vol, veh/h		480			1298			133				11
Approach Delay, s/veh		5.4			8.0			29.5				25.7
Approach LOS		A			A			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	6.3	46.7		11.9	4.1	48.9				
Change Period (Y+Rc), s		4.5	4.0	4.5		4.5	4.0	4.5				
Max Green Setting (Gmax), s		26.0	6.0	20.0		26.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		7.3	3.8	5.5		2.3	2.1	12.9				
Green Ext Time (p_c), s		0.7	0.0	9.4		0.8	0.0	6.6				
Intersection Summary												
HCM 2010 Ctrl Delay			9.0									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	494	5	6	1194	14	9
Future Vol, veh/h	494	5	6	1194	14	9
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	11
Mvmt Flow	531	5	6	1284	15	10


















Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	546	0	1198	277
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	655	-
Critical Hdwy	-	-	4.14	-	6.84	7.12
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.41
Pot Cap-1 Maneuver	-	-	1019	-	178	694
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	479	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1019	-	176	689
Mov Cap-2 Maneuver	-	-	-	-	176	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	476	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	176	689	-	-	1019	-
HCM Lane V/C Ratio	0.086	0.014	-	-	0.006	-
HCM Control Delay (s)	27.4	10.3	-	-	8.6	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-

HCM 2010 Signalized Intersection Summary
 29: I-805 SB On-Ramp/I-805 SB Off-Ramp & Imperial Ave

Existing AM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	368	134	201	726	0	0	0	0	336	0	463
Future Volume (veh/h)	0	368	134	201	726	0	0	0	0	336	0	463
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	396	144	216	781	0				361	0	498
Adj No. of Lanes	0	2	0	2	2	0				1	1	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	2	2	2	2	0				2	2	2
Cap, veh/h	0	728	261	910	2092	0				583	0	521
Arrive On Green	0.00	0.28	0.28	0.53	1.00	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	2646	917	3442	3632	0				1774	0	1583
Grp Volume(v), veh/h	0	273	267	216	781	0				361	0	498
Grp Sat Flow(s),veh/h/ln	0	1770	1701	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	15.7	16.0	4.1	0.0	0.0				20.6	0.0	37.0
Cycle Q Clear(g_c), s	0.0	15.7	16.0	4.1	0.0	0.0				20.6	0.0	37.0
Prop In Lane	0.00		0.54	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	504	485	910	2092	0				583	0	521
V/C Ratio(X)	0.00	0.54	0.55	0.24	0.37	0.00				0.62	0.00	0.96
Avail Cap(c_a), veh/h	0	504	485	910	2092	0				707	0	631
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	0.90	0.90	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.3	36.4	21.7	0.0	0.0				33.9	0.0	39.4
Incr Delay (d2), s/veh	0.0	4.1	4.5	0.0	0.5	0.0				0.5	0.0	22.0
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(50%),veh/ln	0.0	8.2	8.1	1.9	0.1	0.0				10.1	0.0	19.4
LnGrp Delay(d),s/veh	0.0	40.4	40.8	21.8	0.5	0.0				34.4	0.0	61.4
LnGrp LOS		D	D	C	A					C		E
Approach Vol, veh/h		540			997						859	
Approach Delay, s/veh		40.6			5.1						50.1	
Approach LOS		D			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	36.7	39.2		44.1		75.9						
Change Period (Y+Rc), s	5.0	* 5		4.6		5.0						
Max Green Setting (Gmax), s	24.2	* 34		47.8		62.6						
Max Q Clear Time (g_c+I1), s	6.1	18.0		39.0		2.0						
Green Ext Time (p_c), s	1.1	0.6		0.5		1.1						
Intersection Summary												
HCM 2010 Ctrl Delay				29.2								
HCM 2010 LOS				C								
Notes												

HCM Signalized Intersection Capacity Analysis
 30: I-805 NB Off-Ramp/I-805 NB On-Ramp & Imperial Ave

Existing AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↗	↗↗			
Traffic Volume (vph)	189	515	0	0	695	928	231	5	106	0	0	0
Future Volume (vph)	189	515	0	0	695	928	231	5	106	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	0.88			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1776	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	3539			3539	1583		1776	2787			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	201	548	0	0	739	987	246	5	113	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	377	0	0	0	0	0	0
Lane Group Flow (vph)	201	548	0	0	739	610	0	251	113	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	custom			
Protected Phases	5	2			6	9		8	8	9		
Permitted Phases						6	9	8				
Actuated Green, G (s)	29.0	63.3			56.9	56.9		22.1	48.7			
Effective Green, g (s)	29.0	63.3			56.9	56.9		22.1	48.7			
Actuated g/C Ratio	0.24	0.53			0.47	0.47		0.18	0.41			
Clearance Time (s)	4.0	4.0						4.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	427	1866			1678	750		327	1131			
v/s Ratio Prot	c0.11	0.15			0.21				0.04			
v/s Ratio Perm						c0.39		0.14				
v/c Ratio	0.47	0.29			0.44	0.81		0.77	0.10			
Uniform Delay, d1	38.9	15.9			21.0	27.0		46.5	22.1			
Progression Factor	1.35	1.63			0.50	1.60		1.00	1.00			
Incremental Delay, d2	0.7	0.4			0.1	4.1		10.3	0.0			
Delay (s)	53.3	26.2			10.6	47.4		56.8	22.1			
Level of Service	D	C			B	D		E	C			
Approach Delay (s)		33.5			31.7			46.1			0.0	
Approach LOS		C			C			D			A	

Intersection Summary

HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
31: 47th St & Imperial Ave

Existing AM Peak Hour
03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Traffic Volume (veh/h)	121	391	109	88	1160	49	264	496	107	43	218	199
Future Volume (veh/h)	121	391	109	88	1160	49	264	496	107	43	218	199
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	136	439	122	99	1303	55	297	557	120	48	245	224
Adj No. of Lanes	1	2	0	1	3	0	1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	872	240	265	1592	67	151	964	207	62	506	424
Arrive On Green	0.30	0.64	0.64	0.15	0.32	0.32	0.09	0.34	0.34	0.03	0.29	0.29
Sat Flow, veh/h	1774	2738	754	1774	4988	211	1774	2867	615	1774	1770	1482
Grp Volume(v), veh/h	136	282	279	99	886	472	297	343	334	48	245	224
Grp Sat Flow(s),veh/h/ln	1774	1770	1723	1774	1695	1809	1774	1770	1713	1774	1770	1482
Q Serve(g_s), s	7.6	10.2	10.4	6.0	28.9	28.9	10.2	19.1	19.3	3.2	13.8	15.3
Cycle Q Clear(g_c), s	7.6	10.2	10.4	6.0	28.9	28.9	10.2	19.1	19.3	3.2	13.8	15.3
Prop In Lane	1.00		0.44	1.00		0.12	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	265	563	548	265	1082	577	151	595	576	62	506	424
V/C Ratio(X)	0.51	0.50	0.51	0.37	0.82	0.82	1.97	0.58	0.58	0.78	0.48	0.53
Avail Cap(c_a), veh/h	265	563	548	265	1082	577	151	619	599	151	622	521
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)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	16.7	16.8	46.0	37.6	37.6	54.9	32.8	32.9	57.4	35.5	36.0
Incr Delay (d2), s/veh	0.7	3.1	3.3	0.3	6.9	12.2	459.3	0.7	0.8	7.6	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	5.3	5.3	3.0	14.6	16.4	24.2	9.5	9.2	1.7	6.8	6.3
LnGrp Delay(d),s/veh	39.2	19.8	20.0	46.3	44.6	49.9	514.2	33.5	33.7	65.0	35.8	36.4
LnGrp LOS	D	B	C	D	D	D	F	C	C	E	D	D
Approach Vol, veh/h		697			1457			974			517	
Approach Delay, s/veh		23.7			46.4			180.2			38.8	
Approach LOS		C			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.3	43.6	14.6	39.5	22.3	43.6	8.6	45.5				
Change Period (Y+Rc), s	4.4	5.4	4.4	* 5.2	4.4	5.3	4.4	5.2				
Max Green Setting (Gmax), s	10.2	38.2	10.2	* 42	10.2	38.3	10.2	42.0				
Max Q Clear Time (g_c+10), s	10.2	12.4	12.2	17.3	9.6	30.9	5.2	21.3				
Green Ext Time (p_c), s	0.1	2.3	0.0	5.3	0.0	4.6	0.0	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay				76.7								
HCM 2010 LOS				E								
Notes												

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕				
Traffic Vol, veh/h	36	43	0	0	34	8	145	768	49	0	0	0
Future Vol, veh/h	36	43	0	0	34	8	145	768	49	0	0	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	47	0	0	37	9	159	844	54	0	0	0
Number of Lanes	0	1	0	0	1	0	1	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	11	10	17.4
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	46%	0%
Vol Thru, %	0%	100%	84%	54%	81%
Vol Right, %	0%	0%	16%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	512	305	79	42
LT Vol	145	0	0	36	0
Through Vol	0	512	256	43	34
RT Vol	0	0	49	0	8
Lane Flow Rate	159	563	335	87	46
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.242	0.778	0.453	0.166	0.085
Departure Headway (Hd)	5.477	4.976	4.863	6.889	6.607
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	655	726	741	518	539
Service Time	3.219	2.717	2.604	4.662	4.387
HCM Lane V/C Ratio	0.243	0.775	0.452	0.168	0.085
HCM Control Delay	10	23	11.6	11	10
HCM Lane LOS	A	C	B	B	A
HCM 95th-tile Q	0.9	7.6	2.4	0.6	0.3

HCM 2010 Signalized Intersection Summary
 2: 17th St & Imperial Ave

Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	513	40	11	79	0	0	0	0	362	110	124
Future Volume (veh/h)	0	513	40	11	79	0	0	0	0	362	110	124
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		1.00				1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	540	42	12	83	0				393	165	87
Adj No. of Lanes	0	2	0	0	2	0				2	1	1
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	2	2	2	2	0				2	2	2
Cap, veh/h	0	2155	167	257	1825	0				714	375	301
Arrive On Green	0.00	1.00	1.00	0.65	0.65	0.00				0.20	0.20	0.20
Sat Flow, veh/h	0	3418	258	291	2901	0				3548	1863	1498
Grp Volume(v), veh/h	0	287	295	50	45	0				393	165	87
Grp Sat Flow(s),veh/h/ln	0	1770	1813	1497	1610	0				1774	1863	1498
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.7	0.0				6.5	5.0	3.2
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.6	0.7	0.0				6.5	5.0	3.2
Prop In Lane	0.00		0.14	0.24		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1147	1175	1038	1044	0				714	375	301
V/C Ratio(X)	0.00	0.25	0.25	0.05	0.04	0.00				0.55	0.44	0.29
Avail Cap(c_a), veh/h	0	1147	1175	1038	1044	0				1643	863	694
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	0.95	0.95	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	4.1	4.1	0.0				23.3	22.8	22.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.1	0.1	0.0				0.2	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
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.3	0.3	0.0				3.2	2.6	1.3
LnGrp Delay(d),s/veh	0.0	0.5	0.5	4.2	4.2	0.0				23.6	23.1	22.2
LnGrp LOS		A	A	A	A					C	C	C
Approach Vol, veh/h		582			95						645	
Approach Delay, s/veh		0.5			4.2						23.3	
Approach LOS		A			A						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		47.0		18.0		47.0						
Change Period (Y+Rc), s		4.9		4.9		4.9						
Max Green Setting (Gmax), s		25.1		30.1		25.1						
Max Q Clear Time (g_c+I1), s		2.0		8.5		2.7						
Green Ext Time (p_c), s		2.7		1.5		2.7						
Intersection Summary												
HCM 2010 Ctrl Delay				11.9								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
3: 19th St & Imperial Ave

Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	497	0	0	82	106	13	297	21	0	0	0
Future Volume (veh/h)	380	497	0	0	82	106	13	297	21	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	409	534	0	0	88	114	14	319	23			
Adj No. of Lanes	1	1	0	0	2	0	0	3	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	2	0	0	2	2	0	2	0			
Cap, veh/h	927	1353	0	0	910	814	24	589	43			
Arrive On Green	0.29	1.00	0.00	0.00	0.51	0.51	0.12	0.12	0.12			
Sat Flow, veh/h	1774	1863	0	0	1863	1583	199	4796	353			
Grp Volume(v), veh/h	409	534	0	0	88	114	130	108	117			
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	1770	1583	1853	1695	1800			
Q Serve(g_s), s	7.2	0.0	0.0	0.0	1.7	2.4	4.3	3.9	4.0			
Cycle Q Clear(g_c), s	7.2	0.0	0.0	0.0	1.7	2.4	4.3	3.9	4.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.11		0.20			
Lane Grp Cap(c), veh/h	927	1353	0	0	910	814	227	208	221			
V/C Ratio(X)	0.44	0.39	0.00	0.00	0.10	0.14	0.57	0.52	0.53			
Avail Cap(c_a), veh/h	996	1353	0	0	910	814	573	524	557			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.95	0.95	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	3.7	0.0	0.0	0.0	8.1	8.3	26.9	26.7	26.8			
Incr Delay (d2), s/veh	0.1	0.8	0.0	0.0	0.2	0.4	2.3	2.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.1	0.3	0.0	0.0	0.9	1.1	2.4	1.9	2.1			
LnGrp Delay(d),s/veh	3.8	0.8	0.0	0.0	8.3	8.6	29.2	28.7	28.7			
LnGrp LOS	A	A			A	A	C	C	C			
Approach Vol, veh/h		943			202			356				
Approach Delay, s/veh		2.1			8.5			28.9				
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		52.1			13.8	38.3		12.9				
Change Period (Y+Rc), s		4.9			4.4	4.9		4.9				
Max Green Setting (Gmax), s		35.1			11.9	18.8		20.1				
Max Q Clear Time (g_c+I1), s		2.0			9.2	4.4		6.3				
Green Ext Time (p_c), s		13.9			0.2	8.2		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay					9.3							
HCM 2010 LOS					A							

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	23	506	14	6	170	2	11	7	9	13	6	19
Future Vol, veh/h	23	506	14	6	170	2	11	7	9	13	6	19
Conflicting Peds, #/hr	33	0	59	59	0	33	3	0	1	1	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
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, %	2	2	2	16	2	2	2	2	2	2	2	2
Mvmt Flow	25	556	15	7	187	2	12	8	10	14	7	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	222	0	0	630	0	0	891	908	624	858	915	224
Stage 1	-	-	-	-	-	-	673	673	-	234	234	-
Stage 2	-	-	-	-	-	-	218	235	-	624	681	-
Critical Hdwy	4.12	-	-	4.26	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.344	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1347	-	-	888	-	-	263	275	485	277	273	815
Stage 1	-	-	-	-	-	-	445	454	-	769	711	-
Stage 2	-	-	-	-	-	-	784	710	-	473	450	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1344	-	-	887	-	-	232	245	461	250	244	791
Mov Cap-2 Maneuver	-	-	-	-	-	-	232	245	-	250	244	-
Stage 1	-	-	-	-	-	-	412	420	-	728	686	-
Stage 2	-	-	-	-	-	-	748	685	-	442	416	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.3			19.2			15.7		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	283	1344	-	-	887	-	-	378
HCM Lane V/C Ratio	0.105	0.019	-	-	0.007	-	-	0.11
HCM Control Delay (s)	19.2	7.7	0	-	9.1	-	-	15.7
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.4

Intersection														
Int Delay, s/veh	3.6													
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗				↕			↕	
Traffic Vol, veh/h	43	417	71	5	60	157	9	1	7	29	56	10	21	10
Future Vol, veh/h	43	417	71	5	60	157	9	1	7	29	56	10	21	10
Conflicting Peds, #/hr	13	0	85	0	85	0	13	0	9	0	16	16	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	-	-	-	-
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	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	100	2	2	2	2	2	2
Mvmt Flow	46	444	76	5	64	167	10	1	7	31	60	11	22	11

Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	190	0	0	518	604	0	0	0	983	986	582	946	1019	194
Stage 1	-	-	-	-	-	-	-	0	658	658	-	312	323	-
Stage 2	-	-	-	-	-	-	-	0	325	328	-	634	696	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1384	-	-	-	974	-	-	0	228	248	513	241	237	847
Stage 1	-	-	-	-	-	-	-	0	453	461	-	699	650	-
Stage 2	-	-	-	-	-	-	-	0	687	647	-	467	443	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1374	-	-	-13	-13	-	-	0	186	220	470	179	211	832
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	186	220	-	179	211	-
Stage 1	-	-	-	-	-	-	-	0	407	414	-	668	643	-
Stage 2	-	-	-	-	-	-	-	0	650	640	-	360	398	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6		21.2	22.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	319	1374	-	-	+	-	-	245
HCM Lane V/C Ratio	0.307	0.033	-	-	-	-	-	0.178
HCM Control Delay (s)	21.2	7.7	-	-	-	-	-	22.8
HCM Lane LOS	C	A	-	-	-	-	-	C
HCM 95th %tile Q(veh)	1.3	0.1	-	-	-	-	-	0.6

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

Intersection	
Intersection Delay, s/veh	16.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	39	398	51	67	161	14	18	41	46	26	49	35
Future Vol, veh/h	39	398	51	67	161	14	18	41	46	26	49	35
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	428	55	72	173	15	19	44	49	28	53	38
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	21.4	10.9	10.4	10.6
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	17%	100%	0%	100%	0%	24%
Vol Thru, %	39%	0%	89%	0%	92%	45%
Vol Right, %	44%	0%	11%	0%	8%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	39	449	67	175	110
LT Vol	18	39	0	67	0	26
Through Vol	41	0	398	0	161	49
RT Vol	46	0	51	0	14	35
Lane Flow Rate	113	42	483	72	188	118
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.188	0.071	0.74	0.128	0.305	0.199
Departure Headway (Hd)	5.995	6.104	5.518	6.408	5.844	6.064
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	597	587	657	559	613	590
Service Time	4.05	3.839	3.253	4.152	3.588	4.118
HCM Lane V/C Ratio	0.189	0.072	0.735	0.129	0.307	0.2
HCM Control Delay	10.4	9.3	22.4	10.1	11.2	10.6
HCM Lane LOS	B	A	C	B	B	B
HCM 95th-tile Q	0.7	0.2	6.5	0.4	1.3	0.7

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	20	452	14	12	194	21	7	18	37	23	20	31
Future Vol, veh/h	20	452	14	12	194	21	7	18	37	23	20	31
Conflicting Peds, #/hr	16	0	41	41	0	16	25	0	7	7	0	25
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
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	7	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	481	15	13	206	22	7	19	39	24	21	33



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	245	0	0	537	0	0	867	842	536	826	838	259
Stage 1	-	-	-	-	-	-	572	572	-	259	259	-
Stage 2	-	-	-	-	-	-	295	270	-	567	579	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1321	-	-	1031	-	-	273	301	545	291	302	780
Stage 1	-	-	-	-	-	-	505	504	-	746	694	-
Stage 2	-	-	-	-	-	-	713	686	-	508	501	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1293	-	-	1025	-	-	228	279	523	245	280	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	228	279	-	245	280	-
Stage 1	-	-	-	-	-	-	480	479	-	724	676	-
Stage 2	-	-	-	-	-	-	638	668	-	441	476	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.5			16.7			17.9		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	374	1293	-	-	1025	-	-	358
HCM Lane V/C Ratio	0.176	0.016	-	-	0.012	-	-	0.22
HCM Control Delay (s)	16.7	7.8	-	-	8.6	-	-	17.9
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.8

HCM 2010 Signalized Intersection Summary
 8: 25th St & Imperial Ave

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	325	96	29	150	42	34	183	50	65	181	58
Future Volume (veh/h)	62	325	96	29	150	42	34	183	50	65	181	58
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	65	339	100	30	156	44	35	191	52	68	189	60
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	854	873	257	595	883	249	120	529	138	169	416	135
Arrive On Green	0.63	0.63	0.63	1.00	1.00	1.00	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1178	1383	408	946	1399	394	234	2427	632	416	1907	617
Grp Volume(v), veh/h	65	0	439	30	0	200	148	0	130	163	0	154
Grp Sat Flow(s),veh/h/ln	1178	0	1791	946	0	1793	1710	0	1584	1354	0	1586
Q Serve(g_s), s	1.4	0.0	7.8	0.4	0.0	0.0	0.0	0.0	4.6	3.0	0.0	5.5
Cycle Q Clear(g_c), s	1.4	0.0	7.8	8.2	0.0	0.0	4.4	0.0	4.6	7.6	0.0	5.5
Prop In Lane	1.00		0.23	1.00		0.22	0.24		0.40	0.42		0.39
Lane Grp Cap(c), veh/h	854	0	1130	595	0	1132	441	0	345	374	0	346
V/C Ratio(X)	0.08	0.00	0.39	0.05	0.00	0.18	0.33	0.00	0.38	0.44	0.00	0.45
Avail Cap(c_a), veh/h	854	0	1130	595	0	1132	660	0	560	573	0	561
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.7	0.0	5.9	0.8	0.0	0.0	21.6	0.0	21.7	22.6	0.0	22.0
Incr Delay (d2), s/veh	0.2	0.0	1.0	0.2	0.0	0.3	0.8	0.0	1.2	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	4.1	0.1	0.0	0.1	2.3	0.0	2.1	2.8	0.0	2.5
LnGrp Delay(d),s/veh	4.9	0.0	6.9	0.9	0.0	0.3	22.3	0.0	22.8	24.0	0.0	23.6
LnGrp LOS	A		A	A		A	C		C	C		C
Approach Vol, veh/h		504			230			278			317	
Approach Delay, s/veh		6.6			0.4			22.6			23.8	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.9		19.1		45.9		19.1				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		32.2		23.0		32.2		23.0				
Max Q Clear Time (g_c+I1), s		9.8		9.6		10.2		6.6				
Green Ext Time (p_c), s		4.8		4.6		4.8		5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									

Intersection													
Int Delay, s/veh	2.4												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗			↕			↕	
Traffic Vol, veh/h	10	435	28	2	18	176	10	15	14	19	12	24	17
Future Vol, veh/h	10	435	28	2	18	176	10	15	14	19	12	24	17
Conflicting Peds, #/hr	28	0	8	0	8	0	28	13	0	16	16	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	-	75	-	-	-	-	-	-	-	-
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	87
Heavy Vehicles, %	2	2	2	50	2	2	2	2	2	2	2	4	2
Mvmt Flow	11	500	32	2	21	202	11	17	16	22	14	28	20

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	242	0	0	532	540	0	0	833	835	540	851	845	249
Stage 1	-	-	-	-	-	-	-	547	547	-	277	282	-
Stage 2	-	-	-	-	-	-	-	286	288	-	574	563	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1324	-	-	-	1028	-	-	288	304	542	280	297	790
Stage 1	-	-	-	-	-	-	-	521	517	-	729	674	-
Stage 2	-	-	-	-	-	-	-	721	674	-	504	506	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1310	-	-	~ -10	~ -10	-	-	254	292	531	246	286	763
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	254	292	-	246	286	-
Stage 1	-	-	-	-	-	-	-	513	509	-	706	658	-
Stage 2	-	-	-	-	-	-	-	666	658	-	458	498	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2		17.8	17.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	336	1310	-	-	+	-	-	342
HCM Lane V/C Ratio	0.164	0.009	-	-	-	-	-	0.178
HCM Control Delay (s)	17.8	7.8	-	-	-	-	-	17.8
HCM Lane LOS	C	A	-	-	-	-	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	-	-	-	0.6

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

Intersection													
Int Delay, s/veh	0.8												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗			↕			↕			↕	
Traffic Vol, veh/h	2	8	442	2	9	203	4	2	1	7	9	3	12
Future Vol, veh/h	2	8	442	2	9	203	4	2	1	7	9	3	12
Conflicting Peds, #/hr	0	2	0	14	14	0	2	6	0	4	4	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	60	-	-	-	-	-	-	-	-	-	-	-
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	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	486	2	10	223	4	2	1	8	10	3	13

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	229	0	0	502	0	0	777	772	505	760	771	233
Stage 1	-	-	-	-	-	-	-	518	523	-	247	247	-
Stage 2	-	-	-	-	-	-	-	259	249	-	513	524	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	1339	-	-	1062	-	-	314	330	567	323	331	806
Stage 1	-	-	-	-	-	-	-	541	530	-	757	702	-
Stage 2	-	-	-	-	-	-	-	746	701	-	544	530	-
Platoon blocked, %			-	-	-	-	-						
Mov Cap-1 Maneuver	~ -5	~ -5	-	-	1058	-	-	299	322	559	313	323	801
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	299	322	-	313	323	-
Stage 1	-	-	-	-	-	-	-	541	524	-	757	693	-
Stage 2	-	-	-	-	-	-	-	719	692	-	534	524	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s				0.4			13.2			13.4		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	448	+	-	-	1058	-	-	453
HCM Lane V/C Ratio	0.025	-	-	-	0.009	-	-	0.058
HCM Control Delay (s)	13.2	-	-	-	8.4	0	-	13.4
HCM Lane LOS	B	-	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0	-	-	0.2

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

Intersection													
Int Delay, s/veh	1.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕				↕	
Traffic Vol, veh/h	7	439	18	16	201	6	8	3	17	1	4	5	6
Future Vol, veh/h	7	439	18	16	201	6	8	3	17	1	4	5	6
Conflicting Peds, #/hr	28	0	20	20	0	28	2	0	5	0	5	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	60	-	-	-	-	-	-	-	-	-
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	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	505	21	18	231	7	9	3	20	1	5	6	7

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	266	0	0	545	0	0	831	854	540	0	847	860	264
Stage 1	-	-	-	-	-	-	551	551	-	0	299	299	-
Stage 2	-	-	-	-	-	-	280	303	-	0	548	561	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1298	-	-	1024	-	-	289	296	542	0	282	294	775
Stage 1	-	-	-	-	-	-	519	515	-	0	710	666	-
Stage 2	-	-	-	-	-	-	727	664	-	0	521	510	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1296	-	-	1020	-	-	271	277	531	0	256	275	756
Mov Cap-2 Maneuver	-	-	-	-	-	-	271	277	-	0	256	275	-
Stage 1	-	-	-	-	-	-	506	502	-	0	687	639	-
Stage 2	-	-	-	-	-	-	700	637	-	0	492	497	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			15.1			15.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	387	1296	-	-	1020	-	-	359
HCM Lane V/C Ratio	0.083	0.006	-	-	0.018	-	-	0.048
HCM Control Delay (s)	15.1	7.8	0	-	8.6	-	-	15.5
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.2

Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗			↕			↕	
Traffic Vol, veh/h	5	444	8	1	14	217	6	2	2	7	3	2	4
Future Vol, veh/h	5	444	8	1	14	217	6	2	2	7	3	2	4
Conflicting Peds, #/hr	23	0	21	0	21	0	23	10	0	8	8	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	100	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	516	9	1	16	252	7	2	2	8	3	2	5

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	282	0	0	525	547	0	0	856	871	550	857	872	289
Stage 1	-	-	-	-	-	-	-	554	554	-	311	314	-
Stage 2	-	-	-	-	-	-	-	302	317	-	546	558	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1280	-	-	-	1022	-	-	278	289	535	277	289	750
Stage 1	-	-	-	-	-	-	-	517	514	-	699	656	-
Stage 2	-	-	-	-	-	-	-	707	654	-	522	512	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1269	-	-	~ -15	~ -15	-	-	266	277	522	263	277	729
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	266	277	-	263	277	-
Stage 1	-	-	-	-	-	-	-	506	503	-	682	643	-
Stage 2	-	-	-	-	-	-	-	694	641	-	506	501	-




















Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1		14.5	14.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	391	1269	-	-	+	-	-	373
HCM Lane V/C Ratio	0.033	0.005	-	-	-	-	-	0.028
HCM Control Delay (s)	14.5	7.9	-	-	-	-	-	14.9
HCM Lane LOS	B	A	-	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0.1

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

HCM 2010 Signalized Intersection Summary
 13: 28th St & Imperial Ave

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	356	50	30	149	42	28	251	50	39	195	52
Future Volume (veh/h)	71	356	50	30	149	42	28	251	50	39	195	52
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	78	391	55	33	164	46	31	276	55	43	214	57
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	819	970	136	681	850	238	82	368	70	101	326	81
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1167	1598	225	940	1401	393	86	1428	271	147	1265	313
Grp Volume(v), veh/h	78	0	446	33	0	210	362	0	0	314	0	0
Grp Sat Flow(s),veh/h/ln	1167	0	1823	940	0	1793	1785	0	0	1726	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	10.4	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.22	0.09		0.15	0.14		0.18
Lane Grp Cap(c), veh/h	819	0	1106	681	0	1088	520	0	0	508	0	0
V/C Ratio(X)	0.10	0.00	0.40	0.05	0.00	0.19	0.70	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	819	0	1106	681	0	1088	896	0	0	856	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	22.3	0.0	0.0	21.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.1	0.1	0.0	0.4	0.6	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	0.0	0.0	0.1	6.1	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	0.2	0.0	1.1	0.1	0.0	0.4	23.0	0.0	0.0	22.2	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		524			243			362			314	
Approach Delay, s/veh		1.0			0.4			23.0			22.2	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.6		21.4		43.6		21.4				
Change Period (Y+Rc), s		* 4.2		4.6		* 4.2		* 4.6				
Max Green Setting (Gmax), s		* 26		30.6		* 26		* 31				
Max Q Clear Time (g_c+I1), s		2.0		12.4		2.0		14.0				
Green Ext Time (p_c), s		1.6		2.8		1.6		2.7				
Intersection Summary												
HCM 2010 Ctrl Delay				11.0								
HCM 2010 LOS				B								
Notes												

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	15	407	16	12	184	13	10	17	14	8	15	8
Future Vol, veh/h	15	407	16	12	184	13	10	17	14	8	15	8
Conflicting Peds, #/hr	13	0	15	15	0	13	17	0	11	11	0	17
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	6	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	473	19	14	214	15	12	20	16	9	17	9



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	242	0	0	507	0	0	812	802	509	808	804	252
Stage 1	-	-	-	-	-	-	532	532	-	262	262	-
Stage 2	-	-	-	-	-	-	280	270	-	546	542	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1324	-	-	1058	-	-	298	317	564	299	316	787
Stage 1	-	-	-	-	-	-	531	526	-	743	691	-
Stage 2	-	-	-	-	-	-	727	686	-	522	520	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1305	-	-	1048	-	-	268	302	552	265	301	767
Mov Cap-2 Maneuver	-	-	-	-	-	-	268	302	-	265	301	-
Stage 1	-	-	-	-	-	-	518	513	-	725	674	-
Stage 2	-	-	-	-	-	-	680	670	-	476	507	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.5			17.1			16.7		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	345	1305	-	-	1048	-	-	343
HCM Lane V/C Ratio	0.138	0.013	-	-	0.013	-	-	0.105
HCM Control Delay (s)	17.1	7.8	-	-	8.5	-	-	16.7
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.3

HCM 2010 Signalized Intersection Summary
 15: 30th St & Imperial Ave

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	360	30	20	155	20	35	63	37	30	76	28
Future Volume (veh/h)	19	360	30	20	155	20	35	63	37	30	76	28
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	383	32	21	165	21	37	67	39	32	81	30
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	991	1251	105	646	1195	152	110	114	58	101	136	45
Arrive On Green	0.24	0.24	0.24	1.00	1.00	1.00	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1193	1696	142	967	1620	206	327	930	471	274	1109	367
Grp Volume(v), veh/h	20	0	415	21	0	186	143	0	0	143	0	0
Grp Sat Flow(s),veh/h/ln	1193	0	1838	967	0	1826	1729	0	0	1750	0	0
Q Serve(g_s), s	0.8	0.0	12.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	12.0	12.4	0.0	0.0	4.9	0.0	0.0	4.9	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.11	0.26		0.27	0.22		0.21
Lane Grp Cap(c), veh/h	991	0	1356	646	0	1347	281	0	0	282	0	0
V/C Ratio(X)	0.02	0.00	0.31	0.03	0.00	0.14	0.51	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	991	0	1356	646	0	1347	855	0	0	860	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.8	0.0	11.0	1.5	0.0	0.0	27.2	0.0	0.0	27.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.1	0.0	0.2	0.5	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.4	0.1	0.0	0.1	2.5	0.0	0.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	6.8	0.0	11.6	1.6	0.0	0.2	27.7	0.0	0.0	27.7	0.0	0.0
LnGrp LOS	A		B	A		A	C			C		
Approach Vol, veh/h		435			207			143			143	
Approach Delay, s/veh		11.4			0.4			27.7			27.7	
Approach LOS		B			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.6		12.4		52.6		12.4				
Change Period (Y+Rc), s		* 4.6		4.5		4.6		* 4.5				
Max Green Setting (Gmax), s		* 25		30.9		25.0		* 31				
Max Q Clear Time (g_c+I1), s		14.0		6.9		14.4		6.9				
Green Ext Time (p_c), s		3.1		1.1		3.0		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				13.9								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
 16: 31st St & Imperial Ave

Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	407	19	14	171	17	12	29	21	35	35	19
Future Volume (veh/h)	36	407	19	14	171	17	12	29	21	35	35	19
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	0.95		0.91	0.94		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1856	1900	1776	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	39	438	20	15	184	18	13	31	23	38	38	20
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	7	2	2	2	2	2	2	2	2
Cap, veh/h	971	1297	59	761	1228	120	88	127	78	136	114	46
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1166	1759	80	882	1665	163	156	913	559	422	821	327
Grp Volume(v), veh/h	39	0	458	15	0	202	67	0	0	96	0	0
Grp Sat Flow(s),veh/h/ln	1166	0	1839	882	0	1828	1627	0	0	1570	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	3.4	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.09	0.19		0.34	0.40		0.21
Lane Grp Cap(c), veh/h	971	0	1357	761	0	1348	293	0	0	296	0	0
V/C Ratio(X)	0.04	0.00	0.34	0.02	0.00	0.15	0.23	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	971	0	1357	761	0	1348	532	0	0	525	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96	0.99	0.00	0.99	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.1	0.0	0.0	25.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.0	0.0	0.2	0.4	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	0.0	0.0	0.1	1.1	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	0.1	0.0	0.6	0.0	0.0	0.2	25.5	0.0	0.0	26.1	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		497			217			67			96	
Approach Delay, s/veh		0.6			0.2			25.5			26.1	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.9		13.1		51.9		13.1				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		38.0		19.0		38.0		19.0				
Max Q Clear Time (g_c+I1), s		2.0		5.4		2.0		4.3				
Green Ext Time (p_c), s		5.0		0.7		5.0		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				5.2								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 17: 32nd St & Imperial Ave

Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	401	28	15	147	87	16	99	72	149	107	34
Future Volume (veh/h)	30	401	28	15	147	87	16	99	72	149	107	34
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.98		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1792	1863	1863	1900	1849	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	418	29	16	153	91	17	103	75	155	111	35
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	0	1	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, %	2	2	2	6	2	2	2	2	2	2	2	2
Cap, veh/h	434	923	64	26	573	486	78	259	173	267	163	46
Arrive On Green	0.33	0.71	0.71	0.02	0.31	0.31	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1774	1719	119	1707	1863	1581	67	982	656	696	621	173
Grp Volume(v), veh/h	31	0	447	16	153	91	195	0	0	301	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1838	1707	1863	1581	1705	0	0	1490	0	0
Q Serve(g_s), s	0.8	0.0	6.7	0.6	4.0	2.7	0.0	0.0	0.0	5.6	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	6.7	0.6	4.0	2.7	6.2	0.0	0.0	11.8	0.0	0.0
Prop In Lane	1.00		0.06	1.00		1.00	0.09		0.38	0.51		0.12
Lane Grp Cap(c), veh/h	434	0	987	26	573	486	509	0	0	476	0	0
V/C Ratio(X)	0.07	0.00	0.45	0.61	0.27	0.19	0.38	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	434	0	987	210	573	486	632	0	0	582	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.8	0.0	5.3	31.8	17.0	16.5	19.9	0.0	0.0	21.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.4	20.4	1.1	0.8	0.5	0.0	0.0	1.6	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(50%),veh/ln	0.4	0.0	3.7	0.4	2.2	1.3	2.9	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	16.9	0.0	6.7	52.2	18.1	17.4	20.4	0.0	0.0	23.3	0.0	0.0
LnGrp LOS	B		A	D	B	B	C			C		
Approach Vol, veh/h		478			260			195			301	
Approach Delay, s/veh		7.4			20.0			20.4			23.3	
Approach LOS		A			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	38.9		21.1	19.9	24.0		21.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	3.0	23.0		22.0	11.0	20.0		22.0				
Max Q Clear Time (g_c+1), s	1.6	8.7		13.8	2.8	6.0		8.2				
Green Ext Time (p_c), s	0.0	2.5		2.0	1.8	0.9		2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			16.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 18: 33rd St & Imperial Ave

Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	495	62	27	173	12	30	20	18	12	13	26
Future Volume (veh/h)	54	495	62	27	173	12	30	20	18	12	13	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	59	544	68	30	190	13	33	22	20	13	14	29
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	791	1251	156	528	948	64	251	44	40	194	40	80
Arrive On Green	0.14	0.39	0.39	0.03	0.28	0.28	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1774	3168	395	1774	3364	228	716	478	434	381	436	877
Grp Volume(v), veh/h	59	303	309	30	99	104	75	0	0	56	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1793	1774	1770	1822	1628	0	0	1694	0	0
Q Serve(g_s), s	0.5	3.5	3.5	0.3	1.2	1.2	0.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	3.5	3.5	0.3	1.2	1.2	1.1	0.0	0.0	0.8	0.0	0.0
Prop In Lane	1.00		0.22	1.00		0.13	0.44		0.27	0.23		0.52
Lane Grp Cap(c), veh/h	791	699	708	528	499	513	335	0	0	314	0	0
V/C Ratio(X)	0.07	0.43	0.44	0.06	0.20	0.20	0.22	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	793	1269	1286	729	1269	1307	1711	0	0	1729	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	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.5	6.2	6.2	6.7	7.6	7.6	12.0	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.0	0.2	0.2	0.3	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.8	1.8	0.2	0.6	0.6	0.6	0.0	0.0	0.4	0.0	0.0
LnGrp Delay(d),s/veh	4.5	6.6	6.6	6.8	7.8	7.8	12.3	0.0	0.0	12.1	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B			B		
Approach Vol, veh/h		671			233			75			56	
Approach Delay, s/veh		6.4			7.7			12.3			12.1	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.1	5.3	15.5		7.1	8.5	12.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		27.5	4.0	20.0		27.5	4.0	20.0				
Max Q Clear Time (g_c+I1), s		3.1	2.3	5.5		2.8	2.5	3.2				
Green Ext Time (p_c), s		0.7	0.0	4.3		0.7	0.0	4.6				
Intersection Summary												
HCM 2010 Ctrl Delay				7.4								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	69	456	187	8	39	25
Future Vol, veh/h	69	456	187	8	39	25
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	524	215	9	45	29
Number of Lanes	0	2	2	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	11.6	9.2	9.2
HCM LOS	B	A	A

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	31%	0%	0%	0%	61%
Vol Thru, %	69%	100%	100%	89%	0%
Vol Right, %	0%	0%	0%	11%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	221	304	125	70	64
LT Vol	69	0	0	0	39
Through Vol	152	304	125	62	0
RT Vol	0	0	0	8	25
Lane Flow Rate	254	349	143	81	74
Geometry Grp	7	7	7	7	2
Degree of Util (X)	0.359	0.479	0.211	0.117	0.112
Departure Headway (Hd)	5.094	4.937	5.308	5.228	5.497
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	706	730	675	685	650
Service Time	2.826	2.669	3.049	2.969	3.546
HCM Lane V/C Ratio	0.36	0.478	0.212	0.118	0.114
HCM Control Delay	10.7	12.2	9.5	8.7	9.2
HCM Lane LOS	B	B	A	A	A
HCM 95th-tile Q	1.6	2.6	0.8	0.4	0.4

HCM 2010 Signalized Intersection Summary
 20: 36th St & Imperial Ave

Existing PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	102	415	187	186	341	25		
Future Volume (veh/h)	102	415	187	186	341	25		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1860	1900		
Adj Flow Rate, veh/h	106	432	195	194	355	26		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	513	457	598	1159	411	30		
Arrive On Green	0.29	0.29	0.34	0.62	0.24	0.24		
Sat Flow, veh/h	1774	1583	1774	1863	1709	125		
Grp Volume(v), veh/h	106	432	195	194	0	381		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1834		
Q Serve(g_s), s	4.1	24.0	7.4	4.0	0.0	17.9		
Cycle Q Clear(g_c), s	4.1	24.0	7.4	4.0	0.0	17.9		
Prop In Lane	1.00	1.00	1.00			0.07		
Lane Grp Cap(c), veh/h	513	457	598	1159	0	441		
V/C Ratio(X)	0.21	0.94	0.33	0.17	0.00	0.86		
Avail Cap(c_a), veh/h	513	457	598	1159	0	632		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.89	0.89	0.00	1.00		
Uniform Delay (d), s/veh	24.2	31.3	22.2	7.2	0.0	32.8		
Incr Delay (d2), s/veh	0.2	28.5	0.3	0.3	0.0	8.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	22.0	3.6	2.1	0.0	10.1		
LnGrp Delay(d),s/veh	24.4	59.8	22.5	7.4	0.0	41.3		
LnGrp LOS	C	E	C	A		D		
Approach Vol, veh/h	538			389	381			
Approach Delay, s/veh	52.8			15.0	41.3			
Approach LOS	D			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.0		30.0	34.3	25.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		56.0		26.0	21.0	31.0		
Max Q Clear Time (g_c+I1), s		6.0		26.0	9.4	19.9		
Green Ext Time (p_c), s		1.8		0.0	1.3	1.7		
Intersection Summary								
HCM 2010 Ctrl Delay			38.2					
HCM 2010 LOS			D					

HCM Signalized Intersection Capacity Analysis

21: Imperial Ave & 36th St

Existing PM Peak Hour



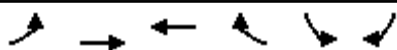
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰		↰	↰
Traffic Volume (vph)	35	266	107	39	563	201
Future Volume (vph)	35	266	107	39	563	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1571	1776		1755	1848
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1571	1776		1755	1848
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	269	108	39	569	203
RTOR Reduction (vph)	0	174	16	0	0	0
Lane Group Flow (vph)	35	95	131	0	569	203
Confl. Peds. (#/hr)	9			8	8	
Bus Blockages (#/hr)	0	2	0	0	2	2
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	31.9	31.9	11.7		34.4	50.1
Effective Green, g (s)	31.9	31.9	11.7		34.4	50.1
Actuated g/C Ratio	0.35	0.35	0.13		0.38	0.56
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	627	556	230		670	1028
v/s Ratio Prot	0.02		c0.07		c0.32	0.11
v/s Ratio Perm		c0.06				
v/c Ratio	0.06	0.17	0.57		0.85	0.20
Uniform Delay, d1	19.1	20.0	36.8		25.4	9.9
Progression Factor	1.00	1.00	1.00		0.61	0.51
Incremental Delay, d2	0.2	0.7	3.4		8.4	0.1
Delay (s)	19.3	20.6	40.2		23.8	5.1
Level of Service	B	C	D		C	A
Approach Delay (s)	20.5		40.2			18.9
Approach LOS	C		D			B

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
 22: 40th St & Imperial Ave

Existing PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↖	↗↗	↖	↗	↘↘			
Traffic Volume (veh/h)	49	112	145	201	387	75		
Future Volume (veh/h)	49	112	145	201	387	75		
Number	5	2	6	16	7	14		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	51	115	149	0	399	77		
Adj No. of Lanes	1	2	1	1	0	0		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	165	1254	267	227	524	101		
Arrive On Green	0.09	0.35	0.14	0.00	0.36	0.36		
Sat Flow, veh/h	1774	3632	1863	1583	1456	281		
Grp Volume(v), veh/h	51	115	149	0	477	0		
Grp Sat Flow(s),veh/h/ln	1774	1770	1863	1583	1740	0		
Q Serve(g_s), s	0.9	0.7	2.5	0.0	8.2	0.0		
Cycle Q Clear(g_c), s	0.9	0.7	2.5	0.0	8.2	0.0		
Prop In Lane	1.00			1.00	0.84	0.16		
Lane Grp Cap(c), veh/h	165	1254	267	227	626	0		
V/C Ratio(X)	0.31	0.09	0.56	0.00	0.76	0.00		
Avail Cap(c_a), veh/h	209	1606	346	294	1334	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	14.4	7.3	13.5	0.0	9.6	0.0		
Incr Delay (d2), s/veh	0.4	0.0	2.7	0.0	2.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.5	0.4	1.5	0.0	4.3	0.0		
LnGrp Delay(d),s/veh	14.8	7.4	16.2	0.0	12.2	0.0		
LnGrp LOS	B	A	B		B			
Approach Vol, veh/h		166	149		477			
Approach Delay, s/veh		9.6	16.2		12.2			
Approach LOS		A	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.4		16.5	7.2	10.3		
Change Period (Y+Rc), s		* 5.4		* 4.3	4.0	5.4		
Max Green Setting (Gmax), s		* 15		* 26	4.0	6.3		
Max Q Clear Time (g_c+I1), s		2.7		10.2	2.9	4.5		
Green Ext Time (p_c), s		1.6		2.1	0.0	0.3		
Intersection Summary								
HCM 2010 Ctrl Delay			12.4					
HCM 2010 LOS			B					
Notes								

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	487	12	47	340	6	25
Future Vol, veh/h	487	12	47	340	6	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	529	13	51	370	7	27

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	542	0	823 271
Stage 1	-	-	-	-	536 -
Stage 2	-	-	-	-	287 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	1023	-	312 727
Stage 1	-	-	-	-	551 -
Stage 2	-	-	-	-	736 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1023	-	296 727
Mov Cap-2 Maneuver	-	-	-	-	296 -
Stage 1	-	-	-	-	551 -
Stage 2	-	-	-	-	699 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1023	-
HCM Lane V/C Ratio	0.059	-	-	0.05	-
HCM Control Delay (s)	11.8	-	-	8.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑		↑
Traffic Vol, veh/h	467	45	8	385	2	15
Future Vol, veh/h	467	45	8	385	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	519	50	9	428	2	17























Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	569	0	776 284
Stage 1	-	-	-	-	544 -
Stage 2	-	-	-	-	232 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	999	-	334 713
Stage 1	-	-	-	-	546 -
Stage 2	-	-	-	-	785 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	999	-	331 713
Mov Cap-2 Maneuver	-	-	-	-	331 -
Stage 1	-	-	-	-	546 -
Stage 2	-	-	-	-	778 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	713	-	-	999	-
HCM Lane V/C Ratio	0.023	-	-	0.009	-
HCM Control Delay (s)	10.2	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 2010 Signalized Intersection Summary
 25: Redworks Dwy/Greenwood & Imperial Ave

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	339	135	171	223	18	154	3	253	27	3	16
Future Volume (veh/h)	8	339	135	171	223	18	154	3	253	27	3	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	8	357	142	180	235	19	162	3	266	28	3	17
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	15	679	266	259	1453	650	523	393	565	301	61	102
Arrive On Green	0.01	0.27	0.27	0.15	0.41	0.41	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1774	2487	974	1774	3539	1583	1386	1863	1583	596	289	485
Grp Volume(v), veh/h	8	252	247	180	235	19	162	3	266	48	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1691	1774	1770	1583	1386	1863	1583	1369	0	0
Q Serve(g_s), s	0.1	3.9	4.0	3.1	1.4	0.2	2.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	3.9	4.0	3.1	1.4	0.2	3.2	0.0	0.0	0.7	0.0	0.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	0.58		0.35
Lane Grp Cap(c), veh/h	15	483	462	259	1453	650	523	393	565	465	0	0
V/C Ratio(X)	0.53	0.52	0.53	0.69	0.16	0.03	0.31	0.01	0.47	0.10	0.00	0.00
Avail Cap(c_a), veh/h	219	1256	1200	493	3057	1368	1770	2069	1990	1611	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.0	10.0	10.0	13.2	6.0	5.7	11.3	10.1	8.1	10.4	0.0	0.0
Incr Delay (d2), s/veh	25.3	0.9	1.0	3.3	0.1	0.0	0.3	0.0	0.6	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.0	2.0	1.7	0.7	0.1	1.3	0.0	1.9	0.4	0.0	0.0
LnGrp Delay(d),s/veh	41.3	10.9	11.0	16.5	6.1	5.7	11.6	10.1	8.7	10.5	0.0	0.0
LnGrp LOS	D	B	B	B	A	A	B	B	A	B		
Approach Vol, veh/h		507			434			431			48	
Approach Delay, s/veh		11.4			10.4			9.8			10.5	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.8	8.7	12.8		10.8	4.3	17.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		36.0	9.0	23.0		36.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		5.2	5.1	6.0		2.7	2.1	3.4				
Green Ext Time (p_c), s		1.8	0.8	2.8		1.8	0.0	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				10.6								
HCM 2010 LOS				B								

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑		↑		↑		↑↓	
Traffic Vol, veh/h	0	568	33	272	404	0	8	0	285	0	0	0
Future Vol, veh/h	0	568	33	272	404	0	8	0	285	0	0	0
Conflicting Peds, #/hr	2	0	18	18	0	2	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	586	34	280	416	0	8	0	294	0	0	0



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	638	0	0	1391	-	329	1273	1617	211
Stage 1	-	-	-	-	-	-	621	-	-	979	979	-
Stage 2	-	-	-	-	-	-	770	-	-	294	638	-
Critical Hdwy	-	-	-	4.14	-	-	7.54	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	0	-	-	942	-	-	102	0	667	124	103	794
Stage 1	0	-	-	-	-	-	442	0	-	268	326	-
Stage 2	0	-	-	-	-	-	359	0	-	690	469	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	941	-	-	77	-	656	53	71	792
Mov Cap-2 Maneuver	-	-	-	-	-	-	77	-	-	53	71	-
Stage 1	-	-	-	-	-	-	442	-	-	268	229	-
Stage 2	-	-	-	-	-	-	252	-	-	381	462	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			4.2			16.1			0		
HCM LOS							C			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	77	656	-	-	941	-	-	-
HCM Lane V/C Ratio	0.107	0.448	-	-	0.298	-	-	-
HCM Control Delay (s)	57.3	14.9	-	-	10.4	-	-	0
HCM Lane LOS	F	B	-	-	B	-	-	A
HCM 95th %tile Q(veh)	0.3	2.3	-	-	1.3	-	-	-

HCM 2010 Signalized Intersection Summary
27: 45th St & Imperial Ave

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	817	35	81	662	51	6	13	47	42	7	8
Future Volume (veh/h)	16	817	35	81	662	51	6	13	47	42	7	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	17	869	37	86	704	54	6	14	50	45	7	9
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	29	2287	97	110	2355	181	66	28	87	179	19	18
Arrive On Green	0.02	0.66	0.66	0.06	0.71	0.71	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1774	3445	147	1774	3318	254	85	384	1172	1126	259	240
Grp Volume(v), veh/h	17	446	460	86	375	383	70	0	0	61	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1822	1774	1770	1803	1640	0	0	1624	0	0
Q Serve(g_s), s	0.6	7.4	7.4	3.1	5.1	5.1	0.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	7.4	7.4	3.1	5.1	5.1	2.6	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.14	0.09		0.71	0.74		0.15
Lane Grp Cap(c), veh/h	29	1175	1210	110	1256	1280	181	0	0	216	0	0
V/C Ratio(X)	0.59	0.38	0.38	0.78	0.30	0.30	0.39	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	109	1175	1210	164	1256	1280	707	0	0	677	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	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.8	4.9	4.9	30.0	3.5	3.5	29.1	0.0	0.0	28.8	0.0	0.0
Incr Delay (d2), s/veh	17.6	0.9	0.9	13.1	0.6	0.6	1.3	0.0	0.0	0.7	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(50%),veh/ln	0.4	3.8	3.9	1.9	2.6	2.7	1.3	0.0	0.0	1.1	0.0	0.0
LnGrp Delay(d),s/veh	49.4	5.8	5.8	43.2	4.1	4.1	30.4	0.0	0.0	29.6	0.0	0.0
LnGrp LOS	D	A	A	D	A	A	C			C		
Approach Vol, veh/h		923			844			70			61	
Approach Delay, s/veh		6.6			8.1			30.4			29.6	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.3	8.0	47.7		9.3	5.1	50.6				
Change Period (Y+Rc), s		4.5	4.0	4.5		4.5	4.0	4.5				
Max Green Setting (Gmax), s		26.0	6.0	20.0		26.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		4.6	5.1	9.4		4.1	2.6	7.1				
Green Ext Time (p_c), s		0.7	0.0	7.1		0.7	0.0	9.1				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	895	11	12	785	1	16
Future Vol, veh/h	895	11	12	785	1	16
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	8	2	2	6
Mvmt Flow	932	11	13	818	1	17


















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	945	0	1373
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	434
Critical Hdwy	-	-	4.26	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.28	-	3.52
Pot Cap-1 Maneuver	-	-	686	-	137
Stage 1	-	-	-	-	341
Stage 2	-	-	-	-	621
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	686	-	134
Mov Cap-2 Maneuver	-	-	-	-	134
Stage 1	-	-	-	-	341
Stage 2	-	-	-	-	609

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	134	527	-	-	686	-
HCM Lane V/C Ratio	0.008	0.032	-	-	0.018	-
HCM Control Delay (s)	32.1	12.1	-	-	10.3	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-



















HCM 2010 Signalized Intersection Summary
 29: I-805 SB On-Ramp/I-805 SB Off-Ramp & Imperial Ave

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	645	270	212	464	0	0	0	0	456	2	335
Future Volume (veh/h)	0	645	270	212	464	0	0	0	0	456	2	335
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	709	297	233	510	0				436	94	368
Adj No. of Lanes	0	2	0	2	2	0				1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	693	290	1018	2203	0				528	99	387
Arrive On Green	0.00	0.28	0.28	0.59	1.00	0.00				0.30	0.30	0.30
Sat Flow, veh/h	0	2526	1019	3442	3632	0				1774	332	1301
Grp Volume(v), veh/h	0	516	490	233	510	0				436	0	462
Grp Sat Flow(s),veh/h/ln	0	1770	1683	1721	1770	0				1774	0	1633
Q Serve(g_s), s	0.0	34.2	34.2	3.8	0.0	0.0				27.5	0.0	33.3
Cycle Q Clear(g_c), s	0.0	34.2	34.2	3.8	0.0	0.0				27.5	0.0	33.3
Prop In Lane	0.00		0.61	1.00		0.00				1.00		0.80
Lane Grp Cap(c), veh/h	0	504	480	1018	2203	0				528	0	486
V/C Ratio(X)	0.00	1.02	1.02	0.23	0.23	0.00				0.83	0.00	0.95
Avail Cap(c_a), veh/h	0	504	480	1018	2203	0				707	0	651
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	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.9	42.9	18.0	0.0	0.0				39.3	0.0	41.3
Incr Delay (d2), s/veh	0.0	45.9	46.9	0.0	0.2	0.0				4.5	0.0	18.3
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(50%),veh/ln	0.0	23.1	22.1	1.8	0.1	0.0				14.1	0.0	17.5
LnGrp Delay(d),s/veh	0.0	88.8	89.8	18.1	0.2	0.0				43.8	0.0	59.6
LnGrp LOS		F	F	B	A					D		E
Approach Vol, veh/h		1006			743						898	
Approach Delay, s/veh		89.3			5.8						52.0	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	40.5	39.2		40.3		79.7						
Change Period (Y+Rc), s	5.0	* 5		4.6		5.0						
Max Green Setting (Gmax), s	24.2	* 34		47.8		62.6						
Max Q Clear Time (g_c+I1), s	5.8	36.2		35.3		2.0						
Green Ext Time (p_c), s	0.7	0.0		0.4		0.7						
Intersection Summary												
HCM 2010 Ctrl Delay				53.2								
HCM 2010 LOS				D								
Notes												

HCM Signalized Intersection Capacity Analysis
 30: I-805 NB Off-Ramp/I-805 NB On-Ramp & Imperial Ave

Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	801	0	0	508	605	168	0	228	0	0	0
Future Volume (vph)	308	801	0	0	508	605	168	0	228	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	0.88			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1770	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	3539			3539	1583		1770	2787			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	328	852	0	0	540	644	179	0	243	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	312	0	0	0	0	0	0
Lane Group Flow (vph)	328	852	0	0	540	332	0	179	243	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	custom			
Protected Phases	5	2			6	9		8	8	9		
Permitted Phases						6	9	8				
Actuated Green, G (s)	29.0	68.2			61.3	61.3		17.7	43.8			
Effective Green, g (s)	29.0	68.2			61.3	61.3		17.7	43.8			
Actuated g/C Ratio	0.24	0.57			0.51	0.51		0.15	0.36			
Clearance Time (s)	4.0	4.0						4.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	427	2011			1807	808		261	1017			
v/s Ratio Prot	c0.19	c0.24			0.15				0.09			
v/s Ratio Perm						c0.21		0.10				
v/c Ratio	0.77	0.42			0.30	0.41		0.69	0.24			
Uniform Delay, d1	42.4	14.7			16.9	18.2		48.5	26.5			
Progression Factor	1.30	1.53			0.53	2.46		1.00	1.00			
Incremental Delay, d2	5.6	0.4			0.1	0.3		7.3	0.1			
Delay (s)	60.5	23.0			9.0	44.9		55.8	26.6			
Level of Service	E	C			A	D		E	C			
Approach Delay (s)		33.4			28.5			39.0			0.0	
Approach LOS		C			C			D			A	
Intersection Summary												
HCM 2000 Control Delay			32.2				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			73.8%				ICU Level of Service		D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary
 31: 47th St & Imperial Ave

Existing PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	124	781	131	106	771	32	174	217	149	76	307	168
Future Volume (veh/h)	124	781	131	106	771	32	174	217	149	76	307	168
Number	5	2	12	1	6	16	3	8	18	7	4	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	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	132	831	139	113	820	34	185	231	159	81	327	179
Adj No. of Lanes	1	2	0	1	3	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	966	162	433	1594	66	151	446	295	102	426	228
Arrive On Green	0.49	0.64	0.64	0.24	0.32	0.32	0.09	0.22	0.22	0.06	0.19	0.19
Sat Flow, veh/h	1774	3035	508	1774	4995	207	1774	2043	1351	1774	2228	1194
Grp Volume(v), veh/h	132	485	485	113	556	298	185	199	191	81	258	248
Grp Sat Flow(s),veh/h/ln	1774	1770	1773	1774	1695	1811	1774	1770	1624	1774	1770	1652
Q Serve(g_s), s	5.4	26.4	26.4	6.2	16.0	16.1	10.2	11.9	12.5	5.4	16.6	17.1
Cycle Q Clear(g_c), s	5.4	26.4	26.4	6.2	16.0	16.1	10.2	11.9	12.5	5.4	16.6	17.1
Prop In Lane	1.00		0.29	1.00		0.11	1.00		0.83	1.00		0.72
Lane Grp Cap(c), veh/h	433	563	564	433	1082	578	151	386	355	102	338	316
V/C Ratio(X)	0.31	0.86	0.86	0.26	0.51	0.52	1.23	0.51	0.54	0.79	0.76	0.78
Avail Cap(c_a), veh/h	433	563	564	433	1082	578	151	619	569	151	622	581
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(l)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	19.7	19.7	36.6	33.3	33.3	54.9	41.3	41.6	55.8	46.0	46.2
Incr Delay (d2), s/veh	0.1	14.8	14.8	0.1	1.7	3.3	146.9	0.4	0.5	9.0	1.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	14.7	14.7	3.0	7.8	8.6	11.1	5.8	5.7	2.9	8.2	8.0
LnGrp Delay(d),s/veh	24.7	34.5	34.4	36.8	35.0	36.6	201.8	41.7	42.0	64.8	47.3	47.8
LnGrp LOS	C	C	C	D	D	D	F	D	D	E	D	D
Approach Vol, veh/h		1102			967			575			587	
Approach Delay, s/veh		33.3			35.7			93.3			50.0	
Approach LOS		C			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.7	43.6	14.6	28.1	33.7	43.6	11.3	31.4				
Change Period (Y+Rc), s	4.4	5.4	4.4	* 5.2	4.4	5.3	4.4	5.2				
Max Green Setting (Gmax), s	10.2	38.2	10.2	* 42	10.2	38.3	10.2	42.0				
Max Q Clear Time (g_c+1), s	10.2	28.4	12.2	19.1	7.4	18.1	7.4	14.5				
Green Ext Time (p_c), s	0.1	3.2	0.0	3.8	0.1	5.1	0.0	3.9				
Intersection Summary												
HCM 2010 Ctrl Delay				47.7								
HCM 2010 LOS				D								
Notes												

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↕				
Traffic Vol, veh/h	22	34	0	0	40	6	155	362	14	0	0	0
Future Vol, veh/h	22	34	0	0	40	6	155	362	14	0	0	0
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
Heavy Vehicles, %	4	8	2	2	2	2	5	2	2	2	2	2
Mvmt Flow	23	36	0	0	43	6	165	385	15	0	0	0
Number of Lanes	0	1	0	0	1	0	1	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	9.5	9	9.7
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	39%	0%
Vol Thru, %	0%	100%	90%	61%	87%
Vol Right, %	0%	0%	10%	0%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	241	135	56	46
LT Vol	155	0	0	22	0
Through Vol	0	241	121	34	40
RT Vol	0	0	14	0	6
Lane Flow Rate	165	257	143	60	49
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.248	0.346	0.19	0.101	0.079
Departure Headway (Hd)	5.41	4.857	4.784	6.08	5.777
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	665	742	751	590	620
Service Time	3.134	2.582	2.509	3.814	3.511
HCM Lane V/C Ratio	0.248	0.346	0.19	0.102	0.079
HCM Control Delay	9.9	10.1	8.6	9.5	9
HCM Lane LOS	A	B	A	A	A
HCM 95th-tile Q	1	1.5	0.7	0.3	0.3

HCM 2010 Signalized Intersection Summary
2: 17th St & Imperial Ave

Existing Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	127	12	6	198	0	0	0	0	170	91	249
Future Volume (veh/h)	0	127	12	6	198	0	0	0	0	170	91	249
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	148	14	7	230	0				198	106	290
Adj No. of Lanes	0	2	0	0	1	0				1	2	1
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	2	2	2	2	0				2	2	2
Cap, veh/h	0	1987	186	66	1120	0				428	853	372
Arrive On Green	0.00	0.61	0.61	0.61	0.61	0.00				0.24	0.24	0.24
Sat Flow, veh/h	0	3360	305	14	1841	0				1774	3539	1544
Grp Volume(v), veh/h	0	79	83	237	0	0				198	106	290
Grp Sat Flow(s),veh/h/ln	0	1770	1803	1855	0	0				1774	1770	1544
Q Serve(g_s), s	0.0	1.2	1.2	0.0	0.0	0.0				6.2	1.5	11.4
Cycle Q Clear(g_c), s	0.0	1.2	1.2	3.7	0.0	0.0				6.2	1.5	11.4
Prop In Lane	0.00		0.17	0.03		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1076	1096	1185	0	0				428	853	372
V/C Ratio(X)	0.00	0.07	0.08	0.20	0.00	0.00				0.46	0.12	0.78
Avail Cap(c_a), veh/h	0	1076	1096	1185	0	0				822	1639	715
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	0.72	0.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	5.2	5.2	5.7	0.0	0.0				21.1	19.3	23.1
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.3	0.0	0.0				0.3	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.6	2.0	0.0	0.0				3.1	0.7	5.0
LnGrp Delay(d),s/veh	0.0	5.4	5.4	6.0	0.0	0.0				21.4	19.3	24.4
LnGrp LOS		A	A	A						C	B	C
Approach Vol, veh/h		162			237						594	
Approach Delay, s/veh		5.4			6.0						22.5	
Approach LOS		A			A						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		44.4		20.6		44.4						
Change Period (Y+Rc), s		4.9		4.9		4.9						
Max Green Setting (Gmax), s		25.1		30.1		25.1						
Max Q Clear Time (g_c+I1), s		3.2		13.4		5.7						
Green Ext Time (p_c), s		1.5		1.2		1.4						
Intersection Summary												
HCM 2010 Ctrl Delay				15.8								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 3: 19th St & Imperial Ave

Existing Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	145	0	0	195	375	26	341	12	0	0	0
Future Volume (veh/h)	145	145	0	0	195	375	26	341	12	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	156	156	0	0	210	403	28	367	13			
Adj No. of Lanes	1	1	0	0	1	0	0	3	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	2	0	0	2	2	0	2	0			
Cap, veh/h	496	1329	0	0	334	642	47	659	24			
Arrive On Green	0.10	1.00	0.00	0.00	0.58	0.58	0.14	0.14	0.14			
Sat Flow, veh/h	1774	1863	0	0	572	1097	347	4849	176			
Grp Volume(v), veh/h	156	156	0	0	0	613	149	124	135			
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	0	1669	1845	1695	1832			
Q Serve(g_s), s	2.1	0.0	0.0	0.0	0.0	15.7	4.9	4.4	4.5			
Cycle Q Clear(g_c), s	2.1	0.0	0.0	0.0	0.0	15.7	4.9	4.4	4.5			
Prop In Lane	1.00		0.00	0.00		0.66	0.19		0.10			
Lane Grp Cap(c), veh/h	496	1329	0	0	0	976	251	230	249			
V/C Ratio(X)	0.31	0.12	0.00	0.00	0.00	0.63	0.59	0.54	0.54			
Avail Cap(c_a), veh/h	713	1329	0	0	0	976	571	524	566			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.95	0.95	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	6.4	0.0	0.0	0.0	0.0	8.9	26.4	26.2	26.2			
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.0	3.1	2.2	1.9	1.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.9	0.1	0.0	0.0	0.0	8.0	2.7	2.2	2.4			
LnGrp Delay(d),s/veh	6.5	0.2	0.0	0.0	0.0	11.9	28.6	28.1	28.0			
LnGrp LOS	A	A				B	C	C	C			
Approach Vol, veh/h		312			613			408				
Approach Delay, s/veh		3.3			11.9			28.3				
Approach LOS		A			B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		51.3			8.3	42.9		13.7				
Change Period (Y+Rc), s		4.9			4.4	4.9		4.9				
Max Green Setting (Gmax), s		35.1			11.9	18.8		20.1				
Max Q Clear Time (g_c+I1), s		2.0			4.1	17.7		6.9				
Green Ext Time (p_c), s		15.5			0.1	0.9		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay					14.9							
HCM 2010 LOS					B							

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕			↕	
Traffic Vol, veh/h	7	189	7	6	523	6	5	4	7	2	4	57
Future Vol, veh/h	7	189	7	6	523	6	5	4	7	2	4	57
Conflicting Peds, #/hr	25	0	44	44	0	25	6	0	1	1	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	203	8	6	562	6	5	4	8	2	4	61

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	587	0	0	247	0	0	876	862	248	825	862	593
Stage 1	-	-	-	-	-	-	262	262	-	600	600	-
Stage 2	-	-	-	-	-	-	614	600	-	225	262	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	988	-	-	1319	-	-	269	293	791	292	293	506
Stage 1	-	-	-	-	-	-	743	691	-	488	490	-
Stage 2	-	-	-	-	-	-	479	490	-	778	691	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	983	-	-	1318	-	-	220	272	761	276	272	493
Mov Cap-2 Maneuver	-	-	-	-	-	-	220	272	-	276	272	-
Stage 1	-	-	-	-	-	-	709	660	-	474	476	-
Stage 2	-	-	-	-	-	-	411	476	-	758	660	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.1			16			14.2		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	343	983	-	-	1318	-	-	458
HCM Lane V/C Ratio	0.05	0.008	-	-	0.005	-	-	0.148
HCM Control Delay (s)	16	8.7	0	-	7.7	0	-	14.2
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.5

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Vol, veh/h	19	143	30	18	477	15	28	21	32	4	24	40
Future Vol, veh/h	19	143	30	18	477	15	28	21	32	4	24	40
Conflicting Peds, #/hr	15	0	48	48	0	15	7	0	8	8	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	20	154	32	19	513	16	30	23	34	4	26	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	528	0	0	202	0	0	836	810	210	798	810	535
Stage 1	-	-	-	-	-	-	243	243	-	567	567	-
Stage 2	-	-	-	-	-	-	593	567	-	231	243	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1039	-	-	1370	-	-	287	314	830	304	312	545
Stage 1	-	-	-	-	-	-	761	705	-	508	504	-
Stage 2	-	-	-	-	-	-	492	507	-	772	701	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1033	-	-	1361	-	-	227	285	791	260	283	535
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	285	-	260	283	-
Stage 1	-	-	-	-	-	-	714	662	-	491	488	-
Stage 2	-	-	-	-	-	-	417	491	-	693	658	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.3			19.1			16.4		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	341	1033	-	-	1361	-	-	389
HCM Lane V/C Ratio	0.255	0.02	-	-	0.014	-	-	0.188
HCM Control Delay (s)	19.1	8.6	0	-	7.7	0	-	16.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	0.7

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Vol, veh/h	14	126	20	31	426	20	19	39	28	8	42	27
Future Vol, veh/h	14	126	20	31	426	20	19	39	28	8	42	27
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	129	20	32	435	20	19	40	29	8	43	28
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.5	17.5	9.5	9.3
HCM LOS	A	C	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	10%	0%	7%	0%	10%
Vol Thru, %	45%	90%	0%	93%	0%	55%
Vol Right, %	33%	0%	100%	0%	100%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	140	20	457	20	77
LT Vol	19	14	0	31	0	8
Through Vol	39	126	0	426	0	42
RT Vol	28	0	20	0	20	27
Lane Flow Rate	88	143	20	466	20	79
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.134	0.218	0.027	0.67	0.025	0.12
Departure Headway (Hd)	5.509	5.494	4.737	5.171	4.432	5.488
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	643	647	747	695	800	646
Service Time	3.605	3.281	2.523	2.939	2.2	3.586
HCM Lane V/C Ratio	0.137	0.221	0.027	0.671	0.025	0.122
HCM Control Delay	9.5	9.8	7.7	17.9	7.3	9.3
HCM Lane LOS	A	A	A	C	A	A
HCM 95th-tile Q	0.5	0.8	0.1	5.2	0.1	0.4

Intersection

Intersection Delay, s/veh 15.7
Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Vol, veh/h	10	150	14	8	458	22	6	19	13	10	21	32
Future Vol, veh/h	10	150	14	8	458	22	6	19	13	10	21	32
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	11	167	16	9	509	24	7	21	14	11	23	36
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.8	19.2	9.1	9.2
HCM LOS	A	C	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	16%	6%	0%	2%	0%	16%
Vol Thru, %	50%	94%	0%	98%	0%	33%
Vol Right, %	34%	0%	100%	0%	100%	51%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	160	14	466	22	63
LT Vol	6	10	0	8	0	10
Through Vol	19	150	0	458	0	21
RT Vol	13	0	14	0	22	32
Lane Flow Rate	42	178	16	518	24	70
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.066	0.264	0.02	0.722	0.029	0.107
Departure Headway (Hd)	5.636	5.34	4.602	5.019	4.307	5.483
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	630	668	772	720	827	648
Service Time	3.722	3.104	2.366	2.769	2.057	3.56
HCM Lane V/C Ratio	0.067	0.266	0.021	0.719	0.029	0.108
HCM Control Delay	9.1	10	7.5	19.8	7.2	9.2
HCM Lane LOS	A	A	A	C	A	A
HCM 95th-tile Q	0.2	1.1	0.1	6.2	0.1	0.4

HCM 2010 Signalized Intersection Summary
 8: 25th St & Imperial Ave

Existing Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	17	95	68	35	452	50	26	107	19	20	146	45
Future Volume (veh/h)	17	95	68	35	452	50	26	107	19	20	146	45
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	18	99	71	36	471	52	27	111	20	21	152	47
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	658	441	101	1116	119	114	347	61	90	342	101
Arrive On Green	0.71	0.71	0.71	1.00	1.00	1.00	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	96	928	621	60	1574	168	289	2480	437	175	2445	724
Grp Volume(v), veh/h	188	0	0	559	0	0	84	0	74	118	0	102
Grp Sat Flow(s),veh/h/ln	1645	0	0	1801	0	0	1589	0	1618	1778	0	1567
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	3.9
Cycle Q Clear(g_c), s	2.3	0.0	0.0	0.0	0.0	0.0	3.9	0.0	2.7	3.8	0.0	3.9
Prop In Lane	0.10		0.38	0.06		0.09	0.32		0.27	0.18		0.46
Lane Grp Cap(c), veh/h	1228	0	0	1337	0	0	295	0	226	314	0	219
V/C Ratio(X)	0.15	0.00	0.00	0.42	0.00	0.00	0.28	0.00	0.33	0.38	0.00	0.46
Avail Cap(c_a), veh/h	1228	0	0	1337	0	0	631	0	572	681	0	555
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	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.1	0.0	0.0	0.0	0.0	0.0	25.2	0.0	25.2	25.7	0.0	25.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.0	0.0	0.0	0.9	0.0	1.4	1.3	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.4	0.0	0.0	1.4	0.0	1.3	2.1	0.0	1.8
LnGrp Delay(d),s/veh	3.3	0.0	0.0	1.0	0.0	0.0	26.1	0.0	26.6	27.0	0.0	28.3
LnGrp LOS	A			A			C		C	C		C
Approach Vol, veh/h		188			559			158			220	
Approach Delay, s/veh		3.3			1.0			26.3			27.6	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.0		14.0		51.0		14.0				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		32.2		23.0		32.2		23.0				
Max Q Clear Time (g_c+I1), s		4.3		5.9		2.0		5.9				
Green Ext Time (p_c), s		5.8		3.2		5.9		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay				10.1								
HCM 2010 LOS				B								

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	15	126	16	14	533	23	21	31	7	7	20	30
Future Vol, veh/h	15	126	16	14	533	23	21	31	7	7	20	30
Conflicting Peds, #/hr	17	0	15	15	0	17	13	0	10	10	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
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, %	2	3	2	2	2	4	2	2	2	2	2	3
Mvmt Flow	17	145	18	16	613	26	24	36	8	8	23	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	630	0	0	160	0	0	881	856	170	873	856	643
Stage 1	-	-	-	-	-	-	194	194	-	662	662	-
Stage 2	-	-	-	-	-	-	687	662	-	211	194	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.327
Pot Cap-1 Maneuver	952	-	-	1419	-	-	267	295	874	271	295	472
Stage 1	-	-	-	-	-	-	808	740	-	451	459	-
Stage 2	-	-	-	-	-	-	437	459	-	791	740	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	942	-	-	1407	-	-	219	276	856	230	276	460
Mov Cap-2 Maneuver	-	-	-	-	-	-	219	276	-	230	276	-
Stage 1	-	-	-	-	-	-	782	716	-	436	444	-
Stage 2	-	-	-	-	-	-	372	444	-	724	716	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.2			22.5			18.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	273	942	-	-	1407	-	-	339
HCM Lane V/C Ratio	0.248	0.018	-	-	0.011	-	-	0.193
HCM Control Delay (s)	22.5	8.9	0	-	7.6	0	-	18.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	0.7

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	6	132	3	9	552	2	0	0	4	2	2	12
Future Vol, veh/h	6	132	3	9	552	2	0	0	4	2	2	12
Conflicting Peds, #/hr	16	0	3	3	0	16	2	0	1	1	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
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, %	2	3	33	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	152	3	10	634	2	0	0	5	2	2	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	650	0	0	155	0	0	834	840	156	840	840	652
Stage 1	-	-	-	-	-	-	169	169	-	671	671	-
Stage 2	-	-	-	-	-	-	665	671	-	169	169	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	936	-	-	1425	-	-	288	302	890	285	302	468
Stage 1	-	-	-	-	-	-	833	759	-	446	455	-
Stage 2	-	-	-	-	-	-	449	455	-	833	759	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	934	-	-	1424	-	-	273	292	887	275	292	461
Mov Cap-2 Maneuver	-	-	-	-	-	-	273	292	-	275	292	-
Stage 1	-	-	-	-	-	-	824	751	-	437	444	-
Stage 2	-	-	-	-	-	-	428	444	-	821	751	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.1			9.1			14.5		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	887	934	-	-	1424	-	-	398
HCM Lane V/C Ratio	0.005	0.007	-	-	0.007	-	-	0.046
HCM Control Delay (s)	9.1	8.9	0	-	7.5	0	-	14.5
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕			↕	
Traffic Vol, veh/h	1	125	7	12	552	11	14	11	19	5	6	3
Future Vol, veh/h	1	125	7	12	552	11	14	11	19	5	6	3
Conflicting Peds, #/hr	18	0	10	10	0	18	4	0	15	15	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	140	8	13	620	12	16	12	21	6	7	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	638	0	0	150	0	0	809	818	165	840	818	642
Stage 1	-	-	-	-	-	-	153	153	-	665	665	-
Stage 2	-	-	-	-	-	-	656	665	-	175	153	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	946	-	-	1431	-	-	299	311	879	285	311	474
Stage 1	-	-	-	-	-	-	849	771	-	449	458	-
Stage 2	-	-	-	-	-	-	454	458	-	827	771	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	943	-	-	1413	-	-	285	299	861	259	299	465
Mov Cap-2 Maneuver	-	-	-	-	-	-	285	299	-	259	299	-
Stage 1	-	-	-	-	-	-	841	764	-	442	445	-
Stage 2	-	-	-	-	-	-	436	445	-	783	764	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			15.1			17.4		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	407	943	-	-	1413	-	-	306
HCM Lane V/C Ratio	0.121	0.001	-	-	0.01	-	-	0.051
HCM Control Delay (s)	15.1	8.8	0	-	7.6	0	-	17.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.2

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	15	127	5	4	553	5	1	2	4	1	0	13
Future Vol, veh/h	15	127	5	4	553	5	1	2	4	1	0	13
Conflicting Peds, #/hr	17	0	18	18	0	17	3	0	5	5	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	3	2	25	2	2	2	2	2	2	2	2
Mvmt Flow	18	151	6	5	658	6	1	2	5	1	0	15



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	675	0	0	169	0	0	884	890	174	880	890	678
Stage 1	-	-	-	-	-	-	205	205	-	685	685	-
Stage 2	-	-	-	-	-	-	679	685	-	195	205	-
Critical Hdwy	4.12	-	-	4.35	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.425	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	916	-	-	1281	-	-	266	282	869	268	282	452
Stage 1	-	-	-	-	-	-	797	732	-	438	448	-
Stage 2	-	-	-	-	-	-	441	448	-	807	732	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	914	-	-	1276	-	-	247	266	852	254	266	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	247	266	-	254	266	-
Stage 1	-	-	-	-	-	-	768	705	-	422	439	-
Stage 2	-	-	-	-	-	-	422	439	-	779	705	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.1			13.5			13.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	430	914	-	-	1276	-	-	421
HCM Lane V/C Ratio	0.019	0.02	-	-	0.004	-	-	0.04
HCM Control Delay (s)	13.5	9	0	-	7.8	0	-	13.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.1

HCM 2010 Signalized Intersection Summary
 13: 28th St & Imperial Ave

Existing Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	95	2	6	501	31	10	179	30	12	137	33
Future Volume (veh/h)	30	95	2	6	501	31	10	179	30	12	137	33
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	33	106	2	7	557	34	11	199	33	13	152	37
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	828	1078	60	1264	1078	64	279	45	69	259	60
Arrive On Green	0.91	0.91	0.91	1.00	1.00	1.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	295	1216	1583	5	1855	1583	35	1520	244	53	1410	328
Grp Volume(v), veh/h	139	0	2	564	0	34	243	0	0	202	0	0
Grp Sat Flow(s),veh/h/ln	1511	0	1583	1860	0	1583	1800	0	0	1791	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	6.7	0.0	0.0
Prop In Lane	0.24		1.00	0.01		1.00	0.05		0.14	0.06		0.18
Lane Grp Cap(c), veh/h	1097	0	1078	1323	0	1078	388	0	0	388	0	0
V/C Ratio(X)	0.13	0.00	0.00	0.43	0.00	0.03	0.63	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	1097	0	1078	1323	0	1078	909	0	0	886	0	0
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.0	0.0	1.0	0.0	0.0	0.0	25.0	0.0	0.0	24.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.0	0.0	0.1	0.6	0.0	0.0	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(50%),veh/ln	0.3	0.0	0.0	0.4	0.0	0.0	4.2	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	1.2	0.0	1.0	1.0	0.0	0.1	25.6	0.0	0.0	24.8	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		141			598			243			202	
Approach Delay, s/veh		1.2			1.0			25.6			24.8	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.5		16.5		48.5		16.5				
Change Period (Y+Rc), s		* 4.2		4.6		* 4.2		* 4.6				
Max Green Setting (Gmax), s		* 26		30.6		* 26		* 31				
Max Q Clear Time (g_c+I1), s		2.5		8.7		2.0		10.2				
Green Ext Time (p_c), s		1.7		1.7		1.7		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay				10.1								
HCM 2010 LOS				B								
Notes												

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕			↕	
Traffic Vol, veh/h	12	115	4	18	560	24	4	20	6	4	9	12
Future Vol, veh/h	12	115	4	18	560	24	4	20	6	4	9	12
Conflicting Peds, #/hr	9	0	6	6	0	9	14	0	8	8	0	14
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	4	2	2	2	2	2	2
Mvmt Flow	14	134	5	21	651	28	5	23	7	5	10	14



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	660	0	0	140	0	0	887	870	148	887	870	674
Stage 1	-	-	-	-	-	-	168	168	-	702	702	-
Stage 2	-	-	-	-	-	-	719	702	-	185	168	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	928	-	-	1443	-	-	265	290	899	265	290	455
Stage 1	-	-	-	-	-	-	834	759	-	429	440	-
Stage 2	-	-	-	-	-	-	420	440	-	817	759	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	917	-	-	1433	-	-	238	275	889	235	275	446
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	275	-	235	275	-
Stage 1	-	-	-	-	-	-	816	742	-	419	426	-
Stage 2	-	-	-	-	-	-	383	426	-	767	742	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.2	18	17.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	312	917	-	-	1433	-	-	326
HCM Lane V/C Ratio	0.112	0.015	-	-	0.015	-	-	0.089
HCM Control Delay (s)	18	9	0	-	7.5	0	-	17.1
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3

HCM 2010 Signalized Intersection Summary
 15: 30th St & Imperial Ave

Existing Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	133	6	45	545	45	25	38	11	15	54	15
Future Volume (veh/h)	15	133	6	45	545	45	25	38	11	15	54	15
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	17	155	7	52	634	52	29	44	13	17	63	17
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	1233	1221	123	1339	1221	114	91	23	84	111	27
Arrive On Green	0.25	0.25	0.25	0.52	0.52	0.52	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	107	1599	1583	83	1737	1583	449	1018	261	207	1243	308
Grp Volume(v), veh/h	172	0	7	686	0	52	86	0	0	97	0	0
Grp Sat Flow(s),veh/h/ln	1706	0	1583	1820	0	1583	1729	0	0	1759	0	0
Q Serve(g_s), s	0.0	0.0	0.2	0.0	0.0	1.1	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	0.2	15.4	0.0	1.1	2.9	0.0	0.0	3.4	0.0	0.0
Prop In Lane	0.10		1.00	0.08		1.00	0.34		0.15	0.18		0.18
Lane Grp Cap(c), veh/h	1376	0	1221	1462	0	1221	228	0	0	222	0	0
V/C Ratio(X)	0.13	0.00	0.01	0.47	0.00	0.04	0.38	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	1376	0	1221	1462	0	1221	854	0	0	876	0	0
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.85	0.00	0.85	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.3	0.0	5.6	7.3	0.0	3.9	28.3	0.0	0.0	28.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.9	0.0	0.1	0.4	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.1	8.2	0.0	0.5	1.5	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	7.5	0.0	5.6	8.2	0.0	3.9	28.7	0.0	0.0	29.0	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		179			738			86			97	
Approach Delay, s/veh		7.4			7.9			28.7			29.0	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.7		10.3		54.7		10.3				
Change Period (Y+Rc), s		* 4.6		4.5		4.6		* 4.5				
Max Green Setting (Gmax), s		* 25		30.9		25.0		* 31				
Max Q Clear Time (g_c+I1), s		6.6		5.4		17.4		4.9				
Green Ext Time (p_c), s		5.3		0.7		3.2		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			11.3									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
 16: 31st St & Imperial Ave

Existing Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↕			↕	
Traffic Volume (veh/h)	21	108	17	51	602	30	22	68	26	13	38	27
Future Volume (veh/h)	21	108	17	51	602	30	22	68	26	13	38	27
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	0.92		0.88	0.93		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1861	1863	1900	1863	1900	1900	1856	1900
Adj Flow Rate, veh/h	23	119	19	56	662	33	24	75	29	14	42	30
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	197	980	1083	122	1220	1106	95	190	64	85	160	97
Arrive On Green	0.47	0.47	0.47	1.00	1.00	1.00	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	189	1390	1536	89	1731	1570	172	1102	373	122	931	564
Grp Volume(v), veh/h	142	0	19	718	0	33	128	0	0	86	0	0
Grp Sat Flow(s),veh/h/ln	1579	0	1536	1819	0	1570	1646	0	0	1616	0	0
Q Serve(g_s), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.4	0.0	0.0	0.0	4.3	0.0	0.0	2.9	0.0	0.0
Prop In Lane	0.16		1.00	0.08		1.00	0.19		0.23	0.16		0.35
Lane Grp Cap(c), veh/h	1177	0	1083	1342	0	1106	349	0	0	343	0	0
V/C Ratio(X)	0.12	0.00	0.02	0.54	0.00	0.03	0.37	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	1177	0	1083	1342	0	1106	491	0	0	481	0	0
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.45	0.00	0.45	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.8	0.0	5.2	0.0	0.0	0.0	24.1	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.0	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(50%),veh/ln	1.5	0.0	0.2	0.3	0.0	0.0	2.1	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	6.0	0.0	5.2	0.7	0.0	0.0	24.7	0.0	0.0	23.9	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		161			751			128			86	
Approach Delay, s/veh		5.9			0.7			24.7			23.9	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.8		15.2		49.8		15.2				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		40.0		17.0		40.0		17.0				
Max Q Clear Time (g_c+I1), s		4.8		4.9		2.0		6.3				
Green Ext Time (p_c), s		7.5		0.9		7.6		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				5.9								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 17: 32nd St & Imperial Ave

Existing Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔			↔			↔	
Traffic Volume (veh/h)	20	114	13	27	602	262	24	101	18	55	88	51
Future Volume (veh/h)	20	114	13	27	602	262	24	101	18	55	88	51
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	0.97		0.95	0.97		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1900	1844	1900	1900	1863	1900
Adj Flow Rate, veh/h	22	127	14	30	669	291	27	112	20	61	98	57
Adj No. of Lanes	0	1	1	0	1	0	0	1	0	0	1	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, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	164	898	1030	74	794	338	100	299	48	143	191	94
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	153	1372	1574	26	1213	516	158	1344	216	324	857	423
Grp Volume(v), veh/h	149	0	14	990	0	0	159	0	0	216	0	0
Grp Sat Flow(s),veh/h/ln	1526	0	1574	1755	0	0	1719	0	0	1604	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.0	7.5	0.0	0.0
Prop In Lane	0.15		1.00	0.03		0.29	0.17		0.13	0.28		0.26
Lane Grp Cap(c), veh/h	1062	0	1030	1205	0	0	447	0	0	428	0	0
V/C Ratio(X)	0.14	0.00	0.01	0.82	0.00	0.00	0.36	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	1062	0	1030	1205	0	0	612	0	0	581	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.61	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	21.6	0.0	0.0	22.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	4.0	0.0	0.0	0.5	0.0	0.0	0.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.3	0.0	0.0	2.5	0.0	0.0	3.5	0.0	0.0
LnGrp Delay(d),s/veh	0.3	0.0	0.0	4.0	0.0	0.0	22.0	0.0	0.0	23.4	0.0	0.0
LnGrp LOS	A		A	A			C			C		
Approach Vol, veh/h		163			990			159			216	
Approach Delay, s/veh		0.3			4.0			22.0			23.4	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.5		18.5		46.5		18.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		21.0		36.0		21.0				
Max Q Clear Time (g_c+I1), s		2.0		9.5		2.0		6.9				
Green Ext Time (p_c), s		12.4		1.8		12.4		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				8.2								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
18: 33rd St & Imperial Ave

Existing Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	175	24	25	750	48	43	11	9	10	12	62
Future Volume (veh/h)	15	175	24	25	750	48	43	11	9	10	12	62
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	222	30	32	949	61	54	14	11	13	15	78
Adj No. of Lanes	1	1	1	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	1230	1046	862	1166	992	194	48	24	74	33	124
Arrive On Green	0.12	1.00	1.00	0.03	0.63	0.63	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	958	457	229	114	312	1187
Grp Volume(v), veh/h	19	222	30	32	949	61	79	0	0	106	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1644	0	0	1613	0	0
Q Serve(g_s), s	0.2	0.0	0.0	0.4	25.2	1.0	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.4	25.2	1.0	2.7	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.68		0.14	0.12		0.74
Lane Grp Cap(c), veh/h	352	1230	1046	862	1166	992	266	0	0	231	0	0
V/C Ratio(X)	0.05	0.18	0.03	0.04	0.81	0.06	0.30	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	352	1230	1046	923	1166	992	714	0	0	737	0	0
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)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	0.0	0.0	4.0	9.3	4.7	27.2	0.0	0.0	27.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.1	0.0	6.3	0.1	0.6	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.0	0.2	14.7	0.5	1.4	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	7.8	0.3	0.1	4.0	15.5	4.8	27.9	0.0	0.0	29.3	0.0	0.0
LnGrp LOS	A	A	A	A	B	A	C			C		
Approach Vol, veh/h		271			1042			79			106	
Approach Delay, s/veh		0.8			14.5			27.9			29.3	
Approach LOS		A			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	6.3	47.4		11.3	8.5	45.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		27.5	4.0	20.0		27.5	4.0	20.0				
Max Q Clear Time (g_c+I1), s		4.7	2.4	2.0		6.0	2.2	27.2				
Green Ext Time (p_c), s		1.0	0.0	8.9		1.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				13.8								
HCM 2010 LOS				B								

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	23	171	750	42	7	50
Future Vol, veh/h	23	171	750	42	7	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	186	815	46	8	54
Number of Lanes	0	1	2	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	10	16.6	9
HCM LOS	A	C	A

Lane	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	12%	0%	0%	12%
Vol Thru, %	88%	100%	86%	0%
Vol Right, %	0%	0%	14%	88%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	194	500	292	57
LT Vol	23	0	0	7
Through Vol	171	500	250	0
RT Vol	0	0	42	50
Lane Flow Rate	211	543	317	62
Geometry Grp	5	7	7	2
Degree of Util (X)	0.289	0.735	0.42	0.093
Departure Headway (Hd)	4.942	4.868	4.767	5.417
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	727	745	755	660
Service Time	2.972	2.594	2.493	3.46
HCM Lane V/C Ratio	0.29	0.729	0.42	0.094
HCM Control Delay	10	19.9	10.9	9
HCM Lane LOS	A	C	B	A
HCM 95th-tile Q	1.2	6.6	2.1	0.3



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	28	131	800	360	120	41		
Future Volume (veh/h)	28	131	800	360	120	41		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	29	136	833	375	125	43		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	191	170	769	1497	427	147		
Arrive On Green	0.11	0.11	0.72	1.00	0.33	0.33		
Sat Flow, veh/h	1774	1583	1774	1863	1310	451		
Grp Volume(v), veh/h	29	136	833	375	0	168		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1761		
Q Serve(g_s), s	1.3	7.5	39.0	0.0	0.0	6.4		
Cycle Q Clear(g_c), s	1.3	7.5	39.0	0.0	0.0	6.4		
Prop In Lane	1.00	1.00	1.00			0.26		
Lane Grp Cap(c), veh/h	191	170	769	1497	0	574		
V/C Ratio(X)	0.15	0.80	1.08	0.25	0.00	0.29		
Avail Cap(c_a), veh/h	355	317	769	1497	0	574		
HCM Platoon Ratio	1.00	1.00	1.67	1.67	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.39	0.39	0.00	1.00		
Uniform Delay (d), s/veh	36.4	39.2	12.4	0.0	0.0	22.6		
Incr Delay (d2), s/veh	0.4	8.3	47.1	0.2	0.0	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	6.8	28.2	0.1	0.0	3.1		
LnGrp Delay(d),s/veh	36.8	47.5	59.5	0.2	0.0	22.9		
LnGrp LOS	D	D	F	A		C		
Approach Vol, veh/h	165			1208	168			
Approach Delay, s/veh	45.6			41.1	22.9			
Approach LOS	D			D	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		76.3		13.7	43.0	33.3		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		64.0		18.0	39.0	21.0		
Max Q Clear Time (g_c+I1), s		2.0		9.5	41.0	8.4		
Green Ext Time (p_c), s		3.8		0.3	0.0	2.7		
Intersection Summary								
HCM 2010 Ctrl Delay			39.6					
HCM 2010 LOS			D					

HCM Signalized Intersection Capacity Analysis
21: Imperial Ave & 36th St

Existing Plus Project AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	830	374	16	147	67
Future Volume (vph)	9	830	374	16	147	67
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1571	1849		1755	1848
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1571	1849		1755	1848
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	9	865	390	17	153	70
RTOR Reduction (vph)	0	312	2	0	0	0
Lane Group Flow (vph)	9	553	405	0	153	70
Confl. Peds. (#/hr)	10			8	8	
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	2	0	0	2	2
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	47.0	47.0	18.6		12.4	35.0
Effective Green, g (s)	47.0	47.0	18.6		12.4	35.0
Actuated g/C Ratio	0.52	0.52	0.21		0.14	0.39
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	924	820	382		241	718
v/s Ratio Prot	0.01		c0.22		c0.09	0.04
v/s Ratio Perm		c0.35				
v/c Ratio	0.01	0.67	1.06		0.63	0.10
Uniform Delay, d1	10.3	15.9	35.7		36.7	17.5
Progression Factor	1.00	1.00	1.00		0.85	0.56
Incremental Delay, d2	0.0	4.4	63.2		5.1	0.1
Delay (s)	10.3	20.3	98.9		36.2	9.9
Level of Service	B	C	F		D	A
Approach Delay (s)	20.2		98.9			27.9
Approach LOS	C		F			C

Intersection Summary

HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 Signalized Intersection Summary
 22: 40th St & Imperial Ave

Existing Plus Project AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	176	40	139	534	164	58		
Future Volume (veh/h)	176	40	139	534	164	58		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	187	43	148	568	174	62		
Adj No. of Lanes	1	0	1	1	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	513	118	241	1180	194	388		
Arrive On Green	0.35	0.35	0.14	0.63	0.11	0.11		
Sat Flow, veh/h	1466	337	1774	1863	1774	1583		
Grp Volume(v), veh/h	0	230	148	568	174	62		
Grp Sat Flow(s),veh/h/ln	0	1803	1774	1863	1774	1583		
Q Serve(g_s), s	0.0	3.5	2.9	5.9	3.5	1.1		
Cycle Q Clear(g_c), s	0.0	3.5	2.9	5.9	3.5	1.1		
Prop In Lane		0.19	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	0	631	241	1180	194	388		
V/C Ratio(X)	0.00	0.36	0.62	0.48	0.90	0.16		
Avail Cap(c_a), veh/h	0	1283	306	1815	194	388		
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	1.00		
Uniform Delay (d), s/veh	0.0	8.9	14.9	3.5	16.1	10.8		
Incr Delay (d2), s/veh	0.0	0.5	3.7	0.5	36.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	1.8	1.6	3.0	3.7	0.5		
LnGrp Delay(d),s/veh	0.0	9.3	18.6	4.0	52.4	10.9		
LnGrp LOS		A	B	A	D	B		
Approach Vol, veh/h	230			716	236			
Approach Delay, s/veh	9.3			7.0	41.5			
Approach LOS	A			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.4	18.2				28.5		8.0
Change Period (Y+Rc), s	5.4	* 5.4				5.4		4.0
Max Green Setting (Gmax), s	30	* 26				35.6		4.0
Max Q Clear Time (g_c+I), s	11.9	5.5				7.9		5.5
Green Ext Time (p_c), s	0.1	7.3				8.3		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			14.3					
HCM 2010 LOS			B					
Notes								

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	231	3	12	665	12	48
Future Vol, veh/h	231	3	12	665	12	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	251	3	13	723	13	52

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	254	0	1002 253
Stage 1	-	-	-	-	253 -
Stage 2	-	-	-	-	749 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1311	-	269 786
Stage 1	-	-	-	-	789 -
Stage 2	-	-	-	-	467 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1311	-	266 786
Mov Cap-2 Maneuver	-	-	-	-	266 -
Stage 1	-	-	-	-	789 -
Stage 2	-	-	-	-	462 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	565	-	-	1311	-
HCM Lane V/C Ratio	0.115	-	-	0.01	-
HCM Control Delay (s)	12.2	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	236	43	25	683	1	12
Future Vol, veh/h	236	43	25	683	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	262	48	28	759	1	13























Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	310	0	1100 286
Stage 1	-	-	-	-	286 -
Stage 2	-	-	-	-	814 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1250	-	235 753
Stage 1	-	-	-	-	763 -
Stage 2	-	-	-	-	436 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1250	-	230 753
Mov Cap-2 Maneuver	-	-	-	-	230 -
Stage 1	-	-	-	-	763 -
Stage 2	-	-	-	-	426 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	753	-	-	1250	-
HCM Lane V/C Ratio	0.018	-	-	0.022	-
HCM Control Delay (s)	9.9	-	-	7.9	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

HCM 2010 Signalized Intersection Summary
 25: Redworks Dwy/Greenwood & Imperial Ave

Existing Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	167	69	235	598	27	113	3	95	6	2	1
Future Volume (veh/h)	2	167	69	235	598	27	113	3	95	6	2	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	2	174	72	245	623	28	118	3	99	6	2	1
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	6	286	118	448	891	757	427	263	624	295	82	24
Arrive On Green	0.00	0.23	0.23	0.25	0.48	0.48	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1774	1253	518	1774	1863	1583	1408	1863	1583	750	581	166
Grp Volume(v), veh/h	2	0	246	245	623	28	118	3	99	9	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1771	1774	1863	1583	1408	1863	1583	1498	0	0
Q Serve(g_s), s	0.0	0.0	4.0	3.8	8.3	0.3	2.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	4.0	3.8	8.3	0.3	2.5	0.0	0.0	0.1	0.0	0.0
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	0.67		0.11
Lane Grp Cap(c), veh/h	6	0	404	448	891	757	427	263	624	401	0	0
V/C Ratio(X)	0.36	0.00	0.61	0.55	0.70	0.04	0.28	0.01	0.16	0.02	0.00	0.00
Avail Cap(c_a), veh/h	224	0	1284	503	1643	1397	1825	2113	2196	1804	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.8	0.0	11.0	10.3	6.5	4.4	12.7	11.7	6.2	11.8	0.0	0.0
Incr Delay (d2), s/veh	34.6	0.0	1.5	1.0	1.0	0.0	0.3	0.0	0.1	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(50%),veh/ln	0.1	0.0	2.1	2.0	4.4	0.1	1.0	0.0	0.6	0.1	0.0	0.0
LnGrp Delay(d),s/veh	50.4	0.0	12.5	11.3	7.5	4.4	13.1	11.7	6.3	11.8	0.0	0.0
LnGrp LOS	D		B	B	A	A	B	B	A	B		
Approach Vol, veh/h		248			896			220				9
Approach Delay, s/veh		12.8			8.4			10.0				11.8
Approach LOS		B			A			B				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.5	12.0	11.2		8.5	4.1	19.2				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		36.0	9.0	23.0		36.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		4.5	5.8	6.0		2.1	2.0	10.3				
Green Ext Time (p_c), s		0.7	1.6	1.3		0.7	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻		↻		↻		↻	
Traffic Vol, veh/h	1	246	7	333	858	0	16	0	206	0	0	0
Future Vol, veh/h	1	246	7	333	858	0	16	0	206	0	0	0
Conflicting Peds, #/hr	1	0	11	11	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	14	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	259	7	351	903	0	17	0	217	0	0	0



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	904	0	0	277	0	0	1880	-	275	1871	1884	904
Stage 1	-	-	-	-	-	-	276	-	-	1605	1605	-
Stage 2	-	-	-	-	-	-	1604	-	-	266	279	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	752	-	-	1286	-	-	54	0	764	55	71	335
Stage 1	-	-	-	-	-	-	730	0	-	132	164	-
Stage 2	-	-	-	-	-	-	133	0	-	739	680	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	752	-	-	1285	-	-	42	-	756	31	51	335
Mov Cap-2 Maneuver	-	-	-	-	-	-	42	-	-	31	51	-
Stage 1	-	-	-	-	-	-	722	-	-	132	119	-
Stage 2	-	-	-	-	-	-	97	-	-	526	672	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			2.5			20.9			0		
HCM LOS							C			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	42	756	752	-	-	1285	-	-	-
HCM Lane V/C Ratio	0.401	0.287	0.001	-	-	0.273	-	-	-
HCM Control Delay (s)	139.3	11.7	9.8	-	-	8.8	-	-	0
HCM Lane LOS	F	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.4	1.2	0	-	-	1.1	-	-	-

HCM 2010 Signalized Intersection Summary
27: 45th St & Imperial Ave

Existing Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	428	12	45	1123	26	46	11	65	6	3	1
Future Volume (veh/h)	2	428	12	45	1123	26	46	11	65	6	3	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	465	13	49	1221	28	50	12	71	7	3	1
Adj No. of Lanes	1	1	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1162	32	64	2408	55	130	29	95	191	72	17
Arrive On Green	0.00	0.65	0.65	0.04	0.68	0.68	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	1789	50	1774	3522	81	474	254	834	883	629	151
Grp Volume(v), veh/h	2	0	478	49	613	636	133	0	0	11	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1839	1774	1770	1834	1562	0	0	1663	0	0
Q Serve(g_s), s	0.1	0.0	8.0	1.8	10.9	10.9	4.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	0.0	8.0	1.8	10.9	10.9	5.3	0.0	0.0	0.3	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.04	0.38		0.53	0.64		0.09
Lane Grp Cap(c), veh/h	4	0	1195	64	1210	1254	255	0	0	281	0	0
V/C Ratio(X)	0.52	0.00	0.40	0.76	0.51	0.51	0.52	0.00	0.00	0.04	0.00	0.00
Avail Cap(c_a), veh/h	109	0	1195	164	1210	1254	692	0	0	695	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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.4	0.0	5.4	31.1	5.0	5.0	27.8	0.0	0.0	25.7	0.0	0.0
Incr Delay (d2), s/veh	78.8	0.0	1.0	17.0	1.5	1.5	1.7	0.0	0.0	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	4.3	1.2	5.6	6.0	2.4	0.0	0.0	0.2	0.0	0.0
LnGrp Delay(d),s/veh	111.2	0.0	6.4	48.0	6.5	6.4	29.5	0.0	0.0	25.7	0.0	0.0
LnGrp LOS	F		A	D	A	A	C			C		
Approach Vol, veh/h		480			1298			133				11
Approach Delay, s/veh		6.8			8.0			29.5				25.7
Approach LOS		A			A			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.9	6.3	46.7		11.9	4.1	48.9				
Change Period (Y+Rc), s		4.5	4.0	4.5		4.5	4.0	4.5				
Max Green Setting (Gmax), s		26.0	6.0	20.0		26.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		7.3	3.8	10.0		2.3	2.1	12.9				
Green Ext Time (p_c), s		0.7	0.0	7.2		0.8	0.0	6.6				
Intersection Summary												
HCM 2010 Ctrl Delay			9.3									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	↑
Traffic Vol, veh/h	494	5	6	1194	14	9
Future Vol, veh/h	494	5	6	1194	14	9
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	-	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	11
Mvmt Flow	531	5	6	1284	15	10


















Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	546	0	1198	277
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	655	-
Critical Hdwy	-	-	4.14	-	6.84	7.12
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.41
Pot Cap-1 Maneuver	-	-	1019	-	178	694
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	479	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1019	-	173	689
Mov Cap-2 Maneuver	-	-	-	-	173	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	469	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	173	689	-	-	1019	-
HCM Lane V/C Ratio	0.087	0.014	-	-	0.006	-
HCM Control Delay (s)	27.8	10.3	-	-	8.6	0.1
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-

HCM 2010 Signalized Intersection Summary
 29: I-805 SB On-Ramp/I-805 SB Off-Ramp & Imperial Ave

Existing Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	368	134	201	726	0	0	0	0	336	0	463
Future Volume (veh/h)	0	368	134	201	726	0	0	0	0	336	0	463
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	396	144	216	781	0				361	0	498
Adj No. of Lanes	0	2	0	2	2	0				1	1	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	2	2	2	2	0				2	2	2
Cap, veh/h	0	728	261	910	2092	0				583	0	521
Arrive On Green	0.00	0.28	0.28	0.53	1.00	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	2646	917	3442	3632	0				1774	0	1583
Grp Volume(v), veh/h	0	273	267	216	781	0				361	0	498
Grp Sat Flow(s),veh/h/ln	0	1770	1701	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	15.7	16.0	4.1	0.0	0.0				20.6	0.0	37.0
Cycle Q Clear(g_c), s	0.0	15.7	16.0	4.1	0.0	0.0				20.6	0.0	37.0
Prop In Lane	0.00		0.54	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	504	485	910	2092	0				583	0	521
V/C Ratio(X)	0.00	0.54	0.55	0.24	0.37	0.00				0.62	0.00	0.96
Avail Cap(c_a), veh/h	0	504	485	910	2092	0				707	0	631
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	0.90	0.90	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.3	36.4	21.7	0.0	0.0				33.9	0.0	39.4
Incr Delay (d2), s/veh	0.0	4.1	4.5	0.0	0.5	0.0				0.5	0.0	22.0
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(50%),veh/ln	0.0	8.2	8.1	1.9	0.1	0.0				10.1	0.0	19.4
LnGrp Delay(d),s/veh	0.0	40.4	40.8	21.8	0.5	0.0				34.4	0.0	61.4
LnGrp LOS		D	D	C	A					C		E
Approach Vol, veh/h		540			997						859	
Approach Delay, s/veh		40.6			5.1						50.1	
Approach LOS		D			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	36.7	39.2		44.1		75.9						
Change Period (Y+Rc), s	5.0	* 5		4.6		5.0						
Max Green Setting (Gmax), s	24.2	* 34		47.8		62.6						
Max Q Clear Time (g_c+I1), s	6.1	18.0		39.0		2.0						
Green Ext Time (p_c), s	1.1	0.6		0.5		1.1						
Intersection Summary												
HCM 2010 Ctrl Delay				29.2								
HCM 2010 LOS				C								
Notes												

HCM Signalized Intersection Capacity Analysis
 30: I-805 NB Off-Ramp/I-805 NB On-Ramp & Imperial Ave

Existing Plus Project AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	515	0	0	695	928	231	5	106	0	0	0
Future Volume (vph)	189	515	0	0	695	928	231	5	106	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	0.88			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1776	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	3539			3539	1583		1776	2787			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	201	548	0	0	739	987	246	5	113	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	377	0	0	0	0	0	0
Lane Group Flow (vph)	201	548	0	0	739	610	0	251	113	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	custom			
Protected Phases	5	2			6	9		8	8	9		
Permitted Phases						6	9	8				
Actuated Green, G (s)	29.0	63.3			56.9	56.9		22.1	48.7			
Effective Green, g (s)	29.0	63.3			56.9	56.9		22.1	48.7			
Actuated g/C Ratio	0.24	0.53			0.47	0.47		0.18	0.41			
Clearance Time (s)	4.0	4.0						4.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	427	1866			1678	750		327	1131			
v/s Ratio Prot	c0.11	0.15			0.21				0.04			
v/s Ratio Perm						c0.39		0.14				
v/c Ratio	0.47	0.29			0.44	0.81		0.77	0.10			
Uniform Delay, d1	38.9	15.9			21.0	27.0		46.5	22.1			
Progression Factor	1.35	1.63			0.50	1.60		1.00	1.00			
Incremental Delay, d2	0.7	0.4			0.1	4.1		10.3	0.0			
Delay (s)	53.3	26.2			10.6	47.4		56.8	22.1			
Level of Service	D	C			B	D		E	C			
Approach Delay (s)		33.5			31.7			46.1			0.0	
Approach LOS		C			C			D			A	
Intersection Summary												
HCM 2000 Control Delay			34.0				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			91.0%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary
31: 47th St & Imperial Ave

Existing Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Traffic Volume (veh/h)	121	391	109	88	1160	49	264	496	107	43	218	199
Future Volume (veh/h)	121	391	109	88	1160	49	264	496	107	43	218	199
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	136	439	122	99	1303	55	297	557	120	48	245	224
Adj No. of Lanes	1	2	0	1	3	0	1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	265	872	240	265	1592	67	151	964	207	62	506	424
Arrive On Green	0.30	0.64	0.64	0.15	0.32	0.32	0.09	0.34	0.34	0.03	0.29	0.29
Sat Flow, veh/h	1774	2738	754	1774	4988	211	1774	2867	615	1774	1770	1482
Grp Volume(v), veh/h	136	282	279	99	886	472	297	343	334	48	245	224
Grp Sat Flow(s),veh/h/ln	1774	1770	1723	1774	1695	1809	1774	1770	1713	1774	1770	1482
Q Serve(g_s), s	7.6	10.2	10.4	6.0	28.9	28.9	10.2	19.1	19.3	3.2	13.8	15.3
Cycle Q Clear(g_c), s	7.6	10.2	10.4	6.0	28.9	28.9	10.2	19.1	19.3	3.2	13.8	15.3
Prop In Lane	1.00		0.44	1.00		0.12	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	265	563	548	265	1082	577	151	595	576	62	506	424
V/C Ratio(X)	0.51	0.50	0.51	0.37	0.82	0.82	1.97	0.58	0.58	0.78	0.48	0.53
Avail Cap(c_a), veh/h	265	563	548	265	1082	577	151	619	599	151	622	521
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)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	16.7	16.8	46.0	37.6	37.6	54.9	32.8	32.9	57.4	35.5	36.0
Incr Delay (d2), s/veh	0.7	3.1	3.3	0.3	6.9	12.2	459.3	0.7	0.8	7.6	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	5.3	5.3	3.0	14.6	16.4	24.2	9.5	9.2	1.7	6.8	6.3
LnGrp Delay(d),s/veh	39.2	19.8	20.0	46.3	44.6	49.9	514.2	33.5	33.7	65.0	35.8	36.4
LnGrp LOS	D	B	C	D	D	D	F	C	C	E	D	D
Approach Vol, veh/h		697			1457			974			517	
Approach Delay, s/veh		23.7			46.4			180.2			38.8	
Approach LOS		C			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.3	43.6	14.6	39.5	22.3	43.6	8.6	45.5				
Change Period (Y+Rc), s	4.4	5.4	4.4	* 5.2	4.4	5.3	4.4	5.2				
Max Green Setting (Gmax), s	10.2	38.2	10.2	* 42	10.2	38.3	10.2	42.0				
Max Q Clear Time (g_c+1.0), s	10.0	12.4	12.2	17.3	9.6	30.9	5.2	21.3				
Green Ext Time (p_c), s	0.1	2.3	0.0	5.3	0.0	4.6	0.0	5.0				

Intersection Summary

HCM 2010 Ctrl Delay	76.7
HCM 2010 LOS	E

Notes

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕				
Traffic Vol, veh/h	36	43	0	0	34	8	145	768	49	0	0	0
Future Vol, veh/h	36	43	0	0	34	8	145	768	49	0	0	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	47	0	0	37	9	159	844	54	0	0	0
Number of Lanes	0	1	0	0	1	0	1	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	11	10	17.4
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	46%	0%
Vol Thru, %	0%	100%	84%	54%	81%
Vol Right, %	0%	0%	16%	0%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	512	305	79	42
LT Vol	145	0	0	36	0
Through Vol	0	512	256	43	34
RT Vol	0	0	49	0	8
Lane Flow Rate	159	563	335	87	46
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.242	0.778	0.453	0.166	0.085
Departure Headway (Hd)	5.477	4.976	4.863	6.889	6.607
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	655	726	741	518	539
Service Time	3.219	2.717	2.604	4.662	4.387
HCM Lane V/C Ratio	0.243	0.775	0.452	0.168	0.085
HCM Control Delay	10	23	11.6	11	10
HCM Lane LOS	A	C	B	B	A
HCM 95th-tile Q	0.9	7.6	2.4	0.6	0.3

HCM 2010 Signalized Intersection Summary
 2: 17th St & Imperial Ave

Existing Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑					↘	↑↑	↗
Traffic Volume (veh/h)	0	513	40	11	79	0	0	0	0	362	110	124
Future Volume (veh/h)	0	513	40	11	79	0	0	0	0	362	110	124
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		1.00				1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	540	42	12	83	0				381	116	131
Adj No. of Lanes	0	2	0	0	1	0				1	2	1
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	2	2	2	2	0				2	2	2
Cap, veh/h	0	1927	149	140	904	0				478	955	410
Arrive On Green	0.00	1.00	1.00	0.58	0.58	0.00				0.27	0.27	0.27
Sat Flow, veh/h	0	3418	258	134	1559	0				1774	3539	1520
Grp Volume(v), veh/h	0	287	295	95	0	0				381	116	131
Grp Sat Flow(s),veh/h/ln	0	1770	1813	1693	0	0				1774	1770	1520
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0				13.0	1.6	4.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.5	0.0	0.0				13.0	1.6	4.5
Prop In Lane	0.00		0.14	0.13		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1026	1051	1044	0	0				478	955	410
V/C Ratio(X)	0.00	0.28	0.28	0.09	0.00	0.00				0.80	0.12	0.32
Avail Cap(c_a), veh/h	0	1026	1051	1044	0	0				822	1639	704
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	0.95	0.95	0.98	0.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	6.1	0.0	0.0				22.1	17.9	19.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.2	0.0	0.0				1.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.8	0.0	0.0				6.5	0.8	1.9
LnGrp Delay(d),s/veh	0.0	0.6	0.6	6.2	0.0	0.0				23.2	17.9	19.1
LnGrp LOS		A	A	A						C	B	B
Approach Vol, veh/h		582			95						628	
Approach Delay, s/veh		0.6			6.2						21.4	
Approach LOS		A			A						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		42.6		22.4		42.6						
Change Period (Y+Rc), s		4.9		4.9		4.9						
Max Green Setting (Gmax), s		25.1		30.1		25.1						
Max Q Clear Time (g_c+I1), s		2.0		15.0		3.5						
Green Ext Time (p_c), s		2.7		1.2		2.7						
Intersection Summary												
HCM 2010 Ctrl Delay				11.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 3: 19th St & Imperial Ave

Existing Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	497	0	0	82	106	13	297	21	0	0	0
Future Volume (veh/h)	380	497	0	0	82	106	13	297	21	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	409	534	0	0	88	114	14	319	23			
Adj No. of Lanes	1	1	0	0	1	0	0	3	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	2	0	0	2	2	0	2	0			
Cap, veh/h	894	1353	0	0	380	492	24	589	43			
Arrive On Green	0.29	1.00	0.00	0.00	0.51	0.51	0.12	0.12	0.12			
Sat Flow, veh/h	1774	1863	0	0	738	956	199	4796	353			
Grp Volume(v), veh/h	409	534	0	0	0	202	130	108	117			
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	0	1694	1853	1695	1800			
Q Serve(g_s), s	7.2	0.0	0.0	0.0	0.0	4.3	4.3	3.9	4.0			
Cycle Q Clear(g_c), s	7.2	0.0	0.0	0.0	0.0	4.3	4.3	3.9	4.0			
Prop In Lane	1.00		0.00	0.00		0.56	0.11		0.20			
Lane Grp Cap(c), veh/h	894	1353	0	0	0	871	227	208	221			
V/C Ratio(X)	0.46	0.39	0.00	0.00	0.00	0.23	0.57	0.52	0.53			
Avail Cap(c_a), veh/h	963	1353	0	0	0	871	573	524	557			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.88	0.88	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	3.9	0.0	0.0	0.0	0.0	8.7	26.9	26.7	26.8			
Incr Delay (d2), s/veh	0.1	0.8	0.0	0.0	0.0	0.6	2.3	2.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.1	0.3	0.0	0.0	0.0	2.1	2.4	1.9	2.1			
LnGrp Delay(d),s/veh	4.0	0.8	0.0	0.0	0.0	9.3	29.2	28.7	28.7			
LnGrp LOS	A	A				A	C	C	C			
Approach Vol, veh/h		943			202			356				
Approach Delay, s/veh		2.2			9.3			28.9				
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		52.1			13.8	38.3		12.9				
Change Period (Y+Rc), s		4.9			4.4	4.9		4.9				
Max Green Setting (Gmax), s		35.1			11.9	18.8		20.1				
Max Q Clear Time (g_c+I1), s		2.0			9.2	6.3		6.3				
Green Ext Time (p_c), s		14.0			0.2	7.5		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay					9.5							
HCM 2010 LOS					A							

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Vol, veh/h	23	506	14	6	170	2	11	7	9	13	6	19
Future Vol, veh/h	23	506	14	6	170	2	11	7	9	13	6	19
Conflicting Peds, #/hr	33	0	59	59	0	33	3	0	1	1	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
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, %	2	2	2	16	2	2	2	2	2	2	2	2
Mvmt Flow	25	556	15	7	187	2	12	8	10	14	7	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	220	0	0	615	0	0	883	899	616	849	899	223
Stage 1	-	-	-	-	-	-	666	666	-	233	233	-
Stage 2	-	-	-	-	-	-	217	233	-	616	666	-
Critical Hdwy	4.12	-	-	4.26	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.344	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1349	-	-	900	-	-	266	279	491	281	279	817
Stage 1	-	-	-	-	-	-	449	457	-	770	712	-
Stage 2	-	-	-	-	-	-	785	712	-	478	457	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1346	-	-	899	-	-	234	249	466	254	249	793
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	249	-	254	249	-
Stage 1	-	-	-	-	-	-	415	423	-	729	686	-
Stage 2	-	-	-	-	-	-	748	686	-	447	423	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.3			19			15.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	286	1346	-	-	899	-	-	383
HCM Lane V/C Ratio	0.104	0.019	-	-	0.007	-	-	0.109
HCM Control Delay (s)	19	7.7	0	-	9	0	-	15.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.4

Intersection														
Int Delay, s/veh	3.4													
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔			↔	↔			↔			↔	
Traffic Vol, veh/h	43	417	71	5	60	157	9	1	7	29	56	10	21	10
Future Vol, veh/h	43	417	71	5	60	157	9	1	7	29	56	10	21	10
Conflicting Peds, #/hr	13	0	85	0	85	0	13	0	9	0	16	16	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	50	-	-	-	-	-	-	-
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	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	100	2	2	2	2	2	2
Mvmt Flow	46	444	76	5	64	167	10	1	7	31	60	11	22	11

Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	180	0	0	443	529	0	0	0	940	938	545	904	938	189
Stage 1	-	-	-	-	-	-	-	0	620	620	-	308	318	-
Stage 2	-	-	-	-	-	-	-	0	320	318	-	596	620	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1396	-	-	-	1038	-	-	0	244	264	538	258	264	853
Stage 1	-	-	-	-	-	-	-	0	476	480	-	702	654	-
Stage 2	-	-	-	-	-	-	-	0	692	654	-	490	480	-
Platoon blocked, %		-	-			-	-	-						
Mov Cap-1 Maneuver	1386	-	-	~ -13	~ -13	-	-	0	198	231	493	192	231	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	198	231	-	192	231	-
Stage 1	-	-	-	-	-	-	-	0	421	425	-	662	647	-
Stage 2	-	-	-	-	-	-	-	0	655	647	-	376	425	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6		20.1	21.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	335	1386	-	-	+	-	-	265
HCM Lane V/C Ratio	0.292	0.033	-	-	-	-	-	0.165
HCM Control Delay (s)	20.1	7.7	0	-	-	-	-	21.2
HCM Lane LOS	C	A	A	-	-	-	-	C
HCM 95th %tile Q(veh)	1.2	0.1	-	-	-	-	-	0.6

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

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	39	398	51	67	161	14	18	41	46	26	49	35
Future Vol, veh/h	39	398	51	67	161	14	18	41	46	26	49	35
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	428	55	72	173	15	19	44	49	28	53	38
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	21.2	12.7	10.5	10.7
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	17%	9%	0%	29%	0%	24%
Vol Thru, %	39%	91%	0%	71%	0%	45%
Vol Right, %	44%	0%	100%	0%	100%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	437	51	228	14	110
LT Vol	18	39	0	67	0	26
Through Vol	41	398	0	161	0	49
RT Vol	46	0	51	0	14	35
Lane Flow Rate	113	470	55	245	15	118
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.19	0.738	0.075	0.413	0.022	0.201
Departure Headway (Hd)	6.043	5.651	4.898	6.06	5.2	6.112
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	639	730	593	687	585
Service Time	4.105	3.388	2.635	3.805	2.945	4.173
HCM Lane V/C Ratio	0.191	0.736	0.075	0.413	0.022	0.202
HCM Control Delay	10.5	22.7	8	13	8.1	10.7
HCM Lane LOS	B	C	A	B	A	B
HCM 95th-tile Q	0.7	6.4	0.2	2	0.1	0.7

Intersection

Intersection Delay, s/veh 15.8
Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Vol, veh/h	20	452	14	12	194	21	7	18	37	23	20	31
Future Vol, veh/h	20	452	14	12	194	21	7	18	37	23	20	31
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
Heavy Vehicles, %	2	2	7	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	481	15	13	206	22	7	19	39	24	21	33
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	20	10.6	9.4	9.7
HCM LOS	C	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	11%	4%	0%	6%	0%	31%
Vol Thru, %	29%	96%	0%	94%	0%	27%
Vol Right, %	60%	0%	100%	0%	100%	42%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	472	14	206	21	74
LT Vol	7	20	0	12	0	23
Through Vol	18	452	0	194	0	20
RT Vol	37	0	14	0	21	31
Lane Flow Rate	66	502	15	219	22	79
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.104	0.722	0.018	0.331	0.029	0.127
Departure Headway (Hd)	5.694	5.177	4.451	5.435	4.699	5.806
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	633	693	794	653	751	621
Service Time	3.697	2.96	2.233	3.235	2.498	3.809
HCM Lane V/C Ratio	0.104	0.724	0.019	0.335	0.029	0.127
HCM Control Delay	9.4	20.4	7.3	10.9	7.6	9.7
HCM Lane LOS	A	C	A	B	A	A
HCM 95th-tile Q	0.3	6.2	0.1	1.4	0.1	0.4

HCM 2010 Signalized Intersection Summary
 8: 25th St & Imperial Ave

Existing Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	62	325	96	29	150	42	34	183	50	65	181	58
Future Volume (veh/h)	62	325	96	29	150	42	34	183	50	65	181	58
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	65	339	100	30	156	44	35	191	52	68	189	60
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	774	215	154	759	201	120	529	138	169	416	135
Arrive On Green	0.63	0.63	0.63	1.00	1.00	1.00	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	149	1226	340	145	1202	319	234	2427	632	416	1907	617
Grp Volume(v), veh/h	504	0	0	230	0	0	148	0	130	163	0	154
Grp Sat Flow(s),veh/h/ln	1716	0	0	1666	0	0	1710	0	1584	1354	0	1586
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	3.0	0.0	5.5
Cycle Q Clear(g_c), s	9.3	0.0	0.0	0.0	0.0	0.0	4.4	0.0	4.6	7.6	0.0	5.5
Prop In Lane	0.13		0.20	0.13		0.19	0.24		0.40	0.42		0.39
Lane Grp Cap(c), veh/h	1145	0	0	1114	0	0	441	0	345	374	0	346
V/C Ratio(X)	0.44	0.00	0.00	0.21	0.00	0.00	0.33	0.00	0.38	0.44	0.00	0.45
Avail Cap(c_a), veh/h	1145	0	0	1114	0	0	660	0	560	573	0	561
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	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.1	0.0	0.0	0.0	0.0	0.0	21.6	0.0	21.7	22.6	0.0	22.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.4	0.0	0.0	0.8	0.0	1.2	1.4	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9	0.0	0.0	0.1	0.0	0.0	2.3	0.0	2.1	2.8	0.0	2.5
LnGrp Delay(d),s/veh	7.4	0.0	0.0	0.4	0.0	0.0	22.3	0.0	22.8	24.0	0.0	23.6
LnGrp LOS	A			A			C		C	C		C
Approach Vol, veh/h		504			230			278			317	
Approach Delay, s/veh		7.4			0.4			22.6			23.8	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.9		19.1		45.9		19.1				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		32.2		23.0		32.2		23.0				
Max Q Clear Time (g_c+I1), s		11.3		9.6		2.0		6.6				
Green Ext Time (p_c), s		5.2		4.6		5.8		5.2				
Intersection Summary												
HCM 2010 Ctrl Delay				13.3								
HCM 2010 LOS				B								

Intersection													
Int Delay, s/veh	2.4												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗			↕	↗		↕			↕	
Traffic Vol, veh/h	10	435	28	2	18	176	10	15	14	19	12	24	17
Future Vol, veh/h	10	435	28	2	18	176	10	15	14	19	12	24	17
Conflicting Peds, #/hr	28	0	8	0	8	0	28	13	0	16	16	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	50	-	-	-	-	-	-
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	87
Heavy Vehicles, %	2	2	2	50	2	2	2	2	2	2	2	4	2
Mvmt Flow	11	500	32	2	21	202	11	17	16	22	14	28	20

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	230	0	0	500	508	0	0	811	807	524	830	807	243
Stage 1	-	-	-	-	-	-	-	531	531	-	272	276	-
Stage 2	-	-	-	-	-	-	-	280	276	-	558	531	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1338	-	-	-	1057	-	-	298	315	553	289	313	796
Stage 1	-	-	-	-	-	-	-	532	526	-	734	678	-
Stage 2	-	-	-	-	-	-	-	727	682	-	514	523	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1324	-	-	~ -10	~ -10	-	-	263	302	542	254	300	769
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	263	302	-	254	300	-
Stage 1	-	-	-	-	-	-	-	522	516	-	708	662	-
Stage 2	-	-	-	-	-	-	-	672	666	-	466	513	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2		17.3	17.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	1324	-	-	+	-	-	355
HCM Lane V/C Ratio	0.159	0.009	-	-	-	-	-	0.172
HCM Control Delay (s)	17.3	7.7	0	-	-	-	-	17.2
HCM Lane LOS	C	A	A	-	-	-	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	-	-	-	0.6

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

Intersection

Int Delay, s/veh 0.8

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↖	↗		↖	↗		↕			↕	
Traffic Vol, veh/h	2	8	442	2	9	203	4	2	1	7	9	3	12
Future Vol, veh/h	2	8	442	2	9	203	4	2	1	7	9	3	12
Conflicting Peds, #/hr	0	2	0	14	14	0	2	6	0	4	4	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	50	-	-	-	-	-	-
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	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	9	486	2	10	223	4	2	1	8	10	3	13

Major/Minor	Major1		Major2		Minor1		Minor2						
Conflicting Flow All	223	225	0	0	500	0	0	774	767	504	757	767	231
Stage 1	-	-	-	-	-	-	-	517	522	-	245	245	-
Stage 2	-	-	-	-	-	-	-	257	245	-	512	522	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	1344	-	-	1064	-	-	316	332	568	324	332	808
Stage 1	-	-	-	-	-	-	-	541	531	-	759	703	-
Stage 2	-	-	-	-	-	-	-	748	703	-	545	531	-
Platoon blocked, %			-	-	-	-	-						
Mov Cap-1 Maneuver	~ -5	~ -5	-	-	1060	-	-	301	324	560	314	324	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	301	324	-	314	324	-
Stage 1	-	-	-	-	-	-	-	541	525	-	759	694	-
Stage 2	-	-	-	-	-	-	-	721	694	-	535	525	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		0.4	13.2	13.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	450	+	-	-	1060	-	-	454
HCM Lane V/C Ratio	0.024	-	-	-	0.009	-	-	0.058
HCM Control Delay (s)	13.2	-	-	-	8.4	0	-	13.4
HCM Lane LOS	B	-	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0	-	-	0.2

Notes

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

Intersection													
Int Delay, s/veh	1.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↕				↕	
Traffic Vol, veh/h	7	439	18	16	201	6	8	3	17	1	4	5	6
Future Vol, veh/h	7	439	18	16	201	6	8	3	17	1	4	5	6
Conflicting Peds, #/hr	28	0	20	20	0	28	2	0	5	0	5	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-	-
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	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	505	21	18	231	7	9	3	20	1	5	6	7

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	259	0	0	525	0	0	817	837	530	0	833	837	261
Stage 1	-	-	-	-	-	-	541	541	-	0	296	296	-
Stage 2	-	-	-	-	-	-	276	296	-	0	537	541	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1306	-	-	1042	-	-	295	303	549	0	288	303	778
Stage 1	-	-	-	-	-	-	525	521	-	0	712	668	-
Stage 2	-	-	-	-	-	-	730	668	-	0	528	521	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1304	-	-	1038	-	-	276	283	538	0	262	283	759
Mov Cap-2 Maneuver	-	-	-	-	-	-	276	283	-	0	262	283	-
Stage 1	-	-	-	-	-	-	512	508	-	0	689	639	-
Stage 2	-	-	-	-	-	-	701	639	-	0	499	508	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.6			15			15.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	393	1304	-	-	1038	-	-	367
HCM Lane V/C Ratio	0.082	0.006	-	-	0.018	-	-	0.047
HCM Control Delay (s)	15	7.8	0	-	8.5	0	-	15.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.1

Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗			↖	↗		↕			↕	
Traffic Vol, veh/h	5	444	8	1	14	217	6	2	2	7	3	2	4
Future Vol, veh/h	5	444	8	1	14	217	6	2	2	7	3	2	4
Conflicting Peds, #/hr	23	0	21	0	21	0	23	10	0	8	8	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	100	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	516	9	1	16	252	7	2	2	8	3	2	5

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	275	0	0	516	537	0	0	847	859	545	849	859	285
Stage 1	-	-	-	-	-	-	-	549	549	-	308	310	-
Stage 2	-	-	-	-	-	-	-	298	310	-	541	549	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1288	-	-	-	1031	-	-	282	294	538	281	294	754
Stage 1	-	-	-	-	-	-	-	520	516	-	702	659	-
Stage 2	-	-	-	-	-	-	-	711	659	-	525	516	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1277	-	-	~ -15	~ -15	-	-	270	281	525	266	281	733
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	270	281	-	266	281	-
Stage 1	-	-	-	-	-	-	-	507	503	-	684	646	-
Stage 2	-	-	-	-	-	-	-	698	646	-	507	503	-



















Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1		14.4	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	395	1277	-	-	+	-	-	377
HCM Lane V/C Ratio	0.032	0.005	-	-	-	-	-	0.028
HCM Control Delay (s)	14.4	7.8	0	-	-	-	-	14.8
HCM Lane LOS	B	A	A	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0.1

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

HCM 2010 Signalized Intersection Summary
13: 28th St & Imperial Ave

Existing Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	356	50	30	149	42	28	251	50	39	195	52
Future Volume (veh/h)	71	356	50	30	149	42	28	251	50	39	195	52
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	78	391	55	33	164	46	31	276	55	43	214	57
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	931	961	187	887	961	82	368	70	101	326	81
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	214	1535	1583	202	1462	1583	86	1428	271	147	1265	313
Grp Volume(v), veh/h	469	0	55	197	0	46	362	0	0	314	0	0
Grp Sat Flow(s),veh/h/ln	1749	0	1583	1664	0	1583	1785	0	0	1726	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	10.4	0.0	0.0
Prop In Lane	0.17		1.00	0.17		1.00	0.09		0.15	0.14		0.18
Lane Grp Cap(c), veh/h	1126	0	961	1074	0	961	520	0	0	508	0	0
V/C Ratio(X)	0.42	0.00	0.06	0.18	0.00	0.05	0.70	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	1126	0	961	1074	0	961	896	0	0	856	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	22.3	0.0	0.0	21.7	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.1	0.4	0.0	0.1	0.6	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.1	0.0	0.0	6.1	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	1.1	0.0	0.1	0.4	0.0	0.1	23.0	0.0	0.0	22.2	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		524			243			362			314	
Approach Delay, s/veh		1.0			0.3			23.0			22.2	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.6		21.4		43.6		21.4				
Change Period (Y+Rc), s		* 4.2		4.6		* 4.2		* 4.6				
Max Green Setting (Gmax), s		* 26		30.6		* 26		* 31				
Max Q Clear Time (g_c+I1), s		2.0		12.4		2.0		14.0				
Green Ext Time (p_c), s		1.6		2.8		1.6		2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			11.0									
HCM 2010 LOS			B									
Notes												

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕			↕	
Traffic Vol, veh/h	15	407	16	12	184	13	10	17	14	8	15	8
Future Vol, veh/h	15	407	16	12	184	13	10	17	14	8	15	8
Conflicting Peds, #/hr	13	0	15	15	0	13	17	0	11	11	0	17
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	6	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	473	19	14	214	15	12	20	16	9	17	9



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	227	0	0	488	0	0	795	778	499	792	778	244
Stage 1	-	-	-	-	-	-	523	523	-	255	255	-
Stage 2	-	-	-	-	-	-	272	255	-	537	523	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1341	-	-	1075	-	-	305	328	572	307	328	795
Stage 1	-	-	-	-	-	-	537	530	-	749	696	-
Stage 2	-	-	-	-	-	-	734	696	-	528	530	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1322	-	-	1065	-	-	274	310	560	271	310	775
Mov Cap-2 Maneuver	-	-	-	-	-	-	274	310	-	271	310	-
Stage 1	-	-	-	-	-	-	521	514	-	728	678	-
Stage 2	-	-	-	-	-	-	686	678	-	480	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.5	16.8	16.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	352	1322	-	-	1065	-	-	351
HCM Lane V/C Ratio	0.135	0.013	-	-	0.013	-	-	0.103
HCM Control Delay (s)	16.8	7.8	0	-	8.4	0	-	16.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.3

HCM 2010 Signalized Intersection Summary
 15: 30th St & Imperial Ave

Existing Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	360	30	20	155	20	35	63	37	30	76	28
Future Volume (veh/h)	19	360	30	20	155	20	35	63	37	30	76	28
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	20	383	32	21	165	21	37	67	39	32	81	30
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1329	1168	159	1192	1168	110	114	58	101	136	45
Arrive On Green	0.24	0.24	0.24	0.49	0.49	0.49	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	39	1801	1583	132	1615	1583	327	930	471	274	1109	367
Grp Volume(v), veh/h	403	0	32	186	0	21	143	0	0	143	0	0
Grp Sat Flow(s),veh/h/ln	1841	0	1583	1748	0	1583	1729	0	0	1750	0	0
Q Serve(g_s), s	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.5	0.0	1.0	3.5	0.0	0.4	4.9	0.0	0.0	4.9	0.0	0.0
Prop In Lane	0.05		1.00	0.11		1.00	0.26		0.27	0.22		0.21
Lane Grp Cap(c), veh/h	1416	0	1168	1351	0	1168	281	0	0	282	0	0
V/C Ratio(X)	0.28	0.00	0.03	0.14	0.00	0.02	0.51	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	1416	0	1168	1351	0	1168	855	0	0	860	0	0
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	6.8	5.2	0.0	4.4	27.2	0.0	0.0	27.2	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.5	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.5	1.9	0.0	0.2	2.5	0.0	0.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	11.3	0.0	6.9	5.4	0.0	4.4	27.7	0.0	0.0	27.7	0.0	0.0
LnGrp LOS	B		A	A		A	C			C		
Approach Vol, veh/h		435			207			143			143	
Approach Delay, s/veh		11.0			5.3			27.7			27.7	
Approach LOS		B			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.6		12.4		52.6		12.4				
Change Period (Y+Rc), s		* 4.6		4.5		4.6		* 4.5				
Max Green Setting (Gmax), s		* 25		30.9		25.0		* 31				
Max Q Clear Time (g_c+I1), s		13.5		6.9		5.5		6.9				
Green Ext Time (p_c), s		3.2		1.1		3.9		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			14.9									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
 16: 31st St & Imperial Ave

Existing Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↕			↕	
Traffic Volume (veh/h)	36	407	19	14	171	17	12	29	21	35	35	19
Future Volume (veh/h)	36	407	19	14	171	17	12	29	21	35	35	19
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	0.95		0.91	0.94		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1727	1900	1856	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	39	438	20	15	184	18	13	31	23	38	38	20
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	10	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1274	1050	114	1261	1133	88	127	78	136	114	45
Arrive On Green	0.24	0.24	0.24	0.74	0.74	0.74	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	86	1726	1423	74	1708	1535	156	912	558	423	820	327
Grp Volume(v), veh/h	477	0	20	199	0	18	67	0	0	96	0	0
Grp Sat Flow(s),veh/h/ln	1812	0	1423	1782	0	1535	1627	0	0	1570	0	0
Q Serve(g_s), s	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	13.8	0.0	0.7	2.0	0.0	0.2	2.3	0.0	0.0	3.4	0.0	0.0
Prop In Lane	0.08		1.00	0.08		1.00	0.19		0.34	0.40		0.21
Lane Grp Cap(c), veh/h	1397	0	1050	1375	0	1133	292	0	0	295	0	0
V/C Ratio(X)	0.34	0.00	0.02	0.14	0.00	0.02	0.23	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	1397	0	1050	1375	0	1133	484	0	0	479	0	0
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)	0.96	0.00	0.96	0.96	0.00	0.96	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	6.7	2.5	0.0	2.3	25.1	0.0	0.0	25.5	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.2	0.0	0.0	0.4	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	0.3	1.1	0.0	0.1	1.1	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	12.3	0.0	6.7	2.7	0.0	2.3	25.5	0.0	0.0	26.1	0.0	0.0
LnGrp LOS	B		A	A		A	C			C		
Approach Vol, veh/h		497			217			67			96	
Approach Delay, s/veh		12.1			2.7			25.5			26.1	
Approach LOS		B			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.0		13.0		52.0		13.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		40.0		17.0		40.0		17.0				
Max Q Clear Time (g_c+I1), s		15.8		5.4		4.0		4.3				
Green Ext Time (p_c), s		4.7		0.6		5.1		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				12.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 17: 32nd St & Imperial Ave

Existing Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔			↔			↔	
Traffic Volume (veh/h)	30	401	28	15	147	87	16	99	72	149	107	34
Future Volume (veh/h)	30	401	28	15	147	87	16	99	72	149	107	34
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.99		0.96	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1858	1900	1900	1849	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	418	29	16	153	91	17	103	75	155	111	35
Adj No. of Lanes	0	1	1	0	1	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	805	705	85	490	274	92	392	260	374	252	70
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	60	1764	1546	39	1075	600	58	971	643	689	625	173
Grp Volume(v), veh/h	449	0	29	260	0	0	195	0	0	301	0	0
Grp Sat Flow(s),veh/h/ln	1824	0	1546	1713	0	0	1673	0	0	1487	0	0
Q Serve(g_s), s	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	9.8	0.0	0.6	5.4	0.0	0.0	4.4	0.0	0.0	7.6	0.0	0.0
Prop In Lane	0.07		1.00	0.06		0.35	0.09		0.38	0.51		0.12
Lane Grp Cap(c), veh/h	899	0	705	849	0	0	744	0	0	696	0	0
V/C Ratio(X)	0.50	0.00	0.04	0.31	0.00	0.00	0.26	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	899	0	705	849	0	0	744	0	0	696	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)	0.95	0.00	0.95	0.99	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	8.6	9.9	0.0	0.0	11.5	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.1	0.9	0.0	0.0	0.9	0.0	0.0	2.0	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(50%),veh/ln	5.5	0.0	0.3	2.8	0.0	0.0	2.2	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	13.0	0.0	8.7	10.8	0.0	0.0	12.3	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	B		A	B			B			B		
Approach Vol, veh/h		478			260			195			301	
Approach Delay, s/veh		12.7			10.8			12.3			14.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		30.0		27.0		30.0		27.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		26.0		23.0		26.0		23.0				
Max Q Clear Time (g_c+I1), s		11.8		9.6		7.4		6.4				
Green Ext Time (p_c), s		4.0		2.7		4.5		3.0				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
18: 33rd St & Imperial Ave

Existing Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	495	62	27	173	12	30	20	18	12	13	26
Future Volume (veh/h)	54	495	62	27	173	12	30	20	18	12	13	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	59	544	68	30	190	13	33	22	20	13	14	29
Adj No. of Lanes	1	1	1	1	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	944	1288	1095	612	1222	1038	127	44	33	89	40	65
Arrive On Green	0.06	0.69	0.69	0.03	0.66	0.66	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	626	583	440	274	539	873
Grp Volume(v), veh/h	59	544	68	30	190	13	75	0	0	56	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1649	0	0	1686	0	0
Q Serve(g_s), s	0.6	8.3	0.9	0.4	2.5	0.2	0.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	8.3	0.9	0.4	2.5	0.2	2.7	0.0	0.0	2.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.44		0.27	0.23		0.52
Lane Grp Cap(c), veh/h	944	1288	1095	612	1222	1038	203	0	0	195	0	0
V/C Ratio(X)	0.06	0.42	0.06	0.05	0.16	0.01	0.37	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	944	1288	1095	675	1222	1038	739	0	0	745	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)	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.7	4.4	3.2	3.6	4.3	3.9	29.0	0.0	0.0	28.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.1	0.0	0.3	0.0	1.1	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.4	0.4	0.2	1.4	0.1	1.4	0.0	0.0	1.0	0.0	0.0
LnGrp Delay(d),s/veh	2.8	5.2	3.3	3.7	4.6	3.9	30.1	0.0	0.0	29.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C			C		
Approach Vol, veh/h		671			233			75			56	
Approach Delay, s/veh		4.8			4.4			30.1			29.6	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.4	6.2	49.5		9.4	8.5	47.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		27.5	4.0	20.0		27.5	4.0	20.0				
Max Q Clear Time (g_c+I1), s		4.7	2.4	10.3		4.0	2.6	4.5				
Green Ext Time (p_c), s		0.7	0.0	3.5		0.7	0.0	4.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.9								
HCM 2010 LOS				A								

Intersection	
Intersection Delay, s/veh	16.5
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	69	456	187	8	39	25
Future Vol, veh/h	69	456	187	8	39	25
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	524	215	9	45	29
Number of Lanes	0	1	2	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	20.2	9	9.5
HCM LOS	C	A	A

Lane	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	13%	0%	0%	61%
Vol Thru, %	87%	100%	89%	0%
Vol Right, %	0%	0%	11%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	525	125	70	64
LT Vol	69	0	0	39
Through Vol	456	125	62	0
RT Vol	0	0	8	25
Lane Flow Rate	603	143	81	74
Geometry Grp	5	7	7	2
Degree of Util (X)	0.757	0.207	0.115	0.115
Departure Headway (Hd)	4.517	5.19	5.11	5.646
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	803	691	700	631
Service Time	2.549	2.933	2.853	3.713
HCM Lane V/C Ratio	0.751	0.207	0.116	0.117
HCM Control Delay	20.2	9.3	8.5	9.5
HCM Lane LOS	C	A	A	A
HCM 95th-tile Q	7.2	0.8	0.4	0.4



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	102	415	187	186	341	25		
Future Volume (veh/h)	102	415	187	186	341	25		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1860	1900		
Adj Flow Rate, veh/h	106	432	195	194	355	26		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	513	457	598	1159	411	30		
Arrive On Green	0.29	0.29	0.11	0.21	0.24	0.24		
Sat Flow, veh/h	1774	1583	1774	1863	1709	125		
Grp Volume(v), veh/h	106	432	195	194	0	381		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1834		
Q Serve(g_s), s	4.1	24.0	9.1	7.7	0.0	17.9		
Cycle Q Clear(g_c), s	4.1	24.0	9.1	7.7	0.0	17.9		
Prop In Lane	1.00	1.00	1.00			0.07		
Lane Grp Cap(c), veh/h	513	457	598	1159	0	441		
V/C Ratio(X)	0.21	0.94	0.33	0.17	0.00	0.86		
Avail Cap(c_a), veh/h	513	457	598	1159	0	632		
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.90	0.90	0.00	1.00		
Uniform Delay (d), s/veh	24.2	31.3	30.6	16.6	0.0	32.8		
Incr Delay (d2), s/veh	0.2	28.5	0.3	0.3	0.0	8.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	22.0	4.5	4.1	0.0	10.1		
LnGrp Delay(d),s/veh	24.4	59.8	30.8	16.9	0.0	41.3		
LnGrp LOS	C	E	C	B		D		
Approach Vol, veh/h	538			389	381			
Approach Delay, s/veh	52.8			23.9	41.3			
Approach LOS	D			C	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.0		30.0	34.3	25.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		56.0		26.0	21.0	31.0		
Max Q Clear Time (g_c+I1), s		9.7		26.0	11.1	19.9		
Green Ext Time (p_c), s		1.8		0.0	1.2	1.7		
Intersection Summary								
HCM 2010 Ctrl Delay			40.9					
HCM 2010 LOS			D					

HCM Signalized Intersection Capacity Analysis
21: Imperial Ave & 36th St

Existing Plus Project PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	266	107	39	563	201
Future Volume (vph)	35	266	107	39	563	201
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1571	1776		1755	1848
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1571	1776		1755	1848
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	269	108	39	569	203
RTOR Reduction (vph)	0	168	16	0	0	0
Lane Group Flow (vph)	35	101	131	0	569	203
Confl. Peds. (#/hr)	9			8	8	
Bus Blockages (#/hr)	0	2	0	0	2	2
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	33.9	33.9	11.7		32.4	48.1
Effective Green, g (s)	33.9	33.9	11.7		32.4	48.1
Actuated g/C Ratio	0.38	0.38	0.13		0.36	0.53
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	666	591	230		631	987
v/s Ratio Prot	0.02		c0.07		c0.32	0.11
v/s Ratio Perm		c0.06				
v/c Ratio	0.05	0.17	0.57		0.90	0.21
Uniform Delay, d1	17.8	18.7	36.8		27.3	11.0
Progression Factor	1.00	1.00	1.00		0.88	0.63
Incremental Delay, d2	0.1	0.6	3.4		14.0	0.1
Delay (s)	18.0	19.3	40.2		38.2	6.9
Level of Service	B	B	D		D	A
Approach Delay (s)	19.2		40.2			30.0
Approach LOS	B		D			C

Intersection Summary

HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
 22: 40th St & Imperial Ave

Existing Plus Project PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	387	75	145	201	49	112		
Future Volume (veh/h)	387	75	145	201	49	112		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	399	77	149	207	51	115		
Adj No. of Lanes	1	0	1	1	1	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	602	116	235	1242	166	357		
Arrive On Green	0.40	0.40	0.13	0.67	0.09	0.09		
Sat Flow, veh/h	1518	293	1774	1863	1774	1583		
Grp Volume(v), veh/h	0	476	149	207	51	115		
Grp Sat Flow(s),veh/h/ln	0	1811	1774	1863	1774	1583		
Q Serve(g_s), s	0.0	8.4	3.1	1.6	1.1	2.4		
Cycle Q Clear(g_c), s	0.0	8.4	3.1	1.6	1.1	2.4		
Prop In Lane		0.16	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	0	719	235	1242	166	357		
V/C Ratio(X)	0.00	0.66	0.63	0.17	0.31	0.32		
Avail Cap(c_a), veh/h	0	1201	285	1692	181	371		
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	1.00		
Uniform Delay (d), s/veh	0.0	9.7	16.1	2.4	16.6	12.7		
Incr Delay (d2), s/veh	0.0	1.4	4.5	0.1	0.4	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	4.4	1.8	0.8	0.5	1.1		
LnGrp Delay(d),s/veh	0.0	11.1	20.6	2.5	17.0	12.9		
LnGrp LOS		B	C	A	B	B		
Approach Vol, veh/h	476			356	166			
Approach Delay, s/veh	11.1			10.1	14.1			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.6	21.0				31.5		7.7
Change Period (Y+Rc), s	5.4	* 5.4				5.4		4.0
Max Green Setting (Gmax), s	30	* 26				35.6		4.0
Max Q Clear Time (g_c+1), s	10.4					3.6		4.4
Green Ext Time (p_c), s	0.1	5.1				6.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.2					
HCM 2010 LOS			B					
Notes								

Intersection

Int Delay, s/veh 0.9

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	↶		↷	↶	↷	
Traffic Vol, veh/h	487	12	47	340	6	25
Future Vol, veh/h	487	12	47	340	6	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	529	13	51	370	7	27

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	542	0	1008	536
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	472	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1027	-	267	545
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	628	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1027	-	254	545
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	597	-

Approach EB WB NB

HCM Control Delay, s	0	1.1	13.7
HCM LOS			B

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	446	-	-	1027	-
HCM Lane V/C Ratio	0.076	-	-	0.05	-
HCM Control Delay (s)	13.7	-	-	8.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑		↔
Traffic Vol, veh/h	467	45	8	385	2	15
Future Vol, veh/h	467	45	8	385	2	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	519	50	9	428	2	17

Major/Minor

	Major1	Major2	Minor1		
Conflicting Flow All	0	0	569	0	990
Stage 1	-	-	-	-	544
Stage 2	-	-	-	-	446
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1003	-	273
Stage 1	-	-	-	-	582
Stage 2	-	-	-	-	645
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1003	-	271
Mov Cap-2 Maneuver	-	-	-	-	271
Stage 1	-	-	-	-	582
Stage 2	-	-	-	-	639

Approach























	EB	WB	NB
HCM Control Delay, s	0	0.2	11.9
HCM LOS			B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	539	-	-	1003	-
HCM Lane V/C Ratio	0.031	-	-	0.009	-
HCM Control Delay (s)	11.9	-	-	8.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 2010 Signalized Intersection Summary
 25: Redworks Dwy/Greenwood & Imperial Ave

Existing Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	339	135	171	223	18	154	3	253	27	3	16
Future Volume (veh/h)	8	339	135	171	223	18	154	3	253	27	3	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	8	357	142	180	235	19	162	3	266	28	3	17
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	15	460	183	250	922	784	459	361	529	262	52	93
Arrive On Green	0.01	0.36	0.36	0.14	0.50	0.50	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1774	1269	505	1774	1863	1583	1386	1863	1583	610	269	482
Grp Volume(v), veh/h	8	0	499	180	235	19	162	3	266	48	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1774	1774	1863	1583	1386	1863	1583	1360	0	0
Q Serve(g_s), s	0.2	0.0	9.9	3.8	2.9	0.2	3.0	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	9.9	3.8	2.9	0.2	3.9	0.1	0.0	0.9	0.0	0.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	0.58		0.35
Lane Grp Cap(c), veh/h	15	0	644	250	922	784	459	361	529	407	0	0
V/C Ratio(X)	0.53	0.00	0.78	0.72	0.25	0.02	0.35	0.01	0.50	0.12	0.00	0.00
Avail Cap(c_a), veh/h	179	0	1030	403	1316	1119	1450	1692	1661	1318	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.6	0.0	11.2	16.3	5.8	5.1	14.4	12.9	10.6	13.2	0.0	0.0
Incr Delay (d2), s/veh	25.9	0.0	2.0	3.9	0.1	0.0	0.5	0.0	0.7	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	5.1	2.1	1.5	0.1	1.6	0.0	2.3	0.4	0.0	0.0
LnGrp Delay(d),s/veh	45.4	0.0	13.2	20.2	5.9	5.1	14.9	12.9	11.3	13.4	0.0	0.0
LnGrp LOS	D		B	C	A	A	B	B	B	B		
Approach Vol, veh/h		507			434			431			48	
Approach Delay, s/veh		13.7			11.8			12.6			13.4	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.7	9.6	18.4		11.7	4.3	23.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		36.0	9.0	23.0		36.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		5.9	5.8	11.9		2.9	2.2	4.9				
Green Ext Time (p_c), s		1.8	0.6	2.5		1.8	0.0	1.9				
Intersection Summary												
HCM 2010 Ctrl Delay			12.8									
HCM 2010 LOS			B									

Intersection												
Int Delay, s/veh	6.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗		↖	↗		↖		↗		↔	
Traffic Vol, veh/h	0	568	33	272	404	0	8	0	285	0	0	0
Future Vol, veh/h	0	568	33	272	404	0	8	0	285	0	0	0
Conflicting Peds, #/hr	2	0	18	18	0	2	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	586	34	280	416	0	8	0	294	0	0	0



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	638	0	0	1599	-	622	1583	1617	419
Stage 1	-	-	-	-	-	-	621	-	-	979	979	-
Stage 2	-	-	-	-	-	-	978	-	-	604	638	-
Critical Hdwy	-	-	-	4.12	-	-	7.12	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	946	-	-	86	0	487	88	103	634
Stage 1	0	-	-	-	-	-	475	0	-	301	328	-
Stage 2	0	-	-	-	-	-	301	0	-	485	471	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	945	-	-	65	-	479	26	71	632
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	-	-	26	71	-
Stage 1	-	-	-	-	-	-	475	-	-	301	230	-
Stage 2	-	-	-	-	-	-	212	-	-	187	464	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			4.2			24.9			0		
HCM LOS							C			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	65	479	-	-	945	-	-	-
HCM Lane V/C Ratio	0.127	0.613	-	-	0.297	-	-	-
HCM Control Delay (s)	68.3	23.7	-	-	10.4	-	-	0
HCM Lane LOS	F	C	-	-	B	-	-	A
HCM 95th %tile Q(veh)	0.4	4.1	-	-	1.2	-	-	-

HCM 2010 Signalized Intersection Summary
27: 45th St & Imperial Ave

Existing Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	817	35	81	662	51	6	13	47	42	7	8
Future Volume (veh/h)	16	817	35	81	662	51	6	13	47	42	7	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	17	869	37	86	704	54	6	14	50	45	7	9
Adj No. of Lanes	1	1	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	29	1168	50	110	2355	181	66	28	87	179	19	18
Arrive On Green	0.02	0.66	0.66	0.06	0.71	0.71	0.07	0.07	0.07	0.07	0.07	0.07
Sat Flow, veh/h	1774	1760	75	1774	3318	254	85	384	1172	1126	259	240
Grp Volume(v), veh/h	17	0	906	86	375	383	70	0	0	61	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1835	1774	1770	1803	1640	0	0	1624	0	0
Q Serve(g_s), s	0.6	0.0	21.3	3.1	5.1	5.1	0.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	21.3	3.1	5.1	5.1	2.6	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.14	0.09		0.71	0.74		0.15
Lane Grp Cap(c), veh/h	29	0	1218	110	1256	1280	181	0	0	216	0	0
V/C Ratio(X)	0.59	0.00	0.74	0.78	0.30	0.30	0.39	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	109	0	1218	164	1256	1280	707	0	0	677	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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.8	0.0	7.3	30.0	3.5	3.5	29.1	0.0	0.0	28.8	0.0	0.0
Incr Delay (d2), s/veh	17.6	0.0	4.1	13.1	0.6	0.6	1.3	0.0	0.0	0.7	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(50%),veh/ln	0.4	0.0	12.0	1.9	2.6	2.7	1.3	0.0	0.0	1.1	0.0	0.0
LnGrp Delay(d),s/veh	49.4	0.0	11.4	43.2	4.1	4.1	30.4	0.0	0.0	29.6	0.0	0.0
LnGrp LOS	D		B	D	A	A	C			C		
Approach Vol, veh/h		923			844			70			61	
Approach Delay, s/veh		12.1			8.1			30.4			29.6	
Approach LOS		B			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.3	8.0	47.7		9.3	5.1	50.6				
Change Period (Y+Rc), s		4.5	4.0	4.5		4.5	4.0	4.5				
Max Green Setting (Gmax), s		26.0	6.0	20.0		26.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		4.6	5.1	23.3		4.1	2.6	7.1				
Green Ext Time (p_c), s		0.7	0.0	0.0		0.7	0.0	9.8				
Intersection Summary												
HCM 2010 Ctrl Delay			11.5									
HCM 2010 LOS			B									

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	↑
Traffic Vol, veh/h	895	11	12	785	1	16
Future Vol, veh/h	895	11	12	785	1	16
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	-	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	8	2	2	6
Mvmt Flow	932	11	13	818	1	17


















Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	945	0	1373
Stage 1	-	-	-	-	939
Stage 2	-	-	-	-	434
Critical Hdwy	-	-	4.26	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.28	-	3.52
Pot Cap-1 Maneuver	-	-	686	-	137
Stage 1	-	-	-	-	341
Stage 2	-	-	-	-	621
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	686	-	132
Mov Cap-2 Maneuver	-	-	-	-	132
Stage 1	-	-	-	-	341
Stage 2	-	-	-	-	599

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	132	527	-	-	686	-
HCM Lane V/C Ratio	0.008	0.032	-	-	0.018	-
HCM Control Delay (s)	32.5	12.1	-	-	10.3	0.2
HCM Lane LOS	D	B	-	-	B	A
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-






















HCM 2010 Signalized Intersection Summary
 29: I-805 SB On-Ramp/I-805 SB Off-Ramp & Imperial Ave

Existing Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	645	270	212	464	0	0	0	0	456	2	335
Future Volume (veh/h)	0	645	270	212	464	0	0	0	0	456	2	335
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	709	297	233	510	0				436	94	368
Adj No. of Lanes	0	2	0	2	2	0				1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	693	290	1018	2203	0				528	99	387
Arrive On Green	0.00	0.28	0.28	0.59	1.00	0.00				0.30	0.30	0.30
Sat Flow, veh/h	0	2526	1019	3442	3632	0				1774	332	1301
Grp Volume(v), veh/h	0	516	490	233	510	0				436	0	462
Grp Sat Flow(s),veh/h/ln	0	1770	1683	1721	1770	0				1774	0	1633
Q Serve(g_s), s	0.0	34.2	34.2	3.8	0.0	0.0				27.5	0.0	33.3
Cycle Q Clear(g_c), s	0.0	34.2	34.2	3.8	0.0	0.0				27.5	0.0	33.3
Prop In Lane	0.00		0.61	1.00		0.00				1.00		0.80
Lane Grp Cap(c), veh/h	0	504	480	1018	2203	0				528	0	486
V/C Ratio(X)	0.00	1.02	1.02	0.23	0.23	0.00				0.83	0.00	0.95
Avail Cap(c_a), veh/h	0	504	480	1018	2203	0				707	0	651
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	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.9	42.9	18.0	0.0	0.0				39.3	0.0	41.3
Incr Delay (d2), s/veh	0.0	45.9	46.9	0.0	0.2	0.0				4.5	0.0	18.3
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(50%),veh/ln	0.0	23.1	22.1	1.8	0.1	0.0				14.1	0.0	17.5
LnGrp Delay(d),s/veh	0.0	88.8	89.8	18.1	0.2	0.0				43.8	0.0	59.6
LnGrp LOS		F	F	B	A					D		E
Approach Vol, veh/h		1006			743						898	
Approach Delay, s/veh		89.3			5.8						52.0	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	40.5	39.2		40.3		79.7						
Change Period (Y+Rc), s	5.0	* 5		4.6		5.0						
Max Green Setting (Gmax), s	24.2	* 34		47.8		62.6						
Max Q Clear Time (g_c+I1), s	5.8	36.2		35.3		2.0						
Green Ext Time (p_c), s	0.7	0.0		0.4		0.7						
Intersection Summary												
HCM 2010 Ctrl Delay			53.2									
HCM 2010 LOS			D									
Notes												

HCM Signalized Intersection Capacity Analysis
 30: I-805 NB Off-Ramp/I-805 NB On-Ramp & Imperial Ave

Existing Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 			
Traffic Volume (vph)	308	801	0	0	508	605	168	0	228	0	0	0
Future Volume (vph)	308	801	0	0	508	605	168	0	228	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	0.88			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1770	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	3539			3539	1583		1770	2787			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	328	852	0	0	540	644	179	0	243	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	312	0	0	0	0	0	0
Lane Group Flow (vph)	328	852	0	0	540	332	0	179	243	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	custom			
Protected Phases	5	2			6	9		8	8	9		
Permitted Phases						6	9	8				
Actuated Green, G (s)	29.0	68.2			61.3	61.3		17.7	43.8			
Effective Green, g (s)	29.0	68.2			61.3	61.3		17.7	43.8			
Actuated g/C Ratio	0.24	0.57			0.51	0.51		0.15	0.36			
Clearance Time (s)	4.0	4.0						4.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	427	2011			1807	808		261	1017			
v/s Ratio Prot	c0.19	c0.24			0.15				0.09			
v/s Ratio Perm						c0.21		0.10				
v/c Ratio	0.77	0.42			0.30	0.41		0.69	0.24			
Uniform Delay, d1	42.4	14.7			16.9	18.2		48.5	26.5			
Progression Factor	1.30	1.53			0.53	2.46		1.00	1.00			
Incremental Delay, d2	5.6	0.4			0.1	0.3		7.3	0.1			
Delay (s)	60.5	23.0			9.0	44.9		55.8	26.6			
Level of Service	E	C			A	D		E	C			
Approach Delay (s)		33.4			28.5			39.0			0.0	
Approach LOS		C			C			D			A	
Intersection Summary												
HCM 2000 Control Delay			32.2									C
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			120.0									16.0
Intersection Capacity Utilization			73.8%									D
Analysis Period (min)			15									
c Critical Lane Group												

HCM 2010 Signalized Intersection Summary
31: 47th St & Imperial Ave

Existing Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	124	781	131	106	771	32	174	217	149	76	307	168
Future Volume (veh/h)	124	781	131	106	771	32	174	217	149	76	307	168
Number	5	2	12	1	6	16	3	8	18	7	4	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	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	132	831	139	113	820	34	185	231	159	81	327	179
Adj No. of Lanes	1	2	0	1	3	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	966	162	433	1594	66	151	446	295	102	426	228
Arrive On Green	0.49	0.64	0.64	0.24	0.32	0.32	0.09	0.22	0.22	0.06	0.19	0.19
Sat Flow, veh/h	1774	3035	508	1774	4995	207	1774	2043	1351	1774	2228	1194
Grp Volume(v), veh/h	132	485	485	113	556	298	185	199	191	81	258	248
Grp Sat Flow(s),veh/h/ln	1774	1770	1773	1774	1695	1811	1774	1770	1624	1774	1770	1652
Q Serve(g_s), s	5.4	26.4	26.4	6.2	16.0	16.1	10.2	11.9	12.5	5.4	16.6	17.1
Cycle Q Clear(g_c), s	5.4	26.4	26.4	6.2	16.0	16.1	10.2	11.9	12.5	5.4	16.6	17.1
Prop In Lane	1.00		0.29	1.00		0.11	1.00		0.83	1.00		0.72
Lane Grp Cap(c), veh/h	433	563	564	433	1082	578	151	386	355	102	338	316
V/C Ratio(X)	0.31	0.86	0.86	0.26	0.51	0.52	1.23	0.51	0.54	0.79	0.76	0.78
Avail Cap(c_a), veh/h	433	563	564	433	1082	578	151	619	569	151	622	581
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)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	19.7	19.7	36.6	33.3	33.3	54.9	41.3	41.6	55.8	46.0	46.2
Incr Delay (d2), s/veh	0.1	14.8	14.8	0.1	1.7	3.3	146.9	0.4	0.5	9.0	1.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	14.7	14.7	3.0	7.8	8.6	11.1	5.8	5.7	2.9	8.2	8.0
LnGrp Delay(d),s/veh	24.7	34.5	34.4	36.8	35.0	36.6	201.8	41.7	42.0	64.8	47.3	47.8
LnGrp LOS	C	C	C	D	D	D	F	D	D	E	D	D
Approach Vol, veh/h		1102			967			575			587	
Approach Delay, s/veh		33.3			35.7			93.3			50.0	
Approach LOS		C			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.7	43.6	14.6	28.1	33.7	43.6	11.3	31.4				
Change Period (Y+Rc), s	4.4	5.4	4.4	* 5.2	4.4	5.3	4.4	5.2				
Max Green Setting (Gmax), s	10.2	38.2	10.2	* 42	10.2	38.3	10.2	42.0				
Max Q Clear Time (g_c+1), s	10.2	28.4	12.2	19.1	7.4	18.1	7.4	14.5				
Green Ext Time (p_c), s	0.1	3.2	0.0	3.8	0.1	5.1	0.0	3.9				
Intersection Summary												
HCM 2010 Ctrl Delay				47.7								
HCM 2010 LOS				D								
Notes												

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕				
Traffic Vol, veh/h	30	40	0	0	50	10	160	380	20	0	0	0
Future Vol, veh/h	30	40	0	0	50	10	160	380	20	0	0	0
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
Heavy Vehicles, %	4	8	2	2	2	2	5	2	2	2	2	2
Mvmt Flow	32	43	0	0	53	11	170	404	21	0	0	0
Number of Lanes	0	1	0	0	1	0	1	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	9.8	9.3	10
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	43%	0%
Vol Thru, %	0%	100%	86%	57%	83%
Vol Right, %	0%	0%	14%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	253	147	70	60
LT Vol	160	0	0	30	0
Through Vol	0	253	127	40	50
RT Vol	0	0	20	0	10
Lane Flow Rate	170	270	156	74	64
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.26	0.37	0.21	0.128	0.104
Departure Headway (Hd)	5.499	4.946	4.851	6.185	5.841
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	654	728	740	579	612
Service Time	3.233	2.68	2.585	3.932	3.588
HCM Lane V/C Ratio	0.26	0.371	0.211	0.128	0.105
HCM Control Delay	10.2	10.6	8.9	9.8	9.3
HCM Lane LOS	B	B	A	A	A
HCM 95th-tile Q	1	1.7	0.8	0.4	0.3

HCM 2010 Signalized Intersection Summary
 2: 17th St & Imperial Ave

Baseline AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	130	20	10	210	0	0	0	0	180	100	260
Future Volume (veh/h)	0	130	20	10	210	0	0	0	0	180	100	260
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00				1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	151	23	12	244	0				139	171	330
Adj No. of Lanes	0	2	0	0	2	0				1	1	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, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2049	306	121	2214	0				327	344	553
Arrive On Green	0.00	0.66	0.66	0.22	0.22	0.00				0.18	0.18	0.18
Sat Flow, veh/h	0	3175	461	91	3415	0				1774	1863	2995
Grp Volume(v), veh/h	0	85	89	137	119	0				139	171	330
Grp Sat Flow(s),veh/h/ln	0	1770	1773	1811	1610	0				1774	1863	1498
Q Serve(g_s), s	0.0	1.1	1.1	0.0	3.9	0.0				4.5	5.4	6.6
Cycle Q Clear(g_c), s	0.0	1.1	1.1	3.8	3.9	0.0				4.5	5.4	6.6
Prop In Lane	0.00		0.26	0.09		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1176	1178	1264	1070	0				327	344	553
V/C Ratio(X)	0.00	0.07	0.08	0.11	0.11	0.00				0.42	0.50	0.60
Avail Cap(c_a), veh/h	0	1176	1178	1264	1070	0				822	863	1387
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.95	0.95	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	3.8	3.8	10.0	10.0	0.0				23.5	23.8	24.3
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.2	0.2	0.0				0.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.6	0.6	2.0	1.8	0.0				2.2	2.8	2.7
LnGrp Delay(d),s/veh	0.0	4.0	4.0	10.2	10.2	0.0				23.8	24.2	24.7
LnGrp LOS		A	A	B	B					C	C	C
Approach Vol, veh/h		174			256						640	
Approach Delay, s/veh		4.0			10.2						24.4	
Approach LOS		A			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		48.1		16.9		48.1						
Change Period (Y+Rc), s		4.9		4.9		4.9						
Max Green Setting (Gmax), s		25.1		30.1		25.1						
Max Q Clear Time (g_c+I1), s		3.1		8.6		5.9						
Green Ext Time (p_c), s		1.6		1.6		1.5						
Intersection Summary												
HCM 2010 Ctrl Delay				17.6								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
3: 19th St & Imperial Ave

Baseline AM Peak Hour
03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	150	0	0	200	390	30	350	20	0	0	0
Future Volume (veh/h)	150	150	0	0	200	390	30	350	20	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	161	161	0	0	215	419	32	376	22			
Adj No. of Lanes	1	1	0	0	2	0	0	3	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	2	0	0	2	2	0	2	0			
Cap, veh/h	558	1318	0	0	1021	914	53	665	40			
Arrive On Green	0.10	1.00	0.00	0.00	0.58	0.58	0.14	0.14	0.14			
Sat Flow, veh/h	1774	1863	0	0	1863	1583	375	4696	281			
Grp Volume(v), veh/h	161	161	0	0	215	419	157	131	142			
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	1770	1583	1844	1695	1813			
Q Serve(g_s), s	2.2	0.0	0.0	0.0	3.8	9.9	5.2	4.7	4.7			
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.0	3.8	9.9	5.2	4.7	4.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.20		0.16			
Lane Grp Cap(c), veh/h	558	1318	0	0	1021	914	261	240	257			
V/C Ratio(X)	0.29	0.12	0.00	0.00	0.21	0.46	0.60	0.54	0.55			
Avail Cap(c_a), veh/h	771	1318	0	0	1021	914	570	524	561			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.97	0.97	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	5.0	0.0	0.0	0.0	6.6	7.9	26.2	25.9	26.0			
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.5	1.7	2.2	1.9	1.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0	0.1	0.0	0.0	2.0	4.7	2.8	2.3	2.5			
LnGrp Delay(d),s/veh	5.1	0.2	0.0	0.0	7.1	9.6	28.4	27.9	27.8			
LnGrp LOS	A	A			A	A	C	C	C			
Approach Vol, veh/h		322			634			430				
Approach Delay, s/veh		2.6			8.7			28.0				
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		50.9			8.5	42.4		14.1				
Change Period (Y+Rc), s		4.9			4.4	4.9		4.9				
Max Green Setting (Gmax), s		35.1			11.9	18.8		20.1				
Max Q Clear Time (g_c+I1), s		2.0			4.2	11.9		7.2				
Green Ext Time (p_c), s		14.9			0.1	4.7		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay					13.3							
HCM 2010 LOS					B							

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	10	200	10	10	540	10	10	10	10	10	10	60
Future Vol, veh/h	10	200	10	10	540	10	10	10	10	10	10	60
Conflicting Peds, #/hr	25	0	44	44	0	25	6	0	1	1	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	215	11	11	581	11	11	11	11	11	11	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	616	0	0	270	0	0	937	924	265	887	924	617
Stage 1	-	-	-	-	-	-	286	286	-	633	633	-
Stage 2	-	-	-	-	-	-	651	638	-	254	291	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	964	-	-	1293	-	-	245	269	774	265	269	490
Stage 1	-	-	-	-	-	-	721	675	-	468	473	-
Stage 2	-	-	-	-	-	-	457	471	-	750	672	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	959	-	-	1292	-	-	193	248	745	243	248	477
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	248	-	243	248	-
Stage 1	-	-	-	-	-	-	686	642	-	452	459	-
Stage 2	-	-	-	-	-	-	381	457	-	717	639	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.1			19.3			17		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	284	959	-	-	1292	-	-	386
HCM Lane V/C Ratio	0.114	0.011	-	-	0.008	-	-	0.223
HCM Control Delay (s)	19.3	8.8	0	-	7.8	-	-	17
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.8

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	20	150	40	20	490	20	30	30	40	10	30	50
Future Vol, veh/h	20	150	40	20	490	20	30	30	40	10	30	50
Conflicting Peds, #/hr	15	0	48	48	0	15	7	0	8	8	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	22	161	43	22	527	22	32	32	43	11	32	54

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	563	0	0	252
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218
Pot Cap-1 Maneuver	1008	-	-	1313
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1002	-	-	1304
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.3	22.7	19.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	1002	-	-	1304	-	-	347
HCM Lane V/C Ratio	0.347	0.021	-	-	0.016	-	-	0.279
HCM Control Delay (s)	22.7	8.7	-	-	7.8	-	-	19.3
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.1	-	-	1.1

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	20	130	30	40	440	30	20	40	30	10	50	30
Future Vol, veh/h	20	130	30	40	440	30	20	40	30	10	50	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	133	31	41	449	31	20	41	31	10	51	31
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10	18	9.7	9.7
HCM LOS	A	C	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	100%	0%	100%	0%	11%
Vol Thru, %	44%	0%	81%	0%	94%	56%
Vol Right, %	33%	0%	19%	0%	6%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	20	160	40	470	90
LT Vol	20	20	0	40	0	10
Through Vol	40	0	130	0	440	50
RT Vol	30	0	30	0	30	30
Lane Flow Rate	92	20	163	41	480	92
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.147	0.035	0.251	0.066	0.689	0.146
Departure Headway (Hd)	5.744	6.165	5.526	5.821	5.171	5.723
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	583	651	619	691	629
Service Time	3.758	3.88	3.241	3.521	2.971	3.737
HCM Lane V/C Ratio	0.147	0.034	0.25	0.066	0.695	0.146
HCM Control Delay	9.7	9.1	10.1	8.9	18.8	9.7
HCM Lane LOS	A	A	B	A	C	A
HCM 95th-tile Q	0.5	0.1	1	0.2	5.5	0.5

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	20	160	20	10	470	30	10	20	20	20	30	40
Future Vol, veh/h	20	160	20	10	470	30	10	20	20	20	30	40
Conflicting Peds, #/hr	9	0	10	10	0	9	12	0	1	1	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	22	178	22	11	522	33	11	22	22	22	33	44




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	565	0	0	210	0	0	855	830	200	827	824	560
Stage 1	-	-	-	-	-	-	243	243	-	570	570	-
Stage 2	-	-	-	-	-	-	612	587	-	257	254	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1007	-	-	1361	-	-	278	306	841	291	306	528
Stage 1	-	-	-	-	-	-	761	705	-	506	502	-
Stage 2	-	-	-	-	-	-	480	497	-	748	693	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	997	-	-	1360	-	-	223	292	833	259	292	519
Mov Cap-2 Maneuver	-	-	-	-	-	-	223	292	-	259	292	-
Stage 1	-	-	-	-	-	-	738	684	-	491	494	-
Stage 2	-	-	-	-	-	-	402	489	-	688	672	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.2			16.7			19.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	364	997	-	-	1360	-	-	350
HCM Lane V/C Ratio	0.153	0.022	-	-	0.008	-	-	0.286
HCM Control Delay (s)	16.7	8.7	-	-	7.7	-	-	19.3
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	1.2

HCM 2010 Signalized Intersection Summary
8: 25th St & Imperial Ave

Baseline AM Peak Hour
03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	100	70	40	470	60	30	110	20	30	150	50
Future Volume (veh/h)	20	100	70	40	470	60	30	110	20	30	150	50
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	104	73	42	490	62	31	115	21	31	156	52
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	679	715	502	912	1136	144	121	353	64	107	342	110
Arrive On Green	0.70	0.70	0.70	0.93	0.93	0.93	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	852	1020	716	1203	1621	205	309	2373	428	260	2301	739
Grp Volume(v), veh/h	21	0	177	42	0	552	88	0	79	129	0	110
Grp Sat Flow(s),veh/h/ln	852	0	1736	1203	0	1827	1491	0	1620	1735	0	1565
Q Serve(g_s), s	0.5	0.0	2.2	0.3	0.0	2.2	0.1	0.0	2.9	0.8	0.0	4.2
Cycle Q Clear(g_c), s	2.8	0.0	2.2	2.5	0.0	2.2	4.2	0.0	2.9	4.2	0.0	4.2
Prop In Lane	1.00		0.41	1.00		0.11	0.35		0.26	0.24		0.47
Lane Grp Cap(c), veh/h	679	0	1216	912	0	1280	297	0	241	327	0	233
V/C Ratio(X)	0.03	0.00	0.15	0.05	0.00	0.43	0.30	0.00	0.33	0.39	0.00	0.47
Avail Cap(c_a), veh/h	679	0	1216	912	0	1280	612	0	573	668	0	554
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.7	0.0	3.2	0.9	0.0	0.7	24.7	0.0	24.8	25.3	0.0	25.3
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.1	0.0	1.1	0.9	0.0	1.4	1.3	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.1	0.1	0.0	1.4	1.5	0.0	1.4	2.2	0.0	2.0
LnGrp Delay(d),s/veh	3.8	0.0	3.5	1.0	0.0	1.8	25.7	0.0	26.1	26.6	0.0	27.9
LnGrp LOS	A		A	A		A	C		C	C		C
Approach Vol, veh/h		198			594			167			239	
Approach Delay, s/veh		3.5			1.7			25.9			27.2	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.4		14.6		50.4		14.6				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		32.2		23.0		32.2		23.0				
Max Q Clear Time (g_c+I1), s		4.8		6.2		4.5		6.2				
Green Ext Time (p_c), s		5.8		3.4		5.8		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			10.5									
HCM 2010 LOS			B									

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	20	130	20	20	550	30	30	40	10	10	30	40
Future Vol, veh/h	20	130	20	20	550	30	30	40	10	10	30	40
Conflicting Peds, #/hr	17	0	15	15	0	17	13	0	10	10	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	75	-	-	-	-	-	-	-	-
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, %	2	3	2	2	2	4	2	2	2	2	2	3
Mvmt Flow	23	149	23	23	632	34	34	46	11	11	34	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	684	0	0	187	0	0	971	952	186	958	945	679
Stage 1	-	-	-	-	-	-	222	222	-	712	712	-
Stage 2	-	-	-	-	-	-	749	730	-	246	233	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.327
Pot Cap-1 Maneuver	909	-	-	1387	-	-	232	259	856	237	262	450
Stage 1	-	-	-	-	-	-	780	720	-	423	436	-
Stage 2	-	-	-	-	-	-	404	428	-	758	712	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	899	-	-	1375	-	-	175	242	838	189	244	439
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	242	-	189	244	-
Stage 1	-	-	-	-	-	-	751	693	-	406	423	-
Stage 2	-	-	-	-	-	-	323	415	-	674	685	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	1.1		0.3		30.9		22.2	
HCM LOS					D		C	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	229	899	-	-	1375	-	-	300
HCM Lane V/C Ratio	0.402	0.026	-	-	0.017	-	-	0.307
HCM Control Delay (s)	30.9	9.1	-	-	7.7	-	-	22.2
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.8	0.1	-	-	0.1	-	-	1.3

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	140	10	10	570	10	0	0	10	10	10	20
Future Vol, veh/h	10	140	10	10	570	10	0	0	10	10	10	20
Conflicting Peds, #/hr	16	0	3	3	0	16	2	0	1	1	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	60	-	-	-	-	-	-	-	-	-	-	-
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, %	2	3	33	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	161	11	11	655	11	0	0	11	11	11	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	683	0	0	175	0	0	896	899	171	896	898	679
Stage 1	-	-	-	-	-	-	193	193	-	700	700	-
Stage 2	-	-	-	-	-	-	703	706	-	196	198	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	910	-	-	1401	-	-	261	279	873	261	279	452
Stage 1	-	-	-	-	-	-	809	741	-	430	441	-
Stage 2	-	-	-	-	-	-	428	439	-	806	737	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	908	-	-	1400	-	-	234	268	870	249	268	445
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	268	-	249	268	-
Stage 1	-	-	-	-	-	-	797	730	-	419	429	-
Stage 2	-	-	-	-	-	-	389	428	-	785	726	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	9.2	17.8
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	870	908	-	-	1400	-	-	327
HCM Lane V/C Ratio	0.013	0.013	-	-	0.008	-	-	0.141
HCM Control Delay (s)	9.2	9	-	-	7.6	0	-	17.8
HCM Lane LOS	A	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.5

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	10	130	10	20	570	20	20	20	20	10	10	10
Future Vol, veh/h	10	130	10	20	570	20	20	20	20	10	10	10
Conflicting Peds, #/hr	18	0	10	10	0	18	4	0	15	15	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	60	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	146	11	22	640	22	22	22	22	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	681	0	0	167	0	0	896	910	177	927	905	674
Stage 1	-	-	-	-	-	-	184	184	-	715	715	-
Stage 2	-	-	-	-	-	-	712	726	-	212	190	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	912	-	-	1411	-	-	261	275	866	249	276	455
Stage 1	-	-	-	-	-	-	818	747	-	422	434	-
Stage 2	-	-	-	-	-	-	423	430	-	790	743	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	909	-	-	1393	-	-	238	261	848	216	262	447
Mov Cap-2 Maneuver	-	-	-	-	-	-	238	261	-	216	262	-
Stage 1	-	-	-	-	-	-	801	731	-	410	421	-
Stage 2	-	-	-	-	-	-	394	417	-	727	727	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.3			18.9			19.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	326	909	-	-	1393	-	-	281
HCM Lane V/C Ratio	0.207	0.012	-	-	0.016	-	-	0.12
HCM Control Delay (s)	18.9	9	0	-	7.6	-	-	19.6
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0	-	-	0	-	-	0.4

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	20	130	10	10	570	10	10	10	10	10	0	20
Future Vol, veh/h	20	130	10	10	570	10	10	10	10	10	0	20
Conflicting Peds, #/hr	17	0	18	18	0	17	3	0	5	5	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	3	2	25	2	2	2	2	2	2	2	2
Mvmt Flow	24	155	12	12	679	12	12	12	12	12	0	24



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	707	0	0	185	0	0	949	957	184	950	957	705
Stage 1	-	-	-	-	-	-	226	226	-	725	725	-
Stage 2	-	-	-	-	-	-	723	731	-	225	232	-
Critical Hdwy	4.12	-	-	4.35	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.425	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	891	-	-	1263	-	-	240	258	858	240	258	436
Stage 1	-	-	-	-	-	-	777	717	-	416	430	-
Stage 2	-	-	-	-	-	-	417	427	-	778	713	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	889	-	-	1258	-	-	217	241	842	217	241	429
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	241	-	217	241	-
Stage 1	-	-	-	-	-	-	745	687	-	399	420	-
Stage 2	-	-	-	-	-	-	389	417	-	730	683	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			18.5			17.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	302	889	-	-	1258	-	-	324
HCM Lane V/C Ratio	0.118	0.027	-	-	0.009	-	-	0.11
HCM Control Delay (s)	18.5	9.2	-	-	7.9	-	-	17.5
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.4

HCM 2010 Signalized Intersection Summary
 13: 28th St & Imperial Ave

Baseline AM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	100	10	10	520	40	20	190	40	20	150	40
Future Volume (veh/h)	40	100	10	10	520	40	20	190	40	20	150	40
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	44	111	11	11	578	44	22	211	44	22	167	44
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	637	1099	109	932	1127	86	75	293	58	79	279	69
Arrive On Green	0.88	0.88	0.88	1.00	1.00	1.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	799	1668	165	1264	1710	130	74	1425	283	89	1358	337
Grp Volume(v), veh/h	44	0	122	11	0	622	277	0	0	233	0	0
Grp Sat Flow(s),veh/h/ln	799	0	1834	1264	0	1840	1782	0	0	1784	0	0
Q Serve(g_s), s	0.5	0.0	0.6	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.6	0.6	0.0	0.0	9.4	0.0	0.0	7.6	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.07	0.08		0.16	0.09		0.19
Lane Grp Cap(c), veh/h	637	0	1208	932	0	1212	426	0	0	427	0	0
V/C Ratio(X)	0.07	0.00	0.10	0.01	0.00	0.51	0.65	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	637	0	1208	932	0	1212	896	0	0	878	0	0
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.4	0.0	1.4	0.0	0.0	0.0	24.2	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.0	0.0	1.6	0.6	0.0	0.0	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(50%),veh/ln	0.1	0.0	0.3	0.0	0.0	0.5	4.7	0.0	0.0	3.9	0.0	0.0
LnGrp Delay(d),s/veh	1.6	0.0	1.6	0.0	0.0	1.6	24.8	0.0	0.0	24.0	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		166			633			277			233	
Approach Delay, s/veh		1.6			1.5			24.8			24.0	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.0		18.0		47.0		18.0				
Change Period (Y+Rc), s		* 4.2		4.6		* 4.2		* 4.6				
Max Green Setting (Gmax), s		* 26		30.6		* 26		* 31				
Max Q Clear Time (g_c+I1), s		2.6		9.6		2.6		11.4				
Green Ext Time (p_c), s		1.9		2.0		1.9		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				10.5								
HCM 2010 LOS				B								
Notes												

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	120	10	20	580	30	10	30	10	10	10	20
Future Vol, veh/h	20	120	10	20	580	30	10	30	10	10	10	20
Conflicting Peds, #/hr	9	0	6	6	0	9	14	0	8	8	0	14
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	4	2	2	2	2	2	2
Mvmt Flow	23	140	12	23	674	35	12	35	12	12	12	23




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	718	0	0	157	0	0	968	963	159	970	951	715
Stage 1	-	-	-	-	-	-	198	198	-	747	747	-
Stage 2	-	-	-	-	-	-	770	765	-	223	204	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	883	-	-	1423	-	-	233	256	886	233	260	431
Stage 1	-	-	-	-	-	-	804	737	-	405	420	-
Stage 2	-	-	-	-	-	-	393	412	-	780	733	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	873	-	-	1414	-	-	202	242	876	195	246	423
Mov Cap-2 Maneuver	-	-	-	-	-	-	202	242	-	195	246	-
Stage 1	-	-	-	-	-	-	779	714	-	391	410	-
Stage 2	-	-	-	-	-	-	351	402	-	708	710	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.2			22			20		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	270	873	-	-	1414	-	-	287
HCM Lane V/C Ratio	0.215	0.027	-	-	0.016	-	-	0.162
HCM Control Delay (s)	22	9.2	-	-	7.6	-	-	20
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	0.6

HCM 2010 Signalized Intersection Summary
15: 30th St & Imperial Ave

Baseline AM Peak Hour
03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	140	10	50	560	50	30	40	20	20	60	20
Future Volume (veh/h)	20	140	10	50	560	50	30	40	20	20	60	20
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	23	163	12	58	651	58	35	47	23	23	70	23
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	669	1298	96	934	1276	114	119	93	39	91	120	36
Arrive On Green	0.25	0.25	0.25	1.00	1.00	1.00	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	737	1714	126	1205	1686	150	438	905	377	236	1167	347
Grp Volume(v), veh/h	23	0	175	58	0	709	105	0	0	116	0	0
Grp Sat Flow(s),veh/h/ln	737	0	1840	1205	0	1836	1720	0	0	1749	0	0
Q Serve(g_s), s	1.5	0.0	4.8	0.3	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	4.8	5.1	0.0	0.0	3.6	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.07	1.00		0.08	0.33		0.22	0.20		0.20
Lane Grp Cap(c), veh/h	669	0	1393	934	0	1390	251	0	0	247	0	0
V/C Ratio(X)	0.03	0.00	0.13	0.06	0.00	0.51	0.42	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	669	0	1393	934	0	1390	847	0	0	868	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.84	0.00	0.84	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	0.0	7.7	0.2	0.0	0.0	27.8	0.0	0.0	27.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	1.1	0.4	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	2.5	0.1	0.0	0.4	1.8	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	6.6	0.0	7.9	0.4	0.0	1.1	28.2	0.0	0.0	28.5	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		198			767			105			116	
Approach Delay, s/veh		7.8			1.1			28.2			28.5	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.8		11.2		53.8		11.2				
Change Period (Y+Rc), s		* 4.6		4.5		4.6		* 4.5				
Max Green Setting (Gmax), s		* 25		30.9		25.0		* 31				
Max Q Clear Time (g_c+I1), s		6.8		6.0		7.1		5.6				
Green Ext Time (p_c), s		5.6		0.8		5.5		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				7.3								
HCM 2010 LOS				A								
Notes												

HCM 2010 Signalized Intersection Summary
 16: 31st St & Imperial Ave

Baseline AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	120	20	60	620	40	30	70	30	20	40	30
Future Volume (veh/h)	30	120	20	60	620	40	30	70	30	20	40	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	0.93		0.88	0.94		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1845	1863	1900	1900	1863	1900	1900	1857	1900
Adj Flow Rate, veh/h	33	132	22	66	681	44	33	77	33	22	44	33
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	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, %	2	2	2	3	2	2	2	2	2	2	2	2
Cap, veh/h	573	1081	180	953	1207	78	109	182	67	101	157	95
Arrive On Green	1.00	1.00	1.00	0.93	0.93	0.93	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	725	1550	258	1208	1730	112	228	1018	374	187	876	531
Grp Volume(v), veh/h	33	0	154	66	0	725	143	0	0	99	0	0
Grp Sat Flow(s),veh/h/ln	725	0	1808	1208	0	1842	1619	0	0	1593	0	0
Q Serve(g_s), s	0.3	0.0	0.0	0.3	0.0	3.9	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.1	0.0	0.0	0.3	0.0	3.9	4.9	0.0	0.0	3.3	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.06	0.23		0.23	0.22		0.33
Lane Grp Cap(c), veh/h	573	0	1261	953	0	1285	358	0	0	353	0	0
V/C Ratio(X)	0.06	0.00	0.12	0.07	0.00	0.56	0.40	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	573	0	1261	953	0	1285	534	0	0	525	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.73	0.00	0.73	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.2	0.0	0.0	0.7	0.0	0.8	23.9	0.0	0.0	23.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.1	0.0	1.3	0.7	0.0	0.0	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(50%),veh/ln	0.1	0.0	0.1	0.1	0.0	2.0	2.4	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	0.4	0.0	0.2	0.8	0.0	2.2	24.6	0.0	0.0	23.7	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		187			791			143			99	
Approach Delay, s/veh		0.2			2.1			24.6			23.7	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.4		15.6		49.4		15.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		38.0		19.0		38.0		19.0				
Max Q Clear Time (g_c+I1), s		6.1		5.3		5.9		6.9				
Green Ext Time (p_c), s		7.9		1.2		7.9		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				6.2								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 17: 32nd St & Imperial Ave

Baseline AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	120	20	30	620	270	30	110	20	60	90	60
Future Volume (veh/h)	30	120	20	30	620	270	30	110	20	60	90	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.97		0.97	0.98		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1844	1900	1900	1863	1900
Adj Flow Rate, veh/h	33	133	22	33	689	300	33	122	22	67	100	67
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	408	867	143	49	659	554	109	306	49	149	187	106
Arrive On Green	0.08	0.18	0.18	0.06	0.71	0.71	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1774	1557	258	1774	1863	1565	185	1321	214	338	809	460
Grp Volume(v), veh/h	33	0	155	33	689	300	177	0	0	234	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1815	1774	1863	1565	1720	0	0	1606	0	0
Q Serve(g_s), s	1.1	0.0	4.7	1.2	23.0	5.9	0.0	0.0	0.0	2.6	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	4.7	1.2	23.0	5.9	5.5	0.0	0.0	8.1	0.0	0.0
Prop In Lane	1.00		0.14	1.00		1.00	0.19		0.12	0.29		0.29
Lane Grp Cap(c), veh/h	408	0	1010	49	659	554	464	0	0	443	0	0
V/C Ratio(X)	0.08	0.00	0.15	0.67	1.05	0.54	0.38	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	408	0	1010	218	659	554	638	0	0	605	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.89	0.89	0.89	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.6	0.0	13.7	30.4	9.5	7.0	21.3	0.0	0.0	22.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.3	13.4	45.6	3.4	0.5	0.0	0.0	1.0	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(50%),veh/ln	0.6	0.0	2.4	0.8	19.2	2.9	2.8	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	23.7	0.0	14.0	43.8	55.1	10.4	21.8	0.0	0.0	23.2	0.0	0.0
LnGrp LOS	C		B	D	F	B	C			C		
Approach Vol, veh/h		188			1022			177			234	
Approach Delay, s/veh		15.7			41.6			21.8			23.2	
Approach LOS		B			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	40.2		19.0	19.0	27.0		19.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	30.0	23.0		22.0	8.0	23.0		22.0				
Max Q Clear Time (g_c+1), s	13.2	6.7		10.1	3.1	25.0		7.5				
Green Ext Time (p_c), s	0.0	0.8		2.0	0.4	0.0		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			33.8									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary
 18: 33rd St & Imperial Ave

Baseline AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	180	30	30	770	50	50	20	10	20	20	70
Future Volume (veh/h)	20	180	30	30	770	50	50	20	10	20	20	70
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	228	38	38	975	63	63	25	13	25	25	89
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	457	1924	316	832	2030	131	201	73	27	89	52	135
Arrive On Green	0.12	1.00	1.00	0.03	0.60	0.60	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3044	500	1774	3376	218	860	565	210	185	400	1041
Grp Volume(v), veh/h	25	131	135	38	511	527	101	0	0	139	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1775	1774	1770	1824	1635	0	0	1626	0	0
Q Serve(g_s), s	0.3	0.0	0.0	0.5	10.5	10.5	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	0.5	10.5	10.5	3.4	0.0	0.0	5.2	0.0	0.0
Prop In Lane	1.00		0.28	1.00		0.12	0.62		0.13	0.18		0.64
Lane Grp Cap(c), veh/h	457	1119	1122	832	1064	1097	302	0	0	276	0	0
V/C Ratio(X)	0.05	0.12	0.12	0.05	0.48	0.48	0.33	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	458	1119	1122	887	1064	1097	719	0	0	740	0	0
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)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.3	0.0	0.0	4.5	7.3	7.3	26.1	0.0	0.0	26.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	1.6	1.5	0.6	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.1	0.2	5.6	5.7	1.7	0.0	0.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	4.4	0.2	0.2	4.5	8.8	8.8	26.7	0.0	0.0	28.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C			C		
Approach Vol, veh/h		291			1076			101			139	
Approach Delay, s/veh		0.6			8.6			26.7			28.3	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.5	45.6		12.9	8.5	43.6		12.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.0	20.0		27.5	4.0	20.0		27.5				
Max Q Clear Time (g_c+1), s	2.0	2.0		7.2	2.3	12.5		5.4				
Green Ext Time (p_c), s	0.0	8.2		1.4	0.0	4.6		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				10.0								
HCM 2010 LOS				B								

Intersection

Intersection Delay, s/veh 16.1
 Intersection LOS C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Traffic Vol, veh/h	30	180	770	50	10	60
Future Vol, veh/h	30	180	770	50	10	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	196	837	54	11	65
Number of Lanes	0	2	2	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	9.7	18.3	9.3
HCM LOS	A	C	A

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	33%	0%	0%	0%	14%
Vol Thru, %	67%	100%	100%	84%	0%
Vol Right, %	0%	0%	0%	16%	86%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	120	513	307	70
LT Vol	30	0	0	0	10
Through Vol	60	120	513	257	0
RT Vol	0	0	0	50	60
Lane Flow Rate	98	130	558	333	76
Geometry Grp	7	7	7	7	2
Degree of Util (X)	0.157	0.203	0.769	0.449	0.116
Departure Headway (Hd)	5.778	5.61	4.959	4.844	5.499
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	618	637	731	743	649
Service Time	3.54	3.372	2.701	2.586	3.559
HCM Lane V/C Ratio	0.159	0.204	0.763	0.448	0.117
HCM Control Delay	9.6	9.8	22.3	11.5	9.3
HCM Lane LOS	A	A	C	B	A
HCM 95th-tile Q	0.6	0.8	7.4	2.3	0.4



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	30	140	820	370	130	50		
Future Volume (veh/h)	30	140	820	370	130	50		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	31	146	854	385	135	52		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	203	181	769	1484	404	155		
Arrive On Green	0.11	0.11	0.58	1.00	0.32	0.32		
Sat Flow, veh/h	1774	1583	1774	1863	1265	487		
Grp Volume(v), veh/h	31	146	854	385	0	187		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1752		
Q Serve(g_s), s	1.4	8.1	39.0	0.0	0.0	7.3		
Cycle Q Clear(g_c), s	1.4	8.1	39.0	0.0	0.0	7.3		
Prop In Lane	1.00	1.00	1.00			0.28		
Lane Grp Cap(c), veh/h	203	181	769	1484	0	559		
V/C Ratio(X)	0.15	0.81	1.11	0.26	0.00	0.33		
Avail Cap(c_a), veh/h	355	317	769	1484	0	559		
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.32	0.32	0.00	1.00		
Uniform Delay (d), s/veh	35.9	38.9	19.1	0.0	0.0	23.4		
Incr Delay (d2), s/veh	0.3	8.2	56.5	0.1	0.0	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	7.3	30.7	0.1	0.0	3.6		
LnGrp Delay(d),s/veh	36.3	47.1	75.6	0.1	0.0	23.7		
LnGrp LOS	D	D	F	A		C		
Approach Vol, veh/h	177			1239	187			
Approach Delay, s/veh	45.2			52.1	23.7			
Approach LOS	D			D	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		75.7		14.3	43.0	32.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		64.0		18.0	39.0	21.0		
Max Q Clear Time (g_c+I1), s		2.0		10.1	41.0	9.3		
Green Ext Time (p_c), s		4.1		0.3	0.0	2.8		
Intersection Summary								
HCM 2010 Ctrl Delay			48.1					
HCM 2010 LOS			D					

HCM Signalized Intersection Capacity Analysis
21: Imperial Ave & 36th St

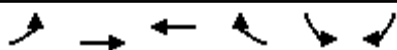
Baseline AM Peak Hour
03/09/2018



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	850	390	20	160	70
Future Volume (vph)	10	850	390	20	160	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1571	1846		1755	1848
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1571	1846		1755	1848
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	885	406	21	167	73
RTOR Reduction (vph)	0	271	2	0	0	0
Lane Group Flow (vph)	10	614	425	0	167	73
Confl. Peds. (#/hr)	10			8	8	
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	2	0	0	2	2
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	43.8	43.8	21.0		13.2	38.2
Effective Green, g (s)	43.8	43.8	21.0		13.2	38.2
Actuated g/C Ratio	0.49	0.49	0.23		0.15	0.42
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	861	764	430		257	784
v/s Ratio Prot	0.01		c0.23		c0.10	0.04
v/s Ratio Perm		c0.39				
v/c Ratio	0.01	0.80	0.99		0.65	0.09
Uniform Delay, d1	11.9	19.5	34.4		36.2	15.5
Progression Factor	1.00	1.00	1.00		0.81	0.54
Incremental Delay, d2	0.0	8.8	39.8		5.4	0.0
Delay (s)	11.9	28.2	74.1		34.5	8.4
Level of Service	B	C	E		C	A
Approach Delay (s)	28.1		74.1			26.6
Approach LOS	C		E			C

Intersection Summary

HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	170	60	150	550	180	50		
Future Volume (veh/h)	170	60	150	550	180	50		
Number	5	2	6	16	7	14		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	181	64	160	0	191	53		
Adj No. of Lanes	1	2	1	1	0	0		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	254	1586	301	256	275	76		
Arrive On Green	0.14	0.45	0.16	0.00	0.20	0.20		
Sat Flow, veh/h	1774	3632	1863	1583	1348	374		
Grp Volume(v), veh/h	181	64	160	0	245	0		
Grp Sat Flow(s),veh/h/ln	1774	1770	1863	1583	1729	0		
Q Serve(g_s), s	2.7	0.3	2.2	0.0	3.7	0.0		
Cycle Q Clear(g_c), s	2.7	0.3	2.2	0.0	3.7	0.0		
Prop In Lane	1.00			1.00	0.78	0.22		
Lane Grp Cap(c), veh/h	254	1586	301	256	353	0		
V/C Ratio(X)	0.71	0.04	0.53	0.00	0.69	0.00		
Avail Cap(c_a), veh/h	254	1953	420	357	1611	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	11.4	4.3	10.7	0.0	10.3	0.0		
Incr Delay (d2), s/veh	7.8	0.0	2.1	0.0	3.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9	0.1	1.3	0.0	2.0	0.0		
LnGrp Delay(d),s/veh	19.2	4.3	12.9	0.0	13.5	0.0		
LnGrp LOS	B	A	B		B			
Approach Vol, veh/h		245	160		245			
Approach Delay, s/veh		15.3	12.9		13.5			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.9		10.0	8.0	9.9		
Change Period (Y+Rc), s		* 5.4		* 4.3	4.0	5.4		
Max Green Setting (Gmax), s		* 15		* 26	4.0	6.3		
Max Q Clear Time (g_c+I1), s		2.3		5.7	4.7	4.2		
Green Ext Time (p_c), s		1.3		1.0	0.0	0.3		
Intersection Summary								
HCM 2010 Ctrl Delay			14.0					
HCM 2010 LOS			B					
Notes								

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	240	10	20	690	20	50
Future Vol, veh/h	240	10	20	690	20	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	261	11	22	750	22	54

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	272	0	684
Stage 1	-	-	-	-	266
Stage 2	-	-	-	-	418
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1288	-	382
Stage 1	-	-	-	-	754
Stage 2	-	-	-	-	632
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1288	-	375
Mov Cap-2 Maneuver	-	-	-	-	375
Stage 1	-	-	-	-	754
Stage 2	-	-	-	-	621

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	638	-	-	1288	-
HCM Lane V/C Ratio	0.119	-	-	0.017	-
HCM Control Delay (s)	11.4	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↖
Traffic Vol, veh/h	250	50	30	700	10	20
Future Vol, veh/h	250	50	30	700	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	56	33	778	11	22






















Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	333	0	762	167
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	456	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1223	-	341	848
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	605	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1223	-	332	848
Mov Cap-2 Maneuver	-	-	-	-	332	-
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	589	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	848	-	-	1223	-
HCM Lane V/C Ratio	0.026	-	-	0.027	-
HCM Control Delay (s)	9.4	-	-	8	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

HCM 2010 Signalized Intersection Summary
 25: Redworks Dwy/Greenwood & Imperial Ave

Baseline AM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	180	80	250	620	30	120	10	100	10	10	10
Future Volume (veh/h)	10	180	80	250	620	30	120	10	100	10	10	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	188	83	260	646	31	125	10	104	10	10	10
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	465	198	402	1445	646	480	298	613	217	124	87
Arrive On Green	0.01	0.19	0.19	0.23	0.41	0.41	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1774	2421	1029	1774	3539	1583	1386	1863	1583	306	777	542
Grp Volume(v), veh/h	10	135	136	260	646	31	125	10	104	30	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1681	1774	1770	1583	1386	1863	1583	1625	0	0
Q Serve(g_s), s	0.2	1.9	2.0	3.8	3.8	0.3	1.8	0.1	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	1.9	2.0	3.8	3.8	0.3	2.2	0.1	0.0	0.4	0.0	0.0
Prop In Lane	1.00		0.61	1.00		1.00	1.00		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	19	340	323	402	1445	646	480	298	613	429	0	0
V/C Ratio(X)	0.53	0.40	0.42	0.65	0.45	0.05	0.26	0.03	0.17	0.07	0.00	0.00
Avail Cap(c_a), veh/h	249	1428	1357	560	3477	1556	2010	2353	2359	2122	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	10.1	10.1	10.0	6.1	5.1	11.0	10.1	5.7	10.2	0.0	0.0
Incr Delay (d2), s/veh	20.9	0.8	0.9	1.7	0.2	0.0	0.3	0.0	0.1	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.0	1.0	2.0	1.8	0.2	0.9	0.1	0.5	0.2	0.0	0.0
LnGrp Delay(d),s/veh	34.9	10.8	11.0	11.7	6.3	5.1	11.2	10.2	5.9	10.3	0.0	0.0
LnGrp LOS	C	B	B	B	A	A	B	B	A	B		
Approach Vol, veh/h		281			937			239			30	
Approach Delay, s/veh		11.8			7.8			8.9			10.3	
Approach LOS		B			A			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.6	10.5	9.5		8.6	4.3	15.6				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		36.0	9.0	23.0		36.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		4.2	5.8	4.0		2.4	2.2	5.8				
Green Ext Time (p_c), s		0.9	1.6	1.5		0.9	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

Intersection												
Int Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↑	↑↓		↑		↑		↑↓	
Traffic Vol, veh/h	10	260	10	350	880	0	20	0	220	0	0	0
Future Vol, veh/h	10	260	10	350	880	0	20	0	220	0	0	0
Conflicting Peds, #/hr	1	0	11	11	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	14	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	274	11	368	926	0	21	0	232	0	0	0



















Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	927	0	0	295	0	0	1511	-	154	1823	1980	464
Stage 1	-	-	-	-	-	-	311	-	-	1664	1664	-
Stage 2	-	-	-	-	-	-	1200	-	-	159	316	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	733	-	-	1263	-	-	83	0	864	48	61	545
Stage 1	-	-	-	-	-	-	674	0	-	101	152	-
Stage 2	-	-	-	-	-	-	196	0	-	827	654	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	733	-	-	1262	-	-	63	-	855	27	42	545
Mov Cap-2 Maneuver	-	-	-	-	-	-	63	-	-	27	42	-
Stage 1	-	-	-	-	-	-	656	-	-	99	108	-
Stage 2	-	-	-	-	-	-	139	-	-	592	636	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0.4		2.6		17.3		0	
HCM LOS					C		A	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	63	855	733	-	-	1262	-	-	-
HCM Lane V/C Ratio	0.334	0.271	0.014	-	-	0.292	-	-	-
HCM Control Delay (s)	88.5	10.8	10	-	-	9	-	-	0
HCM Lane LOS	F	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.2	1.1	0	-	-	1.2	-	-	-

HCM 2010 Signalized Intersection Summary
27: 45th St & Imperial Ave

Baseline AM Peak Hour
03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	440	20	50	1150	30	50	20	70	10	10	10
Future Volume (veh/h)	10	440	20	50	1150	30	50	20	70	10	10	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	11	478	22	54	1250	33	54	22	76	11	11	11
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	2160	99	68	2304	61	133	46	104	120	105	76
Arrive On Green	0.01	0.63	0.63	0.04	0.66	0.66	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3432	158	1774	3509	93	439	347	786	347	797	572
Grp Volume(v), veh/h	11	246	254	54	630	653	152	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1820	1774	1770	1832	1572	0	0	1716	0	0
Q Serve(g_s), s	0.4	3.9	3.9	2.0	12.3	12.4	4.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	3.9	3.9	2.0	12.3	12.4	6.0	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.05	0.36		0.50	0.33		0.33
Lane Grp Cap(c), veh/h	20	1114	1146	68	1162	1203	283	0	0	301	0	0
V/C Ratio(X)	0.56	0.22	0.22	0.79	0.54	0.54	0.54	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	109	1114	1146	164	1162	1203	695	0	0	714	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	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.0	5.2	5.2	31.0	6.0	6.0	27.0	0.0	0.0	24.9	0.0	0.0
Incr Delay (d2), s/veh	22.5	0.5	0.4	18.4	1.8	1.8	1.6	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.0	2.0	1.3	6.5	6.8	2.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	54.5	5.6	5.6	49.4	7.8	7.7	28.6	0.0	0.0	25.1	0.0	0.0
LnGrp LOS	D	A	A	D	A	A	C			C		
Approach Vol, veh/h		511			1337			152				33
Approach Delay, s/veh		6.7			9.4			28.6				25.1
Approach LOS		A			A			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.1	6.5	45.4		13.1	4.7	47.2				
Change Period (Y+Rc), s		4.5	4.0	4.5		4.5	4.0	4.5				
Max Green Setting (Gmax), s		26.0	6.0	20.0		26.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		8.0	4.0	5.9		3.1	2.4	14.4				
Green Ext Time (p_c), s		0.9	0.0	9.5		1.0	0.0	5.8				
Intersection Summary												
HCM 2010 Ctrl Delay				10.4								
HCM 2010 LOS				B								

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	510	10	10	1230	20	10
Future Vol, veh/h	510	10	10	1230	20	10
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	11
Mvmt Flow	548	11	11	1323	22	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	568	0	1246 289
Stage 1	-	-	-	-	563 -
Stage 2	-	-	-	-	683 -
Critical Hdwy	-	-	4.14	-	6.84 7.12
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.41
Pot Cap-1 Maneuver	-	-	1000	-	166 681
Stage 1	-	-	-	-	534 -
Stage 2	-	-	-	-	463 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1000	-	163 676
Mov Cap-2 Maneuver	-	-	-	-	163 -
Stage 1	-	-	-	-	530 -
Stage 2	-	-	-	-	458 -


















Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	163	676	-	-	1000	-
HCM Lane V/C Ratio	0.132	0.016	-	-	0.011	-
HCM Control Delay (s)	30.4	10.4	-	-	8.6	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-

HCM 2010 Signalized Intersection Summary
 29: I-805 SB On-Ramp/I-805 SB Off-Ramp & Imperial Ave

Baseline AM Peak Hour

03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	380	140	210	750	0	0	0	0	350	0	480
Future Volume (veh/h)	0	380	140	210	750	0	0	0	0	350	0	480
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	409	151	226	806	0				376	0	516
Adj No. of Lanes	0	2	0	2	2	0				1	1	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	2	2	2	2	0				2	2	2
Cap, veh/h	0	724	264	872	2053	0				603	0	538
Arrive On Green	0.00	0.28	0.28	0.51	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	2634	928	3442	3632	0				1774	0	1583
Grp Volume(v), veh/h	0	283	277	226	806	0				376	0	516
Grp Sat Flow(s),veh/h/ln	0	1770	1699	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.4	16.7	4.5	0.0	0.0				21.3	0.0	38.3
Cycle Q Clear(g_c), s	0.0	16.4	16.7	4.5	0.0	0.0				21.3	0.0	38.3
Prop In Lane	0.00		0.55	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	504	484	872	2053	0				603	0	538
V/C Ratio(X)	0.00	0.56	0.57	0.26	0.39	0.00				0.62	0.00	0.96
Avail Cap(c_a), veh/h	0	504	484	872	2053	0				707	0	631
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	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.5	36.6	23.2	0.0	0.0				33.2	0.0	38.8
Incr Delay (d2), s/veh	0.0	4.5	4.8	0.1	0.5	0.0				0.7	0.0	23.0
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(50%),veh/ln	0.0	8.6	8.5	2.1	0.1	0.0				10.6	0.0	20.2
LnGrp Delay(d),s/veh	0.0	41.0	41.5	23.2	0.5	0.0				33.9	0.0	61.8
LnGrp LOS		D	D	C	A					C		E
Approach Vol, veh/h		560			1032						892	
Approach Delay, s/veh		41.2			5.5						50.0	
Approach LOS		D			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	35.4	39.2		45.4		74.6						
Change Period (Y+Rc), s	5.0	* 5		4.6		5.0						
Max Green Setting (Gmax), s	24.2	* 34		47.8		62.6						
Max Q Clear Time (g_c+I1), s	6.5	18.7		40.3		2.0						
Green Ext Time (p_c), s	1.1	0.6		0.5		1.2						
Intersection Summary												
HCM 2010 Ctrl Delay			29.5									
HCM 2010 LOS			C									
Notes												

HCM Signalized Intersection Capacity Analysis
 30: I-805 NB Off-Ramp/I-805 NB On-Ramp & Imperial Ave

Baseline AM Peak Hour

03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	530	0	0	720	950	240	10	110	0	0	0
Future Volume (vph)	200	530	0	0	720	950	240	10	110	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	0.88			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1778	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	3539			3539	1583		1778	2787			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	213	564	0	0	766	1011	255	11	117	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	366	0	0	0	0	0	0
Lane Group Flow (vph)	213	564	0	0	766	645	0	266	117	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	custom			
Protected Phases	5	2			6	9		8	8	9		
Permitted Phases						6	9	8				
Actuated Green, G (s)	29.0	62.0			56.2	56.2		22.8	50.0			
Effective Green, g (s)	29.0	62.0			56.2	56.2		22.8	50.0			
Actuated g/C Ratio	0.24	0.52			0.47	0.47		0.19	0.42			
Clearance Time (s)	4.0	4.0						4.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	427	1828			1657	741		337	1161			
v/s Ratio Prot	c0.12	0.16			0.22				0.04			
v/s Ratio Perm						c0.41		0.15				
v/c Ratio	0.50	0.31			0.46	0.87		0.79	0.10			
Uniform Delay, d1	39.2	16.7			21.6	28.6		46.3	21.3			
Progression Factor	1.34	1.59			0.50	1.42		1.00	1.00			
Incremental Delay, d2	0.8	0.4			0.1	6.5		11.6	0.0			
Delay (s)	53.3	26.9			10.9	47.0		57.9	21.3			
Level of Service	D	C			B	D		E	C			
Approach Delay (s)		34.1			31.5			46.8			0.0	
Approach LOS		C			C			D			A	

Intersection Summary

HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
 31: 47th St & Imperial Ave

Baseline AM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	130	400	120	90	1190	60	270	510	110	50	230	210
Future Volume (veh/h)	130	400	120	90	1190	60	270	510	110	50	230	210
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	449	135	101	1337	67	303	573	124	56	258	236
Adj No. of Lanes	1	2	0	1	3	0	1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	854	255	262	1578	79	151	949	205	72	508	426
Arrive On Green	0.30	0.64	0.64	0.15	0.32	0.32	0.09	0.33	0.33	0.04	0.29	0.29
Sat Flow, veh/h	1774	2684	800	1774	4944	248	1774	2864	617	1774	1770	1482
Grp Volume(v), veh/h	146	295	289	101	917	487	303	353	344	56	258	236
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1695	1802	1774	1770	1711	1774	1770	1482
Q Serve(g_s), s	8.3	10.9	11.1	6.2	30.3	30.3	10.2	20.0	20.2	3.8	14.6	16.2
Cycle Q Clear(g_c), s	8.3	10.9	11.1	6.2	30.3	30.3	10.2	20.0	20.2	3.8	14.6	16.2
Prop In Lane	1.00		0.47	1.00		0.14	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	262	563	546	262	1082	575	151	587	567	72	508	426
V/C Ratio(X)	0.56	0.52	0.53	0.38	0.85	0.85	2.01	0.60	0.61	0.78	0.51	0.55
Avail Cap(c_a), veh/h	262	563	546	262	1082	575	151	619	599	151	622	521
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)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	16.8	16.9	46.2	38.1	38.1	54.9	33.5	33.6	57.0	35.7	36.3
Incr Delay (d2), s/veh	1.5	3.4	3.6	0.3	8.2	14.4	476.8	1.0	1.1	6.5	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	5.8	5.7	3.1	15.4	17.3	25.0	10.0	9.7	2.0	7.2	6.7
LnGrp Delay(d),s/veh	40.5	20.2	20.4	46.5	46.4	52.5	531.8	34.5	34.6	63.6	36.0	36.7
LnGrp LOS	D	C	C	D	D	D	F	C	C	E	D	D
Approach Vol, veh/h		730			1505			1000			550	
Approach Delay, s/veh		24.3			48.4			185.2			39.1	
Approach LOS		C			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.1	43.6	14.6	39.7	22.1	43.6	9.3	45.0				
Change Period (Y+Rc), s	4.4	5.4	4.4	* 5.2	4.4	5.3	4.4	5.2				
Max Green Setting (Gmax), s	10.2	38.2	10.2	* 42	10.2	38.3	10.2	42.0				
Max Q Clear Time (g_c+1), s	10.2	13.1	12.2	18.2	10.3	32.3	5.8	22.2				
Green Ext Time (p_c), s	0.1	2.4	0.0	5.5	0.0	4.0	0.0	5.2				
Intersection Summary												
HCM 2010 Ctrl Delay			78.5									
HCM 2010 LOS			E									
Notes												

Intersection	
Intersection Delay, s/veh	18.1
Intersection LOS	C


















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕				
Traffic Vol, veh/h	40	50	0	0	40	10	150	790	60	0	0	0
Future Vol, veh/h	40	50	0	0	40	10	150	790	60	0	0	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	55	0	0	44	11	165	868	66	0	0	0
Number of Lanes	0	1	0	0	1	0	1	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	11.4	10.2	19.1
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	44%	0%
Vol Thru, %	0%	100%	81%	56%	80%
Vol Right, %	0%	0%	19%	0%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	527	323	90	50
LT Vol	150	0	0	40	0
Through Vol	0	527	263	50	40
RT Vol	0	0	60	0	10
Lane Flow Rate	165	579	355	99	55
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.254	0.811	0.485	0.191	0.102
Departure Headway (Hd)	5.549	5.047	4.917	6.964	6.69
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	646	718	732	512	532
Service Time	3.298	2.796	2.665	4.747	4.48
HCM Lane V/C Ratio	0.255	0.806	0.485	0.193	0.103
HCM Control Delay	10.2	25.8	12.3	11.4	10.2
HCM Lane LOS	B	D	B	B	B
HCM 95th-tile Q	1	8.5	2.7	0.7	0.3



















HCM 2010 Signalized Intersection Summary
 2: 17th St & Imperial Ave

Baseline PM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	530	50	20	90	0	0	0	0	380	120	130
Future Volume (veh/h)	0	530	50	20	90	0	0	0	0	380	120	130
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		1.00				1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	558	53	21	95	0				414	175	91
Adj No. of Lanes	0	2	0	0	2	0				2	1	1
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	2	2	2	2	0				2	2	2
Cap, veh/h	0	2099	199	335	1630	0				731	384	309
Arrive On Green	0.00	1.00	1.00	0.64	0.64	0.00				0.21	0.21	0.21
Sat Flow, veh/h	0	3357	309	404	2619	0				3548	1863	1500
Grp Volume(v), veh/h	0	302	309	60	56	0				414	175	91
Grp Sat Flow(s),veh/h/ln	0	1770	1803	1329	1610	0				1774	1863	1500
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.8	0.0				6.8	5.4	3.3
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.8	0.8	0.0				6.8	5.4	3.3
Prop In Lane	0.00		0.17	0.35		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1138	1160	929	1036	0				731	384	309
V/C Ratio(X)	0.00	0.27	0.27	0.06	0.05	0.00				0.57	0.46	0.29
Avail Cap(c_a), veh/h	0	1138	1160	929	1036	0				1643	863	695
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	0.93	0.93	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	4.3	4.3	0.0				23.2	22.6	21.8
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.1	0.1	0.0				0.3	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
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.4	0.4	0.0				3.4	2.8	1.4
LnGrp Delay(d),s/veh	0.0	0.5	0.5	4.4	4.4	0.0				23.4	22.9	22.0
LnGrp LOS		A	A	A	A					C	C	C
Approach Vol, veh/h		611			116						680	
Approach Delay, s/veh		0.5			4.4						23.1	
Approach LOS		A			A						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		46.7		18.3		46.7						
Change Period (Y+Rc), s		4.9		4.9		4.9						
Max Green Setting (Gmax), s		25.1		30.1		25.1						
Max Q Clear Time (g_c+I1), s		2.0		8.8		2.8						
Green Ext Time (p_c), s		3.0		1.6		3.0						
Intersection Summary												
HCM 2010 Ctrl Delay				11.8								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
 3: 19th St & Imperial Ave

Baseline PM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	390	510	0	0	90	110	20	310	30	0	0	0
Future Volume (veh/h)	390	510	0	0	90	110	20	310	30	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	419	548	0	0	97	118	22	333	32			
Adj No. of Lanes	1	1	0	0	2	0	0	3	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	2	0	0	2	2	0	2	0			
Cap, veh/h	912	1338	0	0	884	791	38	601	59			
Arrive On Green	0.30	1.00	0.00	0.00	0.50	0.50	0.13	0.13	0.13			
Sat Flow, veh/h	1774	1863	0	0	1863	1583	286	4591	449			
Grp Volume(v), veh/h	419	548	0	0	97	118	142	118	127			
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	1770	1583	1848	1695	1783			
Q Serve(g_s), s	7.6	0.0	0.0	0.0	1.9	2.6	4.7	4.2	4.3			
Cycle Q Clear(g_c), s	7.6	0.0	0.0	0.0	1.9	2.6	4.7	4.2	4.3			
Prop In Lane	1.00		0.00	0.00		1.00	0.15		0.25			
Lane Grp Cap(c), veh/h	912	1338	0	0	884	791	242	222	234			
V/C Ratio(X)	0.46	0.41	0.00	0.00	0.11	0.15	0.59	0.53	0.54			
Avail Cap(c_a), veh/h	969	1338	0	0	884	791	572	524	552			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.94	0.94	0.00	0.00	1.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	3.9	0.0	0.0	0.0	8.6	8.8	26.6	26.4	26.4			
Incr Delay (d2), s/veh	0.1	0.9	0.0	0.0	0.3	0.4	2.2	2.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.3	0.3	0.0	0.0	1.0	1.2	2.6	2.1	2.2			
LnGrp Delay(d),s/veh	4.0	0.9	0.0	0.0	8.9	9.2	28.8	28.3	28.4			
LnGrp LOS	A	A			A	A	C	C	C			
Approach Vol, veh/h		967			215			387				
Approach Delay, s/veh		2.2			9.0			28.5				
Approach LOS		A			A			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		51.6			14.2	37.4		13.4				
Change Period (Y+Rc), s		4.9			4.4	4.9		4.9				
Max Green Setting (Gmax), s		35.1			11.9	18.8		20.1				
Max Q Clear Time (g_c+I1), s		2.0			9.6	4.6		6.7				
Green Ext Time (p_c), s		14.5			0.2	8.4		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				9.7								
HCM 2010 LOS				A								

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Vol, veh/h	30	520	20	10	180	10	20	10	10	20	10	20
Future Vol, veh/h	30	520	20	10	180	10	20	10	10	20	10	20
Conflicting Peds, #/hr	33	0	59	59	0	33	3	0	1	1	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	100	-	-	-	-	-	-	-	-
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, %	2	2	2	16	2	2	2	2	2	2	2	2
Mvmt Flow	33	571	22	11	198	11	22	11	11	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	242	0	0	652	0	0	952	971	642	918	976	239
Stage 1	-	-	-	-	-	-	707	707	-	258	258	-
Stage 2	-	-	-	-	-	-	245	264	-	660	718	-
Critical Hdwy	4.12	-	-	4.26	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.344	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1324	-	-	871	-	-	239	253	474	252	251	800
Stage 1	-	-	-	-	-	-	426	438	-	747	694	-
Stage 2	-	-	-	-	-	-	759	690	-	452	433	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1321	-	-	870	-	-	204	222	450	221	221	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	204	222	-	221	221	-
Stage 1	-	-	-	-	-	-	390	401	-	700	666	-
Stage 2	-	-	-	-	-	-	714	663	-	413	396	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.5			23.1			19.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	242	1321	-	-	870	-	-	310
HCM Lane V/C Ratio	0.182	0.025	-	-	0.013	-	-	0.177
HCM Control Delay (s)	23.1	7.8	0	-	9.2	-	-	19.1
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.6

Intersection														
Int Delay, s/veh	5													
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗				↕			↕	
Traffic Vol, veh/h	50	430	80	6	70	170	10	2	10	30	60	20	30	20
Future Vol, veh/h	50	430	80	6	70	170	10	2	10	30	60	20	30	20
Conflicting Peds, #/hr	13	0	85	0	85	0	13	0	9	0	16	16	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	-	-	-	-
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	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	100	2	2	2	2	2	2
Mvmt Flow	53	457	85	6	74	181	11	2	11	32	64	21	32	21

Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	204	0	0	542	628	0	0	0	1062	1057	601	1018	1095	208
Stage 1	-	-	-	-	-	-	-	0	691	691	-	348	361	-
Stage 2	-	-	-	-	-	-	-	0	371	366	-	670	734	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1368	-	-	-	954	-	-	0	201	225	500	216	214	832
Stage 1	-	-	-	-	-	-	-	0	435	446	-	668	626	-
Stage 2	-	-	-	-	-	-	-	0	649	623	-	446	426	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1358	-	-	-13	-13	-	-	0	153	199	458	154	189	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	153	199	-	154	189	-
Stage 1	-	-	-	-	-	-	-	0	388	398	-	635	619	-
Stage 2	-	-	-	-	-	-	-	0	595	616	-	335	380	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7		24.6	28.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	288	1358	-	-	+	-	-	224
HCM Lane V/C Ratio	0.369	0.039	-	-	-	-	-	0.332
HCM Control Delay (s)	24.6	7.8	-	-	-	-	-	28.9
HCM Lane LOS	C	A	-	-	-	-	-	D
HCM 95th %tile Q(veh)	1.6	0.1	-	-	-	-	-	1.4

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

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↵		↵	↵			↕			↕	
Traffic Vol, veh/h	40	410	60	70	170	20	20	50	50	30	60	40
Future Vol, veh/h	40	410	60	70	170	20	20	50	50	30	60	40
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	441	65	75	183	22	22	54	54	32	65	43
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	26.1	11.6	11.1	11.4
HCM LOS	D	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	17%	100%	0%	100%	0%	23%
Vol Thru, %	42%	0%	87%	0%	89%	46%
Vol Right, %	42%	0%	13%	0%	11%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	40	470	70	190	130
LT Vol	20	40	0	70	0	30
Through Vol	50	0	410	0	170	60
RT Vol	50	0	60	0	20	40
Lane Flow Rate	129	43	505	75	204	140
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.223	0.075	0.801	0.139	0.344	0.244
Departure Headway (Hd)	6.233	6.302	5.705	6.638	6.054	6.279
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	572	567	632	538	592	569
Service Time	4.314	4.053	3.455	4.402	3.818	4.357
HCM Lane V/C Ratio	0.226	0.076	0.799	0.139	0.345	0.246
HCM Control Delay	11.1	9.6	27.5	10.5	12	11.4
HCM Lane LOS	B	A	D	B	B	B
HCM 95th-tile Q	0.8	0.2	8	0.5	1.5	1

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	30	470	20	20	200	30	10	20	40	30	30	40
Future Vol, veh/h	30	470	20	20	200	30	10	20	40	30	30	40
Conflicting Peds, #/hr	16	0	41	41	0	16	25	0	7	7	0	25
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
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	7	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	500	21	21	213	32	11	21	43	32	32	43




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	261	0	0	562	0	0	949	918	559	900	913	270
Stage 1	-	-	-	-	-	-	615	615	-	287	287	-
Stage 2	-	-	-	-	-	-	334	303	-	613	626	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1303	-	-	1009	-	-	240	272	529	259	273	769
Stage 1	-	-	-	-	-	-	479	482	-	720	674	-
Stage 2	-	-	-	-	-	-	680	664	-	480	477	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1276	-	-	1003	-	-	186	247	508	210	248	743
Mov Cap-2 Maneuver	-	-	-	-	-	-	186	247	-	210	248	-
Stage 1	-	-	-	-	-	-	451	454	-	693	651	-
Stage 2	-	-	-	-	-	-	584	641	-	406	449	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.7			19.2			22.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	328	1276	-	-	1003	-	-	315
HCM Lane V/C Ratio	0.227	0.025	-	-	0.021	-	-	0.338
HCM Control Delay (s)	19.2	7.9	-	-	8.7	-	-	22.1
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	1.4

HCM 2010 Signalized Intersection Summary
8: 25th St & Imperial Ave

Baseline PM Peak Hour
03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	340	100	30	160	50	40	190	60	70	190	60
Future Volume (veh/h)	70	340	100	30	160	50	40	190	60	70	190	60
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	73	354	104	31	167	52	42	198	62	73	198	62
Adj No. of Lanes	1	1	0	1	1	0	0	2	0	0	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	823	852	250	560	839	261	131	522	159	177	434	140
Arrive On Green	0.62	0.62	0.62	1.00	1.00	1.00	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1157	1384	407	930	1363	425	261	2233	680	419	1857	600
Grp Volume(v), veh/h	73	0	458	31	0	219	158	0	144	169	0	164
Grp Sat Flow(s),veh/h/ln	1157	0	1791	930	0	1788	1598	0	1575	1287	0	1589
Q Serve(g_s), s	1.7	0.0	8.6	0.5	0.0	0.0	0.1	0.0	5.0	3.5	0.0	5.7
Cycle Q Clear(g_c), s	1.7	0.0	8.6	9.1	0.0	0.0	5.8	0.0	5.0	8.5	0.0	5.7
Prop In Lane	1.00		0.23	1.00		0.24	0.27		0.43	0.43		0.38
Lane Grp Cap(c), veh/h	823	0	1102	560	0	1100	444	0	368	380	0	371
V/C Ratio(X)	0.09	0.00	0.42	0.06	0.00	0.20	0.36	0.00	0.39	0.44	0.00	0.44
Avail Cap(c_a), veh/h	823	0	1102	560	0	1100	634	0	557	554	0	562
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.1	0.0	6.5	1.0	0.0	0.0	20.9	0.0	21.0	22.2	0.0	21.3
Incr Delay (d2), s/veh	0.2	0.0	1.2	0.2	0.0	0.4	0.8	0.0	1.2	1.4	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	4.6	0.2	0.0	0.1	2.5	0.0	2.3	2.9	0.0	2.7
LnGrp Delay(d),s/veh	5.3	0.0	7.6	1.2	0.0	0.4	21.7	0.0	22.2	23.6	0.0	22.7
LnGrp LOS	A		A	A		A	C		C	C		C
Approach Vol, veh/h		531			250			302			333	
Approach Delay, s/veh		7.3			0.5			21.9			23.1	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.9		20.1		44.9		20.1				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		32.2		23.0		32.2		23.0				
Max Q Clear Time (g_c+I1), s		10.6		10.5		11.1		7.8				
Green Ext Time (p_c), s		5.1		4.7		5.1		5.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								

Intersection													
Int Delay, s/veh	3.4												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗			↕			↕	
Traffic Vol, veh/h	20	450	30	3	20	180	20	20	20	20	20	30	20
Future Vol, veh/h	20	450	30	3	20	180	20	20	20	20	20	30	20
Conflicting Peds, #/hr	28	0	8	0	8	0	28	13	0	16	16	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	-	75	-	-	-	-	-	-	-	-
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	87
Heavy Vehicles, %	2	2	2	50	2	2	2	2	2	2	2	4	2
Mvmt Flow	23	517	34	3	23	207	23	23	23	23	23	34	23

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	258	0	0	551	560	0	0	894	899	558	911	905	259
Stage 1	-	-	-	-	-	-	-	588	588	-	292	299	-
Stage 2	-	-	-	-	-	-	-	306	311	-	619	606	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1307	-	-	-	1011	-	-	262	279	529	255	274	780
Stage 1	-	-	-	-	-	-	-	495	496	-	716	663	-
Stage 2	-	-	-	-	-	-	-	704	658	-	476	484	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1293	-	-	~ -8	~ -8	-	-	221	266	518	216	261	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	221	266	-	216	261	-
Stage 1	-	-	-	-	-	-	-	483	484	-	687	648	-
Stage 2	-	-	-	-	-	-	-	639	643	-	420	472	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3		21	21.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	294	1293	-	-	+	-	-	299
HCM Lane V/C Ratio	0.235	0.018	-	-	-	-	-	0.269
HCM Control Delay (s)	21	7.8	-	-	-	-	-	21.4
HCM Lane LOS	C	A	-	-	-	-	-	C
HCM 95th %tile Q(veh)	0.9	0.1	-	-	-	-	-	1.1

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

Intersection													
Int Delay, s/veh	1.5												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗			↕			↕			↕	
Traffic Vol, veh/h	3	10	460	10	10	210	10	10	10	10	10	10	20
Future Vol, veh/h	3	10	460	10	10	210	10	10	10	10	10	10	20
Conflicting Peds, #/hr	0	2	0	14	14	0	2	6	0	4	4	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	60	-	-	-	-	-	-	-	-	-	-	-
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	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	11	505	11	11	231	11	11	11	11	11	11	22

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	-	244	0	0	530	0	0	828	820	529	808	819	244
Stage 1	-	-	-	-	-	-	-	547	554	-	260	260	-
Stage 2	-	-	-	-	-	-	-	281	266	-	548	559	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	1322	-	-	1037	-	-	290	310	550	299	310	795
Stage 1	-	-	-	-	-	-	-	521	514	-	745	693	-
Stage 2	-	-	-	-	-	-	-	726	689	-	521	511	-
Platoon blocked, %			-	-	-	-	-						
Mov Cap-1 Maneuver	~ -4	~ -4	-	-	1034	-	-	267	302	542	281	302	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	267	302	-	281	302	-
Stage 1	-	-	-	-	-	-	-	521	508	-	745	684	-
Stage 2	-	-	-	-	-	-	-	683	680	-	498	505	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s				0.4			16.8			14.4		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	337	+	-	-	1034	-	-	425
HCM Lane V/C Ratio	0.098	-	-	-	0.011	-	-	0.103
HCM Control Delay (s)	16.8	-	-	-	8.5	0	-	14.4
HCM Lane LOS	C	-	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-	-	0.3

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

Intersection													
Int Delay, s/veh	1.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕				↕	
Traffic Vol, veh/h	10	450	20	20	210	10	10	10	20	2	10	10	10
Future Vol, veh/h	10	450	20	20	210	10	10	10	20	2	10	10	10
Conflicting Peds, #/hr	28	0	20	20	0	28	2	0	5	0	5	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	-	60	-	-	-	-	-	-	-	-	-
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	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	517	23	23	241	11	11	11	23	2	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	281	0	0	560	0	0	879	899	554	0	895	904	277
Stage 1	-	-	-	-	-	-	572	572	-	0	321	321	-
Stage 2	-	-	-	-	-	-	307	327	-	0	574	583	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1282	-	-	1011	-	-	268	279	532	0	261	277	762
Stage 1	-	-	-	-	-	-	505	504	-	0	691	652	-
Stage 2	-	-	-	-	-	-	703	648	-	0	504	499	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1280	-	-	1007	-	-	244	259	521	0	228	257	743
Mov Cap-2 Maneuver	-	-	-	-	-	-	244	259	-	0	228	257	-
Stage 1	-	-	-	-	-	-	491	490	-	0	667	622	-
Stage 2	-	-	-	-	-	-	663	618	-	0	463	485	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			17.3			18		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	339	1280	-	-	1007	-	-	312
HCM Lane V/C Ratio	0.136	0.009	-	-	0.023	-	-	0.111
HCM Control Delay (s)	17.3	7.8	0	-	8.7	-	-	18
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.4

Intersection													
Int Delay, s/veh	1.5												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖	↗			↕			↕	
Traffic Vol, veh/h	10	460	10	2	20	230	10	10	10	10	10	10	10
Future Vol, veh/h	10	460	10	2	20	230	10	10	10	10	10	10	10
Conflicting Peds, #/hr	23	0	21	0	21	0	23	10	0	8	8	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	100	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	535	12	2	23	267	12	12	12	12	12	12	12

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	302	0	0	545	568	0	0	926	938	570	927	938	306
Stage 1	-	-	-	-	-	-	-	585	585	-	343	347	-
Stage 2	-	-	-	-	-	-	-	341	353	-	584	591	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1259	-	-	-	1004	-	-	249	264	521	249	264	734
Stage 1	-	-	-	-	-	-	-	497	498	-	672	635	-
Stage 2	-	-	-	-	-	-	-	674	631	-	498	494	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1249	-	-	-	-11	-11	-	229	252	508	227	252	714
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	229	252	-	227	252	-
Stage 1	-	-	-	-	-	-	-	484	485	-	653	623	-
Stage 2	-	-	-	-	-	-	-	645	619	-	467	481	-




















Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2		19	18.2
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	291	1249	-	-	+	-	-	307
HCM Lane V/C Ratio	0.12	0.009	-	-	-	-	-	0.114
HCM Control Delay (s)	19	7.9	-	-	-	-	-	18.2
HCM Lane LOS	C	A	-	-	-	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	-	-	-	0.4

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

HCM 2010 Signalized Intersection Summary
13: 28th St & Imperial Ave

Baseline PM Peak Hour
03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	370	60	40	160	50	30	260	60	40	200	60
Future Volume (veh/h)	80	370	60	40	160	50	30	260	60	40	200	60
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	88	407	66	44	176	55	33	286	66	44	220	66
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	789	927	150	654	807	252	84	378	83	101	335	93
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1145	1564	254	917	1362	426	87	1387	305	142	1231	343
Grp Volume(v), veh/h	88	0	473	44	0	231	385	0	0	330	0	0
Grp Sat Flow(s),veh/h/ln	1145	0	1818	917	0	1788	1778	0	0	1716	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0	10.9	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.24	0.09		0.17	0.13		0.20
Lane Grp Cap(c), veh/h	789	0	1077	654	0	1059	544	0	0	530	0	0
V/C Ratio(X)	0.11	0.00	0.44	0.07	0.00	0.22	0.71	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	789	0	1077	654	0	1059	894	0	0	853	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	21.9	0.0	0.0	21.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.3	0.2	0.0	0.5	0.6	0.0	0.0	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(50%),veh/ln	0.1	0.0	0.4	0.0	0.0	0.1	6.4	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	0.3	0.0	1.3	0.2	0.0	0.5	22.5	0.0	0.0	21.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		561			275			385			330	
Approach Delay, s/veh		1.1			0.4			22.5			21.6	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.7		22.3		42.7		22.3				
Change Period (Y+Rc), s		* 4.2		4.6		* 4.2		* 4.6				
Max Green Setting (Gmax), s		* 26		30.6		* 26		* 31				
Max Q Clear Time (g_c+I1), s		2.0		12.9		2.0		14.8				
Green Ext Time (p_c), s		1.8		3.0		1.8		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			10.7									
HCM 2010 LOS			B									
Notes												

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	20	420	20	20	190	20	20	20	20	10	20	10
Future Vol, veh/h	20	420	20	20	190	20	20	20	20	10	20	10
Conflicting Peds, #/hr	13	0	15	15	0	13	17	0	11	11	0	17
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	90	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	6	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	488	23	23	221	23	23	23	23	12	23	12



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	257	0	0	527	0	0	876	866	526	873	865	263
Stage 1	-	-	-	-	-	-	562	562	-	292	292	-
Stage 2	-	-	-	-	-	-	314	304	-	581	573	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1308	-	-	1040	-	-	269	291	552	271	292	776
Stage 1	-	-	-	-	-	-	512	510	-	716	671	-
Stage 2	-	-	-	-	-	-	697	663	-	499	504	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1289	-	-	1030	-	-	234	273	540	230	274	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	273	-	230	274	-
Stage 1	-	-	-	-	-	-	497	495	-	696	649	-
Stage 2	-	-	-	-	-	-	638	641	-	443	489	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.7	20.2	18.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	1289	-	-	1030	-	-	308
HCM Lane V/C Ratio	0.228	0.018	-	-	0.023	-	-	0.151
HCM Control Delay (s)	20.2	7.8	-	-	8.6	-	-	18.8
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.5

HCM 2010 Signalized Intersection Summary
 15: 30th St & Imperial Ave

Baseline PM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	370	40	30	160	30	40	70	40	40	80	30
Future Volume (veh/h)	20	370	40	30	160	30	40	70	40	40	80	30
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	394	43	32	170	32	43	74	43	43	85	32
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	965	1199	131	613	1108	209	116	123	62	117	140	46
Arrive On Green	0.24	0.24	0.24	1.00	1.00	1.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1175	1651	180	948	1525	287	345	919	465	347	1046	348
Grp Volume(v), veh/h	21	0	437	32	0	202	160	0	0	160	0	0
Grp Sat Flow(s),veh/h/ln	1175	0	1831	948	0	1812	1729	0	0	1742	0	0
Q Serve(g_s), s	0.9	0.0	12.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	12.8	13.4	0.0	0.0	5.5	0.0	0.0	5.4	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.16	0.27		0.27	0.27		0.20
Lane Grp Cap(c), veh/h	965	0	1330	613	0	1317	301	0	0	303	0	0
V/C Ratio(X)	0.02	0.00	0.33	0.05	0.00	0.15	0.53	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	965	0	1330	613	0	1317	854	0	0	851	0	0
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.1	0.0	11.6	1.8	0.0	0.0	26.8	0.0	0.0	26.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.2	0.0	0.2	0.5	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.7	0.2	0.0	0.1	2.8	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	7.1	0.0	12.3	2.0	0.0	0.2	27.3	0.0	0.0	27.3	0.0	0.0
LnGrp LOS	A		B	A		A	C			C		
Approach Vol, veh/h		458			234			160			160	
Approach Delay, s/veh		12.0			0.5			27.3			27.3	
Approach LOS		B			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.8		13.2		51.8		13.2				
Change Period (Y+Rc), s		* 4.6		4.5		4.6		* 4.5				
Max Green Setting (Gmax), s		* 25		30.9		25.0		* 31				
Max Q Clear Time (g_c+I1), s		14.8		7.4		15.4		7.5				
Green Ext Time (p_c), s		3.3		1.2		3.1		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			14.2									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
 16: 31st St & Imperial Ave

Baseline PM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	420	20	20	180	20	20	30	30	40	40	20
Future Volume (veh/h)	40	420	20	20	180	20	20	30	30	40	40	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	0.95		0.91	0.95		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1856	1900	1776	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	452	22	22	194	22	22	32	32	43	43	22
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	7	2	2	2	2	2	2	2	2
Cap, veh/h	952	1280	62	745	1196	136	103	112	87	142	120	47
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1152	1752	85	869	1637	186	230	766	590	439	818	322
Grp Volume(v), veh/h	43	0	474	22	0	216	86	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1152	0	1838	869	0	1823	1586	0	0	1579	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.10	0.26		0.37	0.40		0.20
Lane Grp Cap(c), veh/h	952	0	1342	745	0	1331	302	0	0	309	0	0
V/C Ratio(X)	0.05	0.00	0.35	0.03	0.00	0.16	0.28	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	952	0	1342	745	0	1331	523	0	0	527	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96	0.99	0.00	0.99	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	24.9	0.0	0.0	25.2	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.1	0.0	0.3	0.5	0.0	0.0	0.7	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(50%),veh/ln	0.0	0.0	0.3	0.0	0.0	0.1	1.4	0.0	0.0	1.8	0.0	0.0
LnGrp Delay(d),s/veh	0.1	0.0	0.7	0.1	0.0	0.3	25.5	0.0	0.0	25.9	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		517			238			86			108	
Approach Delay, s/veh		0.6			0.2			25.5			25.9	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.5		13.5		51.5		13.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		38.0		19.0		38.0		19.0				
Max Q Clear Time (g_c+I1), s		2.0		5.7		2.0		5.0				
Green Ext Time (p_c), s		5.3		0.9		5.3		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay				5.7								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 17: 32nd St & Imperial Ave

Baseline PM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	420	30	20	160	90	20	110	80	160	110	40
Future Volume (veh/h)	40	420	30	20	160	90	20	110	80	160	110	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.99		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1792	1863	1863	1900	1849	1900	1900	1863	1900
Adj Flow Rate, veh/h	42	438	31	21	167	94	21	115	83	167	115	42
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	0	1	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, %	2	2	2	6	2	2	2	2	2	2	2	2
Cap, veh/h	403	885	63	33	573	486	83	277	182	274	162	52
Arrive On Green	0.45	1.00	1.00	0.02	0.31	0.31	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1774	1716	121	1707	1863	1581	80	986	651	679	576	187
Grp Volume(v), veh/h	42	0	469	21	167	94	219	0	0	324	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1838	1707	1863	1581	1717	0	0	1442	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.8	4.4	2.8	0.0	0.0	0.0	6.5	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	0.0	0.8	4.4	2.8	6.9	0.0	0.0	13.3	0.0	0.0
Prop In Lane	1.00		0.07	1.00		1.00	0.10		0.38	0.52		0.13
Lane Grp Cap(c), veh/h	403	0	948	33	573	486	542	0	0	488	0	0
V/C Ratio(X)	0.10	0.00	0.49	0.63	0.29	0.19	0.40	0.00	0.00	0.66	0.00	0.00
Avail Cap(c_a), veh/h	403	0	948	210	573	486	637	0	0	569	0	0
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)	0.95	0.00	0.95	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.9	0.0	0.0	31.6	17.1	16.6	19.3	0.0	0.0	21.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	1.8	18.2	1.3	0.9	0.5	0.0	0.0	2.3	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(50%),veh/ln	0.4	0.0	0.5	0.5	2.5	1.3	3.3	0.0	0.0	5.6	0.0	0.0
LnGrp Delay(d),s/veh	14.0	0.0	1.8	49.9	18.4	17.4	19.8	0.0	0.0	23.8	0.0	0.0
LnGrp LOS	B		A	D	B	B	B			C		
Approach Vol, veh/h		511			282			219			324	
Approach Delay, s/veh		2.8			20.4			19.8			23.8	
Approach LOS		A			C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	37.5		22.2	18.8	24.0		22.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	30.0	23.0		22.0	11.0	20.0		22.0				
Max Q Clear Time (g_c+1), s	12.0	2.0		15.3	2.9	6.4		8.9				
Green Ext Time (p_c), s	0.0	3.1		1.9	2.0	1.0		3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			14.4									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary
 18: 33rd St & Imperial Ave

Baseline PM Peak Hour
 03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	510	70	30	180	20	40	30	20	20	20	30
Future Volume (veh/h)	60	510	70	30	180	20	40	30	20	20	20	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	66	560	77	33	198	22	44	33	22	22	22	33
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	762	1214	166	504	913	100	258	69	43	205	66	84
Arrive On Green	0.14	0.39	0.39	0.03	0.28	0.28	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1774	3128	429	1774	3217	353	681	588	363	396	560	717
Grp Volume(v), veh/h	66	316	321	33	108	112	99	0	0	77	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1787	1774	1770	1800	1633	0	0	1673	0	0
Q Serve(g_s), s	0.6	3.9	3.9	0.4	1.4	1.4	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	3.9	3.9	0.4	1.4	1.4	1.5	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.24	1.00		0.20	0.44		0.22	0.29		0.43
Lane Grp Cap(c), veh/h	762	687	694	504	502	511	370	0	0	355	0	0
V/C Ratio(X)	0.09	0.46	0.46	0.07	0.21	0.22	0.27	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	762	1212	1223	690	1212	1233	1637	0	0	1649	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	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.8	6.7	6.7	7.0	8.0	8.0	12.0	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.1	0.2	0.2	0.4	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.9	2.0	0.2	0.7	0.7	0.8	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	4.9	7.1	7.1	7.0	8.2	8.2	12.4	0.0	0.0	12.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B			B		
Approach Vol, veh/h		703			253			99			77	
Approach Delay, s/veh		6.9			8.0			12.4			12.2	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.9	5.4	15.8		7.9	8.5	12.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		27.5	4.0	20.0		27.5	4.0	20.0				
Max Q Clear Time (g_c+I1), s		3.5	2.4	5.9		3.2	2.6	3.4				
Green Ext Time (p_c), s		1.0	0.0	4.5		1.0	0.0	4.9				
Intersection Summary												
HCM 2010 Ctrl Delay				8.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Traffic Vol, veh/h	80	470	200	10	40	30
Future Vol, veh/h	80	470	200	10	40	30
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	540	230	11	46	34
Number of Lanes	0	2	2	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	2
HCM Control Delay	12	9.4	9.4
HCM LOS	B	A	A

Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	34%	0%	0%	0%	57%
Vol Thru, %	66%	100%	100%	87%	0%
Vol Right, %	0%	0%	0%	13%	43%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	237	313	133	77	70
LT Vol	80	0	0	0	40
Through Vol	157	313	133	67	0
RT Vol	0	0	0	10	30
Lane Flow Rate	272	360	153	88	80
Geometry Grp	7	7	7	7	2
Degree of Util (X)	0.389	0.498	0.228	0.129	0.124
Departure Headway (Hd)	5.146	4.977	5.367	5.275	5.543
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	699	724	667	678	644
Service Time	2.885	2.715	3.117	3.025	3.599
HCM Lane V/C Ratio	0.389	0.497	0.229	0.13	0.124
HCM Control Delay	11.1	12.6	9.7	8.8	9.4
HCM Lane LOS	B	B	A	A	A
HCM 95th-tile Q	1.8	2.8	0.9	0.4	0.4



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	110	430	200	200	350	30		
Future Volume (veh/h)	110	430	200	200	350	30		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1860	1900		
Adj Flow Rate, veh/h	115	448	208	208	365	31		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	513	457	583	1159	420	36		
Arrive On Green	0.29	0.29	0.33	0.62	0.25	0.25		
Sat Flow, veh/h	1774	1583	1774	1863	1686	143		
Grp Volume(v), veh/h	115	448	208	208	0	396		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1830		
Q Serve(g_s), s	4.4	25.3	8.0	4.3	0.0	18.7		
Cycle Q Clear(g_c), s	4.4	25.3	8.0	4.3	0.0	18.7		
Prop In Lane	1.00	1.00	1.00			0.08		
Lane Grp Cap(c), veh/h	513	457	583	1159	0	456		
V/C Ratio(X)	0.22	0.98	0.36	0.18	0.00	0.87		
Avail Cap(c_a), veh/h	513	457	583	1159	0	630		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.88	0.88	0.00	1.00		
Uniform Delay (d), s/veh	24.3	31.7	23.0	7.2	0.0	32.4		
Incr Delay (d2), s/veh	0.2	36.6	0.3	0.3	0.0	9.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.2	23.7	4.0	2.3	0.0	10.5		
LnGrp Delay(d),s/veh	24.6	68.3	23.3	7.5	0.0	41.8		
LnGrp LOS	C	E	C	A		D		
Approach Vol, veh/h	563			416	396			
Approach Delay, s/veh	59.4			15.4	41.8			
Approach LOS	E			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.0		30.0	33.6	26.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		56.0		26.0	21.0	31.0		
Max Q Clear Time (g_c+I1), s		6.3		27.3	10.0	20.7		
Green Ext Time (p_c), s		1.9		0.0	1.4	1.8		
Intersection Summary								
HCM 2010 Ctrl Delay			41.0					
HCM 2010 LOS			D					

HCM Signalized Intersection Capacity Analysis
21: Imperial Ave & 36th St

Baseline PM Peak Hour
03/09/2018

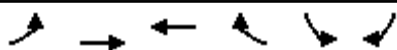


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↶	↷		↶	↷
Traffic Volume (vph)	40	280	110	40	580	210
Future Volume (vph)	40	280	110	40	580	210
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1571	1776		1755	1848
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1571	1776		1755	1848
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	40	283	111	40	586	212
RTOR Reduction (vph)	0	185	16	0	0	0
Lane Group Flow (vph)	40	98	135	0	586	212
Confl. Peds. (#/hr)	9			8	8	
Bus Blockages (#/hr)	0	2	0	0	2	2
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	31.1	31.1	11.9		35.0	50.9
Effective Green, g (s)	31.1	31.1	11.9		35.0	50.9
Actuated g/C Ratio	0.35	0.35	0.13		0.39	0.57
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	611	542	234		682	1045
v/s Ratio Prot	0.02		c0.08		c0.33	0.11
v/s Ratio Perm		c0.06				
v/c Ratio	0.07	0.18	0.58		0.86	0.20
Uniform Delay, d1	19.7	20.6	36.7		25.2	9.6
Progression Factor	1.00	1.00	1.00		0.62	0.51
Incremental Delay, d2	0.2	0.7	3.4		8.9	0.1
Delay (s)	19.9	21.3	40.1		24.5	4.9
Level of Service	B	C	D		C	A
Approach Delay (s)	21.1		40.1			19.3
Approach LOS	C		D			B

Intersection Summary

HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	60	120	150	210	400	80		
Future Volume (veh/h)	60	120	150	210	400	80		
Number	5	2	6	16	7	14		
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		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	62	124	155	0	412	82		
Adj No. of Lanes	1	2	1	1	0	0		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	0	0		
Cap, veh/h	170	1252	268	228	534	106		
Arrive On Green	0.10	0.35	0.14	0.00	0.37	0.37		
Sat Flow, veh/h	1774	3632	1863	1583	1448	288		
Grp Volume(v), veh/h	62	124	155	0	495	0		
Grp Sat Flow(s),veh/h/ln	1774	1770	1863	1583	1740	0		
Q Serve(g_s), s	1.1	0.8	2.7	0.0	8.8	0.0		
Cycle Q Clear(g_c), s	1.1	0.8	2.7	0.0	8.8	0.0		
Prop In Lane	1.00			1.00	0.83	0.17		
Lane Grp Cap(c), veh/h	170	1252	268	228	641	0		
V/C Ratio(X)	0.37	0.10	0.58	0.00	0.77	0.00		
Avail Cap(c_a), veh/h	203	1558	336	285	1293	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	14.8	7.6	14.0	0.0	9.7	0.0		
Incr Delay (d2), s/veh	0.5	0.0	2.9	0.0	2.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.6	0.4	1.6	0.0	4.6	0.0		
LnGrp Delay(d),s/veh	15.3	7.6	16.9	0.0	12.4	0.0		
LnGrp LOS	B	A	B		B			
Approach Vol, veh/h		186	155		495			
Approach Delay, s/veh		10.2	16.9		12.4			
Approach LOS		B	B		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.8		17.2	7.3	10.4		
Change Period (Y+Rc), s		* 5.4		* 4.3	4.0	5.4		
Max Green Setting (Gmax), s		* 15		* 26	4.0	6.3		
Max Q Clear Time (g_c+I1), s		2.8		10.8	3.1	4.7		
Green Ext Time (p_c), s		1.7		2.2	0.0	0.3		
Intersection Summary								
HCM 2010 Ctrl Delay			12.7					
HCM 2010 LOS			B					
Notes								

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↗	
Traffic Vol, veh/h	500	20	50	350	10	30
Future Vol, veh/h	500	20	50	350	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	543	22	54	380	11	33

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	565	0	853
Stage 1	-	-	-	-	554
Stage 2	-	-	-	-	299
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1003	-	298
Stage 1	-	-	-	-	539
Stage 2	-	-	-	-	726
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1003	-	282
Mov Cap-2 Maneuver	-	-	-	-	282
Stage 1	-	-	-	-	539
Stage 2	-	-	-	-	687

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	516	-	-	1003	-
HCM Lane V/C Ratio	0.084	-	-	0.054	-
HCM Control Delay (s)	12.6	-	-	8.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑		↖
Traffic Vol, veh/h	480	50	10	400	10	20
Future Vol, veh/h	480	50	10	400	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	533	56	11	444	11	22






















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	589	0	805 294
Stage 1	-	-	-	-	561 -
Stage 2	-	-	-	-	244 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	982	-	320 702
Stage 1	-	-	-	-	535 -
Stage 2	-	-	-	-	774 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	982	-	316 702
Mov Cap-2 Maneuver	-	-	-	-	316 -
Stage 1	-	-	-	-	535 -
Stage 2	-	-	-	-	765 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	702	-	-	982	-
HCM Lane V/C Ratio	0.032	-	-	0.011	-
HCM Control Delay (s)	10.3	-	-	8.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 2010 Signalized Intersection Summary
 25: Redworks Dwy/Greenwood & Imperial Ave

Baseline PM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	350	140	180	230	20	160	10	260	30	10	20
Future Volume (veh/h)	10	350	140	180	230	20	160	10	260	30	10	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	11	368	147	189	242	21	168	11	274	32	11	21
Adj No. of Lanes	1	2	0	1	2	1	1	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	682	268	270	1468	657	523	403	583	267	101	102
Arrive On Green	0.01	0.27	0.27	0.15	0.41	0.41	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	2483	977	1774	3539	1583	1372	1863	1583	493	469	469
Grp Volume(v), veh/h	11	261	254	189	242	21	168	11	274	64	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1690	1774	1770	1583	1372	1863	1583	1430	0	0
Q Serve(g_s), s	0.2	4.2	4.3	3.4	1.4	0.3	2.4	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	4.2	4.3	3.4	1.4	0.3	3.3	0.2	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	0.50		0.33
Lane Grp Cap(c), veh/h	21	486	464	270	1468	657	523	403	583	470	0	0
V/C Ratio(X)	0.53	0.54	0.55	0.70	0.16	0.03	0.32	0.03	0.47	0.14	0.00	0.00
Avail Cap(c_a), veh/h	211	1211	1157	475	2949	1319	1695	1995	1937	1597	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	10.4	10.4	13.5	6.2	5.8	11.5	10.4	8.1	10.7	0.0	0.0
Incr Delay (d2), s/veh	19.8	0.9	1.0	3.3	0.1	0.0	0.4	0.0	0.6	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.2	2.1	1.9	0.7	0.1	1.4	0.1	1.9	0.5	0.0	0.0
LnGrp Delay(d),s/veh	36.3	11.3	11.4	16.8	6.2	5.8	11.9	10.4	8.7	10.8	0.0	0.0
LnGrp LOS	D	B	B	B	A	A	B	B	A	B		
Approach Vol, veh/h		526			452			453			64	
Approach Delay, s/veh		11.9			10.6			9.9			10.8	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.3	9.1	13.2		11.3	4.4	17.9				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		36.0	9.0	23.0		36.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		5.3	5.4	6.3		3.0	2.2	3.4				
Green Ext Time (p_c), s		2.0	0.8	2.9		2.0	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑		↑		↑		↑↓	
Traffic Vol, veh/h	0	590	40	280	420	0	10	0	300	0	0	0
Future Vol, veh/h	0	590	40	280	420	0	10	0	300	0	0	0
Conflicting Peds, #/hr	2	0	18	18	0	2	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	608	41	289	433	0	10	0	309	0	0	0



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	667	0	0	1442	-	344	1317	1679	219
Stage 1	-	-	-	-	-	-	647	-	-	1012	1012	-
Stage 2	-	-	-	-	-	-	795	-	-	305	667	-
Critical Hdwy	-	-	-	4.14	-	-	7.54	-	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	-	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	-	-	6.54	5.54	-
Follow-up Hdwy	-	-	-	2.22	-	-	3.52	-	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	0	-	-	919	-	-	93	0	652	115	94	785
Stage 1	0	-	-	-	-	-	426	0	-	256	315	-
Stage 2	0	-	-	-	-	-	347	0	-	680	455	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	918	-	-	69	-	642	45	63	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	69	-	-	45	63	-
Stage 1	-	-	-	-	-	-	426	-	-	256	215	-
Stage 2	-	-	-	-	-	-	238	-	-	352	448	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			4.3			17.3			0		
HCM LOS							C			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	69	642	-	-	918	-	-	-
HCM Lane V/C Ratio	0.149	0.482	-	-	0.314	-	-	-
HCM Control Delay (s)	66.1	15.7	-	-	10.7	-	-	0
HCM Lane LOS	F	C	-	-	B	-	-	A
HCM 95th %tile Q(veh)	0.5	2.6	-	-	1.4	-	-	-

HCM 2010 Signalized Intersection Summary
 27: 45th St & Imperial Ave

Baseline PM Peak Hour
 03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	840	40	90	680	60	10	20	50	50	10	10
Future Volume (veh/h)	20	840	40	90	680	60	10	20	50	50	10	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	894	43	96	723	64	11	21	53	53	11	11
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	2205	106	123	2273	201	74	43	90	186	30	21
Arrive On Green	0.02	0.64	0.64	0.07	0.69	0.69	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1774	3424	165	1774	3276	290	132	491	1033	1051	340	239
Grp Volume(v), veh/h	21	462	475	96	390	397	85	0	0	75	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1819	1774	1770	1797	1656	0	0	1630	0	0
Q Serve(g_s), s	0.8	8.2	8.2	3.5	5.6	5.6	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	8.2	8.2	3.5	5.6	5.6	3.1	0.0	0.0	2.6	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.16	0.13		0.62	0.71		0.15
Lane Grp Cap(c), veh/h	34	1139	1171	123	1228	1247	206	0	0	236	0	0
V/C Ratio(X)	0.61	0.41	0.41	0.78	0.32	0.32	0.41	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	109	1139	1171	164	1228	1247	712	0	0	679	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	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.6	5.6	5.6	29.8	3.9	3.9	28.5	0.0	0.0	28.3	0.0	0.0
Incr Delay (d2), s/veh	16.1	1.1	1.0	15.8	0.7	0.7	1.3	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.3	4.4	2.2	2.9	3.0	1.5	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	47.8	6.7	6.6	45.6	4.6	4.6	29.9	0.0	0.0	29.0	0.0	0.0
LnGrp LOS	D	A	A	D	A	A	C			C		
Approach Vol, veh/h		958			883			85			75	
Approach Delay, s/veh		7.5			9.0			29.9			29.0	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.1	8.5	46.4		10.1	5.3	49.6				
Change Period (Y+Rc), s		4.5	4.0	4.5		4.5	4.0	4.5				
Max Green Setting (Gmax), s		26.0	6.0	20.0		26.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		5.1	5.5	10.2		4.6	2.8	7.6				
Green Ext Time (p_c), s		0.8	0.0	6.9		0.8	0.0	9.2				
Intersection Summary												
HCM 2010 Ctrl Delay			10.0									
HCM 2010 LOS			A									

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	920	20	20	810	10	20
Future Vol, veh/h	920	20	20	810	10	20
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	8	2	2	6
Mvmt Flow	958	21	21	844	10	21

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	980	0	1434 491
Stage 1	-	-	-	-	970 -
Stage 2	-	-	-	-	464 -
Critical Hdwy	-	-	4.26	-	6.84 7.02
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.28	-	3.52 3.36
Pot Cap-1 Maneuver	-	-	665	-	125 513
Stage 1	-	-	-	-	328 -
Stage 2	-	-	-	-	599 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	665	-	121 513
Mov Cap-2 Maneuver	-	-	-	-	121 -
Stage 1	-	-	-	-	328 -
Stage 2	-	-	-	-	580 -


















Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	20.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	121	513	-	-	665	-
HCM Lane V/C Ratio	0.086	0.041	-	-	0.031	-
HCM Control Delay (s)	37.5	12.3	-	-	10.6	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

HCM 2010 Signalized Intersection Summary
 29: I-805 SB On-Ramp/I-805 SB Off-Ramp & Imperial Ave

Baseline PM Peak Hour

03/09/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	660	280	220	480	0	0	0	0	470	10	350
Future Volume (veh/h)	0	660	280	220	480	0	0	0	0	470	10	350
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	725	308	242	527	0				456	95	385
Adj No. of Lanes	0	2	0	2	2	0				1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	690	293	980	2164	0				547	100	404
Arrive On Green	0.00	0.28	0.28	0.57	1.00	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	2515	1029	3442	3632	0				1774	323	1309
Grp Volume(v), veh/h	0	530	503	242	527	0				456	0	480
Grp Sat Flow(s),veh/h/ln	0	1770	1681	1721	1770	0				1774	0	1632
Q Serve(g_s), s	0.0	34.2	34.2	4.2	0.0	0.0				28.7	0.0	34.6
Cycle Q Clear(g_c), s	0.0	34.2	34.2	4.2	0.0	0.0				28.7	0.0	34.6
Prop In Lane	0.00		0.61	1.00		0.00				1.00		0.80
Lane Grp Cap(c), veh/h	0	504	479	980	2164	0				547	0	503
V/C Ratio(X)	0.00	1.05	1.05	0.25	0.24	0.00				0.83	0.00	0.95
Avail Cap(c_a), veh/h	0	504	479	980	2164	0				707	0	650
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	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.9	42.9	19.4	0.0	0.0				38.6	0.0	40.6
Incr Delay (d2), s/veh	0.0	53.9	55.0	0.0	0.3	0.0				5.3	0.0	19.6
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(50%),veh/ln	0.0	24.2	23.2	2.0	0.1	0.0				14.9	0.0	18.3
LnGrp Delay(d),s/veh	0.0	96.8	97.9	19.4	0.3	0.0				43.9	0.0	60.2
LnGrp LOS		F	F	B	A					D		E
Approach Vol, veh/h		1033			769						936	
Approach Delay, s/veh		97.3			6.3						52.3	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	39.2	39.2		41.6		78.4						
Change Period (Y+Rc), s	5.0	* 5		4.6		5.0						
Max Green Setting (Gmax), s	24.2	* 34		47.8		62.6						
Max Q Clear Time (g_c+I1), s	6.2	36.2		36.6		2.0						
Green Ext Time (p_c), s	0.7	0.0		0.4		0.7						
Intersection Summary												
HCM 2010 Ctrl Delay				56.4								
HCM 2010 LOS				E								
Notes												

HCM Signalized Intersection Capacity Analysis
 30: I-805 NB Off-Ramp/I-805 NB On-Ramp & Imperial Ave

Baseline PM Peak Hour

03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↑	↗↗			
Traffic Volume (vph)	320	820	0	0	520	620	180	0	240	0	0	0
Future Volume (vph)	320	820	0	0	520	620	180	0	240	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	0.88			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1770	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	3539			3539	1583		1770	2787			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	340	872	0	0	553	660	191	0	255	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	314	0	0	0	0	0	0
Lane Group Flow (vph)	340	872	0	0	553	346	0	191	255	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	custom			
Protected Phases	5	2			6	9		8	8	9		
Permitted Phases						6	9	8				
Actuated Green, G (s)	29.0	67.2			60.3	60.3		18.7	44.8			
Effective Green, g (s)	29.0	67.2			60.3	60.3		18.7	44.8			
Actuated g/C Ratio	0.24	0.56			0.50	0.50		0.16	0.37			
Clearance Time (s)	4.0	4.0						4.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	427	1981			1778	795		275	1040			
v/s Ratio Prot	c0.19	0.25			0.16				0.09			
v/s Ratio Perm						c0.22		0.11				
v/c Ratio	0.80	0.44			0.31	0.44		0.69	0.25			
Uniform Delay, d1	42.7	15.4			17.6	19.0		47.9	25.9			
Progression Factor	1.28	1.51			0.53	2.02		1.00	1.00			
Incremental Delay, d2	6.6	0.5			0.1	0.3		7.4	0.1			
Delay (s)	61.4	23.7			9.4	38.6		55.3	26.1			
Level of Service	E	C			A	D		E	C			
Approach Delay (s)		34.3			25.3			38.6			0.0	
Approach LOS		C			C			D			A	

Intersection Summary

HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
31: 47th St & Imperial Ave

Baseline PM Peak Hour
03/09/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	130	800	140	110	790	40	180	230	160	80	320	180
Future Volume (veh/h)	130	800	140	110	790	40	180	230	160	80	320	180
Number	5	2	12	1	6	16	3	8	18	7	4	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	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	138	851	149	117	840	43	191	245	170	85	340	191
Adj No. of Lanes	1	2	0	1	3	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	959	168	417	1577	81	151	456	305	107	440	242
Arrive On Green	0.47	0.64	0.64	0.24	0.32	0.32	0.09	0.22	0.22	0.06	0.20	0.20
Sat Flow, veh/h	1774	3012	527	1774	4941	252	1774	2034	1359	1774	2204	1214
Grp Volume(v), veh/h	138	500	500	117	576	307	191	212	203	85	272	259
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1774	1695	1803	1774	1770	1623	1774	1770	1648
Q Serve(g_s), s	5.9	28.3	28.3	6.5	16.7	16.8	10.2	12.7	13.3	5.7	17.4	17.9
Cycle Q Clear(g_c), s	5.9	28.3	28.3	6.5	16.7	16.8	10.2	12.7	13.3	5.7	17.4	17.9
Prop In Lane	1.00		0.30	1.00		0.14	1.00		0.84	1.00		0.74
Lane Grp Cap(c), veh/h	417	563	563	417	1082	576	151	397	364	107	353	329
V/C Ratio(X)	0.33	0.89	0.89	0.28	0.53	0.53	1.27	0.53	0.56	0.79	0.77	0.79
Avail Cap(c_a), veh/h	417	563	563	417	1082	576	151	619	568	151	622	580
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	20.0	20.0	37.6	33.5	33.5	54.9	41.0	41.3	55.6	45.4	45.6
Incr Delay (d2), s/veh	0.2	17.4	17.4	0.1	1.9	3.5	162.0	0.4	0.5	11.4	1.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	16.0	16.0	3.2	8.1	8.9	11.8	6.2	6.0	3.1	8.7	8.3
LnGrp Delay(d),s/veh	26.0	37.4	37.4	37.7	35.4	37.1	216.9	41.4	41.8	67.0	46.7	47.2
LnGrp LOS	C	D	D	D	D	D	F	D	D	E	D	D
Approach Vol, veh/h		1138			1000			606			616	
Approach Delay, s/veh		36.0			36.2			96.8			49.7	
Approach LOS		D			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.6	43.6	14.6	29.2	32.6	43.6	11.6	32.1				
Change Period (Y+Rc), s	4.4	5.4	4.4	* 5.2	4.4	5.3	4.4	5.2				
Max Green Setting (Gmax), s	10.2	38.2	10.2	* 42	10.2	38.3	10.2	42.0				
Max Q Clear Time (g_c+10), s	10.5	30.3	12.2	19.9	7.9	18.8	7.7	15.3				
Green Ext Time (p_c), s	0.1	2.9	0.0	4.0	0.1	5.2	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay				49.5								
HCM 2010 LOS				D								
Notes												

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕				
Traffic Vol, veh/h	30	40	0	0	50	10	160	380	20	0	0	0
Future Vol, veh/h	30	40	0	0	50	10	160	380	20	0	0	0
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
Heavy Vehicles, %	4	8	2	2	2	2	5	2	2	2	2	2
Mvmt Flow	32	43	0	0	53	11	170	404	21	0	0	0
Number of Lanes	0	1	0	0	1	0	1	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	9.8	9.3	10
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	43%	0%
Vol Thru, %	0%	100%	86%	57%	83%
Vol Right, %	0%	0%	14%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	253	147	70	60
LT Vol	160	0	0	30	0
Through Vol	0	253	127	40	50
RT Vol	0	0	20	0	10
Lane Flow Rate	170	270	156	74	64
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.26	0.37	0.21	0.128	0.104
Departure Headway (Hd)	5.499	4.946	4.851	6.185	5.841
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	654	728	740	579	612
Service Time	3.233	2.68	2.585	3.932	3.588
HCM Lane V/C Ratio	0.26	0.371	0.211	0.128	0.105
HCM Control Delay	10.2	10.6	8.9	9.8	9.3
HCM Lane LOS	B	B	A	A	A
HCM 95th-tile Q	1	1.7	0.8	0.4	0.3

HCM 2010 Signalized Intersection Summary
 2: 17th St & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑					↖	↑↑	↗
Traffic Volume (veh/h)	0	130	20	10	210	0	0	0	0	180	100	260
Future Volume (veh/h)	0	130	20	10	210	0	0	0	0	180	100	260
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		1.00				1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	151	23	12	244	0				209	116	302
Adj No. of Lanes	0	2	0	0	1	0				1	2	1
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	2	2	2	2	0				2	2	2
Cap, veh/h	0	1853	277	77	1091	0				440	878	383
Arrive On Green	0.00	0.60	0.60	0.60	0.60	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	3174	460	31	1814	0				1774	3539	1545
Grp Volume(v), veh/h	0	85	89	256	0	0				209	116	302
Grp Sat Flow(s),veh/h/ln	0	1770	1772	1845	0	0				1774	1770	1545
Q Serve(g_s), s	0.0	1.3	1.4	0.0	0.0	0.0				6.5	1.7	11.9
Cycle Q Clear(g_c), s	0.0	1.3	1.4	4.1	0.0	0.0				6.5	1.7	11.9
Prop In Lane	0.00		0.26	0.05		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1064	1065	1167	0	0				440	878	383
V/C Ratio(X)	0.00	0.08	0.08	0.22	0.00	0.00				0.48	0.13	0.79
Avail Cap(c_a), veh/h	0	1064	1065	1167	0	0				822	1639	715
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	0.69	0.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	5.4	5.4	6.0	0.0	0.0				20.8	19.0	22.8
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.3	0.0	0.0				0.3	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.7	2.2	0.0	0.0				3.2	0.8	5.2
LnGrp Delay(d),s/veh	0.0	5.6	5.6	6.3	0.0	0.0				21.1	19.0	24.2
LnGrp LOS		A	A	A						C	B	C
Approach Vol, veh/h		174			256						627	
Approach Delay, s/veh		5.6			6.3						22.2	
Approach LOS		A			A						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		44.0		21.0		44.0						
Change Period (Y+Rc), s		4.9		4.9		4.9						
Max Green Setting (Gmax), s		25.1		30.1		25.1						
Max Q Clear Time (g_c+I1), s		3.4		13.9		6.1						
Green Ext Time (p_c), s		1.6		1.3		1.6						
Intersection Summary												
HCM 2010 Ctrl Delay				15.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 3: 19th St & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	150	0	0	200	390	30	350	20	0	0	0
Future Volume (veh/h)	150	150	0	0	200	390	30	350	20	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	161	161	0	0	215	419	32	376	22			
Adj No. of Lanes	1	1	0	0	1	0	0	3	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	2	0	0	2	2	0	2	0			
Cap, veh/h	473	1318	0	0	326	636	53	665	40			
Arrive On Green	0.10	1.00	0.00	0.00	0.58	0.58	0.14	0.14	0.14			
Sat Flow, veh/h	1774	1863	0	0	566	1102	375	4696	281			
Grp Volume(v), veh/h	161	161	0	0	0	634	157	131	142			
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	0	1668	1844	1695	1813			
Q Serve(g_s), s	2.2	0.0	0.0	0.0	0.0	16.9	5.2	4.7	4.7			
Cycle Q Clear(g_c), s	2.2	0.0	0.0	0.0	0.0	16.9	5.2	4.7	4.7			
Prop In Lane	1.00		0.00	0.00		0.66	0.20		0.16			
Lane Grp Cap(c), veh/h	473	1318	0	0	0	963	261	240	257			
V/C Ratio(X)	0.34	0.12	0.00	0.00	0.00	0.66	0.60	0.54	0.55			
Avail Cap(c_a), veh/h	687	1318	0	0	0	963	570	524	561			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.95	0.95	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	7.0	0.0	0.0	0.0	0.0	9.4	26.2	25.9	26.0			
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.0	3.5	2.2	1.9	1.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0	0.1	0.0	0.0	0.0	8.5	2.8	2.3	2.5			
LnGrp Delay(d),s/veh	7.1	0.2	0.0	0.0	0.0	12.9	28.4	27.9	27.8			
LnGrp LOS	A	A				B	C	C	C			
Approach Vol, veh/h		322			634			430				
Approach Delay, s/veh		3.6			12.9			28.0				
Approach LOS		A			B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		50.9			8.5	42.4		14.1				
Change Period (Y+Rc), s		4.9			4.4	4.9		4.9				
Max Green Setting (Gmax), s		35.1			11.9	18.8		20.1				
Max Q Clear Time (g_c+I1), s		2.0			4.2	18.9		7.2				
Green Ext Time (p_c), s		16.2			0.1	0.0		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay					15.4							
HCM 2010 LOS					B							

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	10	200	10	10	540	10	10	10	10	10	10	60
Future Vol, veh/h	10	200	10	10	540	10	10	10	10	10	10	60
Conflicting Peds, #/hr	25	0	44	44	0	25	6	0	1	1	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	215	11	11	581	11	11	11	11	11	11	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	606	0	0	259	0	0	927	908	260	875	908	612
Stage 1	-	-	-	-	-	-	281	281	-	627	627	-
Stage 2	-	-	-	-	-	-	646	627	-	248	281	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	972	-	-	1306	-	-	249	275	779	270	275	493
Stage 1	-	-	-	-	-	-	726	678	-	471	476	-
Stage 2	-	-	-	-	-	-	460	476	-	756	678	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	967	-	-	1305	-	-	196	253	750	247	253	480
Mov Cap-2 Maneuver	-	-	-	-	-	-	196	253	-	247	253	-
Stage 1	-	-	-	-	-	-	690	645	-	455	460	-
Stage 2	-	-	-	-	-	-	382	460	-	723	645	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.1			19			16.8		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	289	967	-	-	1305	-	-	390
HCM Lane V/C Ratio	0.112	0.011	-	-	0.008	-	-	0.221
HCM Control Delay (s)	19	8.8	0	-	7.8	0	-	16.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.8

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	↕
Traffic Vol, veh/h	20	150	40	20	490	20	30	30	40	10	30	50
Future Vol, veh/h	20	150	40	20	490	20	30	30	40	10	30	50
Conflicting Peds, #/hr	15	0	48	48	0	15	7	0	8	8	0	7
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	22	161	43	22	527	22	32	32	43	11	32	54

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	542	0	0	209	0	0	872	837	217	835	837	549
Stage 1	-	-	-	-	-	-	252	252	-	585	585	-
Stage 2	-	-	-	-	-	-	620	585	-	250	252	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1027	-	-	1362	-	-	271	303	823	287	301	535
Stage 1	-	-	-	-	-	-	752	698	-	497	494	-
Stage 2	-	-	-	-	-	-	476	498	-	754	695	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	1353	-	-	204	274	785	234	272	525
Mov Cap-2 Maneuver	-	-	-	-	-	-	204	274	-	234	272	-
Stage 1	-	-	-	-	-	-	705	654	-	479	477	-
Stage 2	-	-	-	-	-	-	387	480	-	657	651	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.3			21.5			18.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	325	1021	-	-	1353	-	-	363
HCM Lane V/C Ratio	0.331	0.021	-	-	0.016	-	-	0.267
HCM Control Delay (s)	21.5	8.6	0	-	7.7	0	-	18.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0	-	-	1.1

Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Vol, veh/h	20	130	30	40	440	30	20	40	30	10	50	30
Future Vol, veh/h	20	130	30	40	440	30	20	40	30	10	50	30
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	133	31	41	449	31	20	41	31	10	51	31
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.9	20.3	9.8	9.8
HCM LOS	A	C	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	13%	0%	8%	0%	11%
Vol Thru, %	44%	87%	0%	92%	0%	56%
Vol Right, %	33%	0%	100%	0%	100%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	150	30	480	30	90
LT Vol	20	20	0	40	0	10
Through Vol	40	130	0	440	0	50
RT Vol	30	0	30	0	30	30
Lane Flow Rate	92	153	31	490	31	92
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.147	0.243	0.042	0.729	0.039	0.147
Departure Headway (Hd)	5.773	5.725	4.949	5.36	4.612	5.751
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	621	628	724	681	781	624
Service Time	3.811	3.451	2.674	3.06	2.312	3.788
HCM Lane V/C Ratio	0.148	0.244	0.043	0.72	0.04	0.147
HCM Control Delay	9.8	10.3	7.9	21.1	7.5	9.8
HCM Lane LOS	A	B	A	C	A	A
HCM 95th-tile Q	0.5	0.9	0.1	6.3	0.1	0.5

Intersection

Intersection Delay, s/veh 17.5
Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Vol, veh/h	20	160	20	10	470	30	10	20	20	20	30	40
Future Vol, veh/h	20	160	20	10	470	30	10	20	20	20	30	40
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	22	178	22	11	522	33	11	22	22	22	33	44
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.6	22.4	9.6	9.9
HCM LOS	B	C	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	20%	11%	0%	2%	0%	22%
Vol Thru, %	40%	89%	0%	98%	0%	33%
Vol Right, %	40%	0%	100%	0%	100%	44%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	180	20	480	30	90
LT Vol	10	20	0	10	0	20
Through Vol	20	160	0	470	0	30
RT Vol	20	0	20	0	30	40
Lane Flow Rate	56	200	22	533	33	100
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.092	0.314	0.03	0.769	0.041	0.161
Departure Headway (Hd)	5.943	5.658	4.894	5.189	4.474	5.813
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	605	638	734	688	788	620
Service Time	3.956	3.371	2.606	2.986	2.27	3.824
HCM Lane V/C Ratio	0.093	0.313	0.03	0.775	0.042	0.161
HCM Control Delay	9.6	10.9	7.8	23.3	7.5	9.9
HCM Lane LOS	A	B	A	C	A	A
HCM 95th-tile Q	0.3	1.3	0.1	7.3	0.1	0.6

HCM 2010 Signalized Intersection Summary
8: 25th St & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	20	100	70	40	470	60	30	110	20	30	150	50
Future Volume (veh/h)	20	100	70	40	470	60	30	110	20	30	150	50
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	104	73	42	490	62	31	115	21	31	156	52
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	643	420	108	1075	131	121	353	64	107	342	110
Arrive On Green	0.70	0.70	0.70	0.93	0.93	0.93	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	109	918	600	70	1535	187	309	2373	428	260	2301	739
Grp Volume(v), veh/h	198	0	0	594	0	0	88	0	79	129	0	110
Grp Sat Flow(s),veh/h/ln	1627	0	0	1792	0	0	1491	0	1620	1735	0	1565
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	2.9	0.8	0.0	4.2
Cycle Q Clear(g_c), s	2.5	0.0	0.0	2.5	0.0	0.0	4.2	0.0	2.9	4.2	0.0	4.2
Prop In Lane	0.11		0.37	0.07		0.10	0.35		0.26	0.24		0.47
Lane Grp Cap(c), veh/h	1201	0	0	1314	0	0	297	0	241	327	0	233
V/C Ratio(X)	0.16	0.00	0.00	0.45	0.00	0.00	0.30	0.00	0.33	0.39	0.00	0.47
Avail Cap(c_a), veh/h	1201	0	0	1314	0	0	612	0	573	668	0	554
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	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.3	0.0	0.0	0.8	0.0	0.0	24.7	0.0	24.8	25.3	0.0	25.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.1	0.0	0.0	0.9	0.0	1.4	1.3	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	1.5	0.0	0.0	1.5	0.0	1.4	2.2	0.0	2.0
LnGrp Delay(d),s/veh	3.6	0.0	0.0	1.9	0.0	0.0	25.7	0.0	26.1	26.6	0.0	27.9
LnGrp LOS	A			A			C		C	C		C
Approach Vol, veh/h		198			594			167			239	
Approach Delay, s/veh		3.6			1.9			25.9			27.2	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		50.4		14.6		50.4		14.6				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		32.2		23.0		32.2		23.0				
Max Q Clear Time (g_c+I1), s		4.5		6.2		4.5		6.2				
Green Ext Time (p_c), s		6.3		3.4		6.3		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				10.6								
HCM 2010 LOS				B								

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	↔
Traffic Vol, veh/h	20	130	20	20	550	30	30	40	10	10	30	40
Future Vol, veh/h	20	130	20	20	550	30	30	40	10	10	30	40
Conflicting Peds, #/hr	17	0	15	15	0	17	13	0	10	10	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
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, %	2	3	2	2	2	4	2	2	2	2	2	3
Mvmt Flow	23	149	23	23	632	34	34	46	11	11	34	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	649	0	0	164	0	0	941	905	174	929	905	662
Stage 1	-	-	-	-	-	-	210	210	-	695	695	-
Stage 2	-	-	-	-	-	-	731	695	-	234	210	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.327
Pot Cap-1 Maneuver	937	-	-	1414	-	-	243	276	869	248	276	460
Stage 1	-	-	-	-	-	-	792	728	-	433	444	-
Stage 2	-	-	-	-	-	-	413	444	-	769	728	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	927	-	-	1402	-	-	183	254	851	198	254	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	183	254	-	198	254	-
Stage 1	-	-	-	-	-	-	760	699	-	415	426	-
Stage 2	-	-	-	-	-	-	328	426	-	683	699	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.3			29			21.4		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	927	-	-	1402	-	-	310
HCM Lane V/C Ratio	0.383	0.025	-	-	0.016	-	-	0.297
HCM Control Delay (s)	29	9	0	-	7.6	0	-	21.4
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.7	0.1	-	-	0.1	-	-	1.2

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕			↕	
Traffic Vol, veh/h	10	140	10	10	570	10	0	0	10	10	10	20
Future Vol, veh/h	10	140	10	10	570	10	0	0	10	10	10	20
Conflicting Peds, #/hr	16	0	3	3	0	16	2	0	1	1	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
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, %	2	3	33	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	161	11	11	655	11	0	0	11	11	11	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	671	0	0	164	0	0	884	881	165	885	881	673
Stage 1	-	-	-	-	-	-	187	187	-	694	694	-
Stage 2	-	-	-	-	-	-	697	694	-	191	187	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	919	-	-	1414	-	-	266	285	879	266	285	455
Stage 1	-	-	-	-	-	-	815	745	-	433	444	-
Stage 2	-	-	-	-	-	-	431	444	-	811	745	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	917	-	-	1413	-	-	239	274	876	254	274	448
Mov Cap-2 Maneuver	-	-	-	-	-	-	239	274	-	254	274	-
Stage 1	-	-	-	-	-	-	802	733	-	422	433	-
Stage 2	-	-	-	-	-	-	393	433	-	789	733	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	9.2	17.6
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	876	917	-	-	1413	-	-	332
HCM Lane V/C Ratio	0.013	0.013	-	-	0.008	-	-	0.138
HCM Control Delay (s)	9.2	9	0	-	7.6	0	-	17.6
HCM Lane LOS	A	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.5

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	↕
Traffic Vol, veh/h	10	130	10	20	570	20	20	20	20	10	10	10
Future Vol, veh/h	10	130	10	20	570	20	20	20	20	10	10	10
Conflicting Peds, #/hr	18	0	10	10	0	18	4	0	15	15	0	4
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	146	11	22	640	22	22	22	22	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	658	0	0	156	0	0	880	882	171	909	882	662
Stage 1	-	-	-	-	-	-	179	179	-	703	703	-
Stage 2	-	-	-	-	-	-	701	703	-	206	179	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	930	-	-	1424	-	-	268	285	873	256	285	462
Stage 1	-	-	-	-	-	-	823	751	-	428	440	-
Stage 2	-	-	-	-	-	-	429	440	-	796	751	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	927	-	-	1406	-	-	243	268	855	220	268	454
Mov Cap-2 Maneuver	-	-	-	-	-	-	243	268	-	220	268	-
Stage 1	-	-	-	-	-	-	806	735	-	416	423	-
Stage 2	-	-	-	-	-	-	396	423	-	732	735	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.2			18.5			19.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	333	927	-	-	1406	-	-	286
HCM Lane V/C Ratio	0.202	0.012	-	-	0.016	-	-	0.118
HCM Control Delay (s)	18.5	8.9	0	-	7.6	0	-	19.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0.4

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	20	130	10	10	570	10	10	10	10	10	0	20
Future Vol, veh/h	20	130	10	10	570	10	10	10	10	10	0	20
Conflicting Peds, #/hr	17	0	18	18	0	17	3	0	5	5	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	3	2	25	2	2	2	2	2	2	2	2
Mvmt Flow	24	155	12	12	679	12	12	12	12	12	0	24



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	696	0	0	173	0	0	937	939	178	938	939	699
Stage 1	-	-	-	-	-	-	220	220	-	719	719	-
Stage 2	-	-	-	-	-	-	717	719	-	219	220	-
Critical Hdwy	4.12	-	-	4.35	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.425	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	900	-	-	1276	-	-	245	264	865	244	264	440
Stage 1	-	-	-	-	-	-	782	721	-	420	433	-
Stage 2	-	-	-	-	-	-	421	433	-	783	721	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	898	-	-	1271	-	-	220	245	848	220	245	433
Mov Cap-2 Maneuver	-	-	-	-	-	-	220	245	-	220	245	-
Stage 1	-	-	-	-	-	-	748	690	-	402	420	-
Stage 2	-	-	-	-	-	-	391	420	-	734	690	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			18.3			17.4		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	898	-	-	1271	-	-	327
HCM Lane V/C Ratio	0.117	0.027	-	-	0.009	-	-	0.109
HCM Control Delay (s)	18.3	9.1	0	-	7.9	0	-	17.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.4

HCM 2010 Signalized Intersection Summary
 13: 28th St & Imperial Ave

2022 Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	100	10	10	520	40	20	190	40	20	150	40
Future Volume (veh/h)	40	100	10	10	520	40	20	190	40	20	150	40
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	44	111	11	11	578	44	22	211	44	22	167	44
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	718	1043	63	1218	1043	75	293	58	79	279	69
Arrive On Green	0.88	0.88	0.88	1.00	1.00	1.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	345	1090	1583	10	1848	1583	74	1425	283	89	1358	337
Grp Volume(v), veh/h	155	0	11	589	0	44	277	0	0	233	0	0
Grp Sat Flow(s),veh/h/ln	1435	0	1583	1858	0	1583	1782	0	0	1784	0	0
Q Serve(g_s), s	0.0	0.0	0.1	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	0.1	0.0	0.0	0.0	9.4	0.0	0.0	7.6	0.0	0.0
Prop In Lane	0.28		1.00	0.02		1.00	0.08		0.16	0.09		0.19
Lane Grp Cap(c), veh/h	1017	0	1043	1281	0	1043	426	0	0	427	0	0
V/C Ratio(X)	0.15	0.00	0.01	0.46	0.00	0.04	0.65	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	1017	0	1043	1281	0	1043	896	0	0	878	0	0
HCM Platoon Ratio	1.33	1.33	1.33	2.00	2.00	2.00	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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	1.4	0.0	1.4	0.0	0.0	0.0	24.2	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.2	0.0	0.1	0.6	0.0	0.0	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(50%),veh/ln	0.4	0.0	0.0	0.4	0.0	0.0	4.7	0.0	0.0	3.9	0.0	0.0
LnGrp Delay(d),s/veh	1.7	0.0	1.4	1.2	0.0	0.1	24.8	0.0	0.0	24.0	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		166			633			277			233	
Approach Delay, s/veh		1.7			1.1			24.8			24.0	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		47.0		18.0		47.0		18.0				
Change Period (Y+Rc), s		* 4.2		4.6		* 4.2		* 4.6				
Max Green Setting (Gmax), s		* 26		30.6		* 26		* 31				
Max Q Clear Time (g_c+I1), s		2.8		9.6		2.0		11.4				
Green Ext Time (p_c), s		1.8		2.0		1.8		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			10.3									
HCM 2010 LOS			B									
Notes												

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	↕
Traffic Vol, veh/h	20	120	10	20	580	30	10	30	10	10	10	20
Future Vol, veh/h	20	120	10	20	580	30	10	30	10	10	10	20
Conflicting Peds, #/hr	9	0	6	6	0	9	14	0	8	8	0	14
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	4	2	2	2	2	2	2
Mvmt Flow	23	140	12	23	674	35	12	35	12	12	12	23



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	683	0	0	146	0	0	944	922	154	947	922	697
Stage 1	-	-	-	-	-	-	192	192	-	730	730	-
Stage 2	-	-	-	-	-	-	752	730	-	217	192	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	910	-	-	1436	-	-	242	270	892	241	270	441
Stage 1	-	-	-	-	-	-	810	742	-	414	428	-
Stage 2	-	-	-	-	-	-	402	428	-	785	742	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	899	-	-	1426	-	-	208	252	882	201	252	433
Mov Cap-2 Maneuver	-	-	-	-	-	-	208	252	-	201	252	-
Stage 1	-	-	-	-	-	-	783	718	-	399	413	-
Stage 2	-	-	-	-	-	-	356	413	-	712	718	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.2			21.2			19.5		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	280	899	-	-	1426	-	-	295
HCM Lane V/C Ratio	0.208	0.026	-	-	0.016	-	-	0.158
HCM Control Delay (s)	21.2	9.1	0	-	7.6	0	-	19.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	0.6

HCM 2010 Signalized Intersection Summary
 15: 30th St & Imperial Ave

2022 Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	140	10	50	560	50	30	40	20	20	60	20
Future Volume (veh/h)	20	140	10	50	560	50	30	40	20	20	60	20
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	23	163	12	58	651	58	35	47	23	23	70	23
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	981	1198	131	1306	1198	119	93	39	91	120	36
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	110	1296	1583	94	1725	1583	438	905	377	236	1167	347
Grp Volume(v), veh/h	186	0	12	709	0	58	105	0	0	116	0	0
Grp Sat Flow(s),veh/h/ln	1406	0	1583	1819	0	1583	1720	0	0	1749	0	0
Q Serve(g_s), s	0.3	0.0	0.4	0.0	0.0	1.8	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	21.6	0.0	0.4	21.2	0.0	1.8	3.6	0.0	0.0	4.0	0.0	0.0
Prop In Lane	0.12		1.00	0.08		1.00	0.33		0.22	0.20		0.20
Lane Grp Cap(c), veh/h	1126	0	1198	1437	0	1198	251	0	0	247	0	0
V/C Ratio(X)	0.17	0.00	0.01	0.49	0.00	0.05	0.42	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	1126	0	1198	1437	0	1198	847	0	0	868	0	0
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.82	0.00	0.82	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	6.1	13.9	0.0	6.6	27.8	0.0	0.0	27.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.0	0.0	0.1	0.4	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.2	11.4	0.0	0.8	1.8	0.0	0.0	2.0	0.0	0.0
LnGrp Delay(d),s/veh	8.3	0.0	6.1	14.9	0.0	6.7	28.2	0.0	0.0	28.5	0.0	0.0
LnGrp LOS	A		A	B		A	C			C		
Approach Vol, veh/h		198			767			105			116	
Approach Delay, s/veh		8.2			14.3			28.2			28.5	
Approach LOS		A			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		53.8		11.2		53.8		11.2				
Change Period (Y+Rc), s		* 4.6		4.5		4.6		* 4.5				
Max Green Setting (Gmax), s		* 25		30.9		25.0		* 31				
Max Q Clear Time (g_c+I1), s		23.6		6.0		23.2		5.6				
Green Ext Time (p_c), s		1.0		0.8		1.0		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				15.9								
HCM 2010 LOS				B								
Notes												

HCM 2010 Signalized Intersection Summary
 16: 31st St & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↕			↕	
Traffic Volume (veh/h)	30	120	20	60	620	40	30	70	30	20	40	30
Future Volume (veh/h)	30	120	20	60	620	40	30	70	30	20	40	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.99	0.93		0.88	0.94		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1861	1863	1900	1863	1900	1900	1857	1900
Adj Flow Rate, veh/h	33	132	22	66	681	44	33	77	33	22	44	33
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	881	1073	135	1189	1097	109	181	67	101	156	95
Arrive On Green	0.47	0.47	0.47	1.00	1.00	1.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	234	1261	1536	107	1702	1570	228	1017	374	187	875	531
Grp Volume(v), veh/h	165	0	22	747	0	44	143	0	0	99	0	0
Grp Sat Flow(s),veh/h/ln	1495	0	1536	1808	0	1570	1619	0	0	1593	0	0
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.5	0.0	0.0	0.0	4.9	0.0	0.0	3.3	0.0	0.0
Prop In Lane	0.20		1.00	0.09		1.00	0.23		0.23	0.22		0.33
Lane Grp Cap(c), veh/h	1111	0	1073	1324	0	1097	357	0	0	352	0	0
V/C Ratio(X)	0.15	0.00	0.02	0.56	0.00	0.04	0.40	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	1111	0	1073	1324	0	1097	486	0	0	478	0	0
HCM Platoon Ratio	0.67	0.67	0.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.00	0.99	0.38	0.00	0.38	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.1	0.0	5.3	0.0	0.0	0.0	23.9	0.0	0.0	23.3	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0	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(50%),veh/ln	1.7	0.0	0.2	0.2	0.0	0.0	2.4	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	6.4	0.0	5.4	0.7	0.0	0.0	24.6	0.0	0.0	23.7	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		187			791			143			99	
Approach Delay, s/veh		6.2			0.6			24.6			23.7	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.4		15.6		49.4		15.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		40.0		17.0		40.0		17.0				
Max Q Clear Time (g_c+1), s		5.3		5.3		2.0		6.9				
Green Ext Time (p_c), s		8.3		1.1		8.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				6.2								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 17: 32nd St & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (veh/h)	30	120	20	30	620	270	30	110	20	60	90	60
Future Volume (veh/h)	30	120	20	30	620	270	30	110	20	60	90	60
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.97		0.95	0.97		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1900	1900	1844	1900	1900	1863	1900
Adj Flow Rate, veh/h	33	133	22	33	689	300	33	122	22	67	100	67
Adj No. of Lanes	0	1	1	0	1	0	0	1	0	0	1	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, %	2	2	2	2	2	2	3	3	3	2	2	2
Cap, veh/h	200	766	1017	76	782	333	108	304	49	149	186	106
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	206	1185	1574	29	1210	515	185	1318	213	337	807	459
Grp Volume(v), veh/h	166	0	22	1022	0	0	177	0	0	234	0	0
Grp Sat Flow(s),veh/h/ln	1391	0	1574	1753	0	0	1716	0	0	1602	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	8.1	0.0	0.0
Prop In Lane	0.20		1.00	0.03		0.29	0.19		0.12	0.29		0.29
Lane Grp Cap(c), veh/h	965	0	1017	1190	0	0	462	0	0	441	0	0
V/C Ratio(X)	0.17	0.00	0.02	0.86	0.00	0.00	0.38	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	965	0	1017	1190	0	0	611	0	0	580	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.51	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	21.3	0.0	0.0	22.3	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	4.4	0.0	0.0	0.5	0.0	0.0	1.0	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(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	0.0	2.8	0.0	0.0	3.9	0.0	0.0
LnGrp Delay(d),s/veh	0.4	0.0	0.0	4.4	0.0	0.0	21.9	0.0	0.0	23.2	0.0	0.0
LnGrp LOS	A		A	A			C			C		
Approach Vol, veh/h		188			1022			177			234	
Approach Delay, s/veh		0.3			4.4			21.9			23.2	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.0		19.0		46.0		19.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		21.0		36.0		21.0				
Max Q Clear Time (g_c+I1), s		2.0		10.1		2.0		7.5				
Green Ext Time (p_c), s		13.4		1.9		13.4		2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				8.6								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
18: 33rd St & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	180	30	30	770	50	50	20	10	20	20	70
Future Volume (veh/h)	20	180	30	30	770	50	50	20	10	20	20	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	228	38	38	975	63	63	25	13	25	25	89
Adj No. of Lanes	1	1	1	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	1177	1001	832	1120	952	201	73	27	89	52	135
Arrive On Green	0.12	1.00	1.00	0.03	0.60	0.60	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	860	565	210	185	400	1041
Grp Volume(v), veh/h	25	228	38	38	975	63	101	0	0	139	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1635	0	0	1626	0	0
Q Serve(g_s), s	0.3	0.0	0.0	0.5	28.5	1.1	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.0	0.5	28.5	1.1	3.4	0.0	0.0	5.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.62		0.13	0.18		0.64
Lane Grp Cap(c), veh/h	308	1177	1001	832	1120	952	302	0	0	276	0	0
V/C Ratio(X)	0.08	0.19	0.04	0.05	0.87	0.07	0.33	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	308	1177	1001	887	1120	952	719	0	0	740	0	0
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)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.6	0.0	0.0	4.5	10.8	5.4	26.1	0.0	0.0	26.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.4	0.1	0.0	9.3	0.1	0.6	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.2	17.3	0.5	1.7	0.0	0.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	9.7	0.4	0.1	4.5	20.2	5.5	26.7	0.0	0.0	28.3	0.0	0.0
LnGrp LOS	A	A	A	A	C	A	C			C		
Approach Vol, veh/h		291			1076			101			139	
Approach Delay, s/veh		1.1			18.7			26.7			28.3	
Approach LOS		A			B			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.9	6.5	45.6		12.9	8.5	43.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		27.5	4.0	20.0		27.5	4.0	20.0				
Max Q Clear Time (g_c+I1), s		5.4	2.5	2.0		7.2	2.3	30.5				
Green Ext Time (p_c), s		1.4	0.0	9.2		1.4	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay					16.9							
HCM 2010 LOS					B							

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	30	180	770	50	10	60
Future Vol, veh/h	30	180	770	50	10	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	196	837	54	11	65
Number of Lanes	0	1	2	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	10.4	17.9	9.3
HCM LOS	B	C	A

Lane	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	14%	0%	0%	14%
Vol Thru, %	86%	100%	84%	0%
Vol Right, %	0%	0%	16%	86%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	513	307	70
LT Vol	30	0	0	10
Through Vol	180	513	257	0
RT Vol	0	0	50	60
Lane Flow Rate	228	558	333	76
Geometry Grp	5	7	7	2
Degree of Util (X)	0.318	0.764	0.446	0.116
Departure Headway (Hd)	5.014	4.93	4.815	5.506
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	717	737	747	649
Service Time	3.051	2.662	2.547	3.556
HCM Lane V/C Ratio	0.318	0.757	0.446	0.117
HCM Control Delay	10.4	21.8	11.4	9.3
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	1.4	7.3	2.3	0.4



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	30	140	820	370	130	50		
Future Volume (veh/h)	30	140	820	370	130	50		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	31	146	854	385	135	52		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	203	181	769	1484	404	155		
Arrive On Green	0.11	0.11	0.72	1.00	0.32	0.32		
Sat Flow, veh/h	1774	1583	1774	1863	1265	487		
Grp Volume(v), veh/h	31	146	854	385	0	187		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1752		
Q Serve(g_s), s	1.4	8.1	39.0	0.0	0.0	7.3		
Cycle Q Clear(g_c), s	1.4	8.1	39.0	0.0	0.0	7.3		
Prop In Lane	1.00	1.00	1.00			0.28		
Lane Grp Cap(c), veh/h	203	181	769	1484	0	559		
V/C Ratio(X)	0.15	0.81	1.11	0.26	0.00	0.33		
Avail Cap(c_a), veh/h	355	317	769	1484	0	559		
HCM Platoon Ratio	1.00	1.00	1.67	1.67	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.32	0.32	0.00	1.00		
Uniform Delay (d), s/veh	35.9	38.9	12.4	0.0	0.0	23.4		
Incr Delay (d2), s/veh	0.3	8.2	56.5	0.1	0.0	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	7.3	30.2	0.1	0.0	3.6		
LnGrp Delay(d),s/veh	36.3	47.1	68.9	0.1	0.0	23.7		
LnGrp LOS	D	D	F	A		C		
Approach Vol, veh/h	177			1239	187			
Approach Delay, s/veh	45.2			47.6	23.7			
Approach LOS	D			D	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		75.7		14.3	43.0	32.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		64.0		18.0	39.0	21.0		
Max Q Clear Time (g_c+I1), s		2.0		10.1	41.0	9.3		
Green Ext Time (p_c), s		4.1		0.3	0.0	2.8		
Intersection Summary								
HCM 2010 Ctrl Delay			44.5					
HCM 2010 LOS			D					

HCM Signalized Intersection Capacity Analysis
21: Imperial Ave & 36th St

2022 Plus Project AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	850	390	20	160	70
Future Volume (vph)	10	850	390	20	160	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1571	1846		1755	1848
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1571	1846		1755	1848
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	885	406	21	167	73
RTOR Reduction (vph)	0	311	2	0	0	0
Lane Group Flow (vph)	10	574	425	0	167	73
Confl. Peds. (#/hr)	10			8	8	
Confl. Bikes (#/hr)				1		
Bus Blockages (#/hr)	0	2	0	0	2	2
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	47.0	47.0	18.2		12.8	35.0
Effective Green, g (s)	47.0	47.0	18.2		12.8	35.0
Actuated g/C Ratio	0.52	0.52	0.20		0.14	0.39
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	924	820	373		249	718
v/s Ratio Prot	0.01		c0.23		c0.10	0.04
v/s Ratio Perm		c0.37				
v/c Ratio	0.01	0.70	1.14		0.67	0.10
Uniform Delay, d1	10.3	16.2	35.9		36.6	17.5
Progression Factor	1.00	1.00	1.00		0.88	0.56
Incremental Delay, d2	0.0	5.0	89.8		6.5	0.1
Delay (s)	10.4	21.2	125.7		38.7	9.9
Level of Service	B	C	F		D	A
Approach Delay (s)	21.0		125.7			30.0
Approach LOS	C		F			C

Intersection Summary

HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 2010 Signalized Intersection Summary
 22: 40th St & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	180	50	150	550	170	60		
Future Volume (veh/h)	180	50	150	550	170	60		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	191	53	160	585	181	64		
Adj No. of Lanes	1	0	1	1	1	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	502	139	249	1196	190	392		
Arrive On Green	0.36	0.36	0.14	0.64	0.11	0.11		
Sat Flow, veh/h	1404	390	1774	1863	1774	1583		
Grp Volume(v), veh/h	0	244	160	585	181	64		
Grp Sat Flow(s),veh/h/ln	0	1794	1774	1863	1774	1583		
Q Serve(g_s), s	0.0	3.8	3.2	6.1	3.8	1.2		
Cycle Q Clear(g_c), s	0.0	3.8	3.2	6.1	3.8	1.2		
Prop In Lane		0.22	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	0	641	249	1196	190	392		
V/C Ratio(X)	0.00	0.38	0.64	0.49	0.95	0.16		
Avail Cap(c_a), veh/h	0	1246	299	1772	190	392		
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	1.00		
Uniform Delay (d), s/veh	0.0	8.9	15.2	3.5	16.6	11.0		
Incr Delay (d2), s/veh	0.0	0.5	4.6	0.5	51.8	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	1.9	1.9	3.2	4.5	0.5		
LnGrp Delay(d),s/veh	0.0	9.4	19.8	4.0	68.4	11.1		
LnGrp LOS		A	B	A	E	B		
Approach Vol, veh/h	244			745	245			
Approach Delay, s/veh	9.4			7.4	53.5			
Approach LOS	A			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.7	18.8				29.4		8.0
Change Period (Y+Rc), s	5.4	* 5.4				5.4		4.0
Max Green Setting (Gmax), s	30	* 26				35.6		4.0
Max Q Clear Time (g_c+1), s	11.2	5.8				8.1		5.8
Green Ext Time (p_c), s	0.1	7.6				8.7		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			16.9					
HCM 2010 LOS			B					
Notes								

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	240	10	20	690	20	50
Future Vol, veh/h	240	10	20	690	20	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	261	11	22	750	22	54

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	272	0	1059 266
Stage 1	-	-	-	-	266 -
Stage 2	-	-	-	-	793 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1291	-	249 773
Stage 1	-	-	-	-	779 -
Stage 2	-	-	-	-	446 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1291	-	245 773
Mov Cap-2 Maneuver	-	-	-	-	245 -
Stage 1	-	-	-	-	779 -
Stage 2	-	-	-	-	438 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	478	-	-	1291	-
HCM Lane V/C Ratio	0.159	-	-	0.017	-
HCM Control Delay (s)	14	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑		↔
Traffic Vol, veh/h	250	50	30	700	10	20
Future Vol, veh/h	250	50	30	700	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	56	33	778	11	22

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	333	0	1150 306
Stage 1	-	-	-	-	306 -
Stage 2	-	-	-	-	844 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1226	-	219 734
Stage 1	-	-	-	-	747 -
Stage 2	-	-	-	-	422 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1226	-	213 734
Mov Cap-2 Maneuver	-	-	-	-	213 -
Stage 1	-	-	-	-	747 -
Stage 2	-	-	-	-	411 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	734	-	-	1226	-
HCM Lane V/C Ratio	0.03	-	-	0.027	-
HCM Control Delay (s)	10.1	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

HCM 2010 Signalized Intersection Summary
 25: Redworks Dwy/Greenwood & Imperial Ave

2022 Plus Project AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	180	80	250	620	30	120	10	100	10	10	10
Future Volume (veh/h)	10	180	80	250	620	30	120	10	100	10	10	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	188	83	260	646	31	125	10	104	10	10	10
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	19	293	129	450	898	763	430	285	644	186	122	83
Arrive On Green	0.01	0.24	0.24	0.25	0.48	0.48	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1774	1226	541	1774	1863	1583	1386	1863	1583	288	800	544
Grp Volume(v), veh/h	10	0	271	260	646	31	125	10	104	30	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1767	1774	1863	1583	1386	1863	1583	1633	0	0
Q Serve(g_s), s	0.2	0.0	4.7	4.3	9.3	0.4	2.2	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	0.0	4.7	4.3	9.3	0.4	2.7	0.2	0.0	0.5	0.0	0.0
Prop In Lane	1.00		0.31	1.00		1.00	1.00		1.00	0.33		0.33
Lane Grp Cap(c), veh/h	19	0	422	450	898	763	430	285	644	391	0	0
V/C Ratio(X)	0.53	0.00	0.64	0.58	0.72	0.04	0.29	0.04	0.16	0.08	0.00	0.00
Avail Cap(c_a), veh/h	210	0	1201	472	1541	1310	1693	1982	2086	1790	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.7	0.0	11.6	11.0	7.0	4.6	13.2	12.2	6.4	12.4	0.0	0.0
Incr Delay (d2), s/veh	21.3	0.0	1.6	1.6	1.1	0.0	0.4	0.0	0.1	0.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	2.4	2.3	4.9	0.2	1.1	0.1	0.6	0.3	0.0	0.0
LnGrp Delay(d),s/veh	38.0	0.0	13.2	12.7	8.1	4.7	13.6	12.3	6.5	12.4	0.0	0.0
LnGrp LOS	D		B	B	A	A	B	B	A	B		
Approach Vol, veh/h		281			937			239			30	
Approach Delay, s/veh		14.1			9.2			10.5			12.4	
Approach LOS		B			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		9.2	12.6	12.1		9.2	4.4	20.3				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		36.0	9.0	23.0		36.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		4.7	6.3	6.7		2.5	2.2	11.3				
Green Ext Time (p_c), s		0.9	1.4	1.4		0.9	0.0	5.0				
Intersection Summary												
HCM 2010 Ctrl Delay			10.4									
HCM 2010 LOS			B									

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↻		↻	↻		↻		↻		↻	
Traffic Vol, veh/h	10	260	10	350	880	0	20	0	220	0	0	0
Future Vol, veh/h	10	260	10	350	880	0	20	0	220	0	0	0
Conflicting Peds, #/hr	1	0	11	11	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	14	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	274	11	368	926	0	21	0	232	0	0	0




















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	927	0	0	295	0	0	1974	-	291	1965	1980	927
Stage 1	-	-	-	-	-	-	311	-	-	1664	1664	-
Stage 2	-	-	-	-	-	-	1663	-	-	301	316	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	737	-	-	1266	-	-	47	0	748	47	62	325
Stage 1	-	-	-	-	-	-	699	0	-	122	154	-
Stage 2	-	-	-	-	-	-	123	0	-	708	655	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	737	-	-	1265	-	-	36	-	741	25	43	325
Mov Cap-2 Maneuver	-	-	-	-	-	-	36	-	-	25	43	-
Stage 1	-	-	-	-	-	-	680	-	-	120	109	-
Stage 2	-	-	-	-	-	-	87	-	-	478	637	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			2.6			27.7			0		
HCM LOS							D			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	36	741	737	-	-	1265	-	-	-
HCM Lane V/C Ratio	0.585	0.313	0.014	-	-	0.291	-	-	-
HCM Control Delay (s)	198.8	12.1	10	-	-	9	-	-	0
HCM Lane LOS	F	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	2	1.3	0	-	-	1.2	-	-	-

HCM 2010 Signalized Intersection Summary
27: 45th St & Imperial Ave

2022 Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	440	20	50	1150	30	50	20	70	10	10	10
Future Volume (veh/h)	10	440	20	50	1150	30	50	20	70	10	10	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	11	478	22	54	1250	33	54	22	76	11	11	11
Adj No. of Lanes	1	1	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	1103	51	68	2304	61	133	46	104	120	105	76
Arrive On Green	0.01	0.63	0.63	0.04	0.66	0.66	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	1753	81	1774	3509	93	439	347	786	347	797	572
Grp Volume(v), veh/h	11	0	500	54	630	653	152	0	0	33	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1834	1774	1770	1832	1572	0	0	1716	0	0
Q Serve(g_s), s	0.4	0.0	9.0	2.0	12.3	12.4	4.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	9.0	2.0	12.3	12.4	6.0	0.0	0.0	1.1	0.0	0.0
Prop In Lane	1.00		0.04	1.00		0.05	0.36		0.50	0.33		0.33
Lane Grp Cap(c), veh/h	20	0	1154	68	1162	1203	283	0	0	301	0	0
V/C Ratio(X)	0.56	0.00	0.43	0.79	0.54	0.54	0.54	0.00	0.00	0.11	0.00	0.00
Avail Cap(c_a), veh/h	109	0	1154	164	1162	1203	695	0	0	714	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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.0	0.0	6.1	31.0	6.0	6.0	27.0	0.0	0.0	24.9	0.0	0.0
Incr Delay (d2), s/veh	22.5	0.0	1.2	18.4	1.8	1.8	1.6	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.8	1.3	6.5	6.8	2.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	54.5	0.0	7.3	49.4	7.8	7.7	28.6	0.0	0.0	25.1	0.0	0.0
LnGrp LOS	D		A	D	A	A	C			C		
Approach Vol, veh/h		511			1337			152				33
Approach Delay, s/veh		8.3			9.4			28.6				25.1
Approach LOS		A			A			C				C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.1	6.5	45.4		13.1	4.7	47.2				
Change Period (Y+Rc), s		4.5	4.0	4.5		4.5	4.0	4.5				
Max Green Setting (Gmax), s		26.0	6.0	20.0		26.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		8.0	4.0	11.0		3.1	2.4	14.4				
Green Ext Time (p_c), s		0.9	0.0	6.7		1.0	0.0	5.9				
Intersection Summary												
HCM 2010 Ctrl Delay			10.8									
HCM 2010 LOS			B									

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	↑
Traffic Vol, veh/h	510	10	10	1230	20	10
Future Vol, veh/h	510	10	10	1230	20	10
Conflicting Peds, #/hr	0	9	9	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	-	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	11
Mvmt Flow	548	11	11	1323	22	11


















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	568	0	1246 289
Stage 1	-	-	-	-	563 -
Stage 2	-	-	-	-	683 -
Critical Hdwy	-	-	4.14	-	6.84 7.12
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.41
Pot Cap-1 Maneuver	-	-	1000	-	166 681
Stage 1	-	-	-	-	534 -
Stage 2	-	-	-	-	463 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1000	-	158 676
Mov Cap-2 Maneuver	-	-	-	-	158 -
Stage 1	-	-	-	-	530 -
Stage 2	-	-	-	-	444 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	24.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	158	676	-	-	1000	-
HCM Lane V/C Ratio	0.136	0.016	-	-	0.011	-
HCM Control Delay (s)	31.3	10.4	-	-	8.6	0.2
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-

HCM 2010 Signalized Intersection Summary
 29: I-805 SB On-Ramp/I-805 SB Off-Ramp & Imperial Ave

2022 Plus Project AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	380	140	210	750	0	0	0	0	350	0	480
Future Volume (veh/h)	0	380	140	210	750	0	0	0	0	350	0	480
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	409	151	226	806	0				376	0	516
Adj No. of Lanes	0	2	0	2	2	0				1	1	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	2	2	2	2	0				2	2	2
Cap, veh/h	0	724	264	872	2053	0				603	0	538
Arrive On Green	0.00	0.28	0.28	0.51	1.00	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	2634	928	3442	3632	0				1774	0	1583
Grp Volume(v), veh/h	0	283	277	226	806	0				376	0	516
Grp Sat Flow(s),veh/h/ln	0	1770	1699	1721	1770	0				1774	0	1583
Q Serve(g_s), s	0.0	16.4	16.7	4.5	0.0	0.0				21.3	0.0	38.3
Cycle Q Clear(g_c), s	0.0	16.4	16.7	4.5	0.0	0.0				21.3	0.0	38.3
Prop In Lane	0.00		0.55	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	504	484	872	2053	0				603	0	538
V/C Ratio(X)	0.00	0.56	0.57	0.26	0.39	0.00				0.62	0.00	0.96
Avail Cap(c_a), veh/h	0	504	484	872	2053	0				707	0	631
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	0.88	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	36.5	36.6	23.2	0.0	0.0				33.2	0.0	38.8
Incr Delay (d2), s/veh	0.0	4.5	4.8	0.1	0.5	0.0				0.7	0.0	23.0
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(50%),veh/ln	0.0	8.6	8.5	2.1	0.1	0.0				10.6	0.0	20.2
LnGrp Delay(d),s/veh	0.0	41.0	41.5	23.2	0.5	0.0				33.9	0.0	61.8
LnGrp LOS		D	D	C	A					C		E
Approach Vol, veh/h		560			1032						892	
Approach Delay, s/veh		41.2			5.5						50.0	
Approach LOS		D			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	35.4	39.2		45.4		74.6						
Change Period (Y+Rc), s	5.0	* 5		4.6		5.0						
Max Green Setting (Gmax), s	24.2	* 34		47.8		62.6						
Max Q Clear Time (g_c+I1), s	6.5	18.7		40.3		2.0						
Green Ext Time (p_c), s	1.1	0.6		0.5		1.2						
Intersection Summary												
HCM 2010 Ctrl Delay				29.5								
HCM 2010 LOS				C								
Notes												

HCM Signalized Intersection Capacity Analysis
 30: I-805 NB Off-Ramp/I-805 NB On-Ramp & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	530	0	0	720	950	240	10	110	0	0	0
Future Volume (vph)	200	530	0	0	720	950	240	10	110	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	0.88			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1778	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	3539			3539	1583		1778	2787			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	213	564	0	0	766	1011	255	11	117	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	366	0	0	0	0	0	0
Lane Group Flow (vph)	213	564	0	0	766	645	0	266	117	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	custom			
Protected Phases	5	2			6	9		8	8	9		
Permitted Phases						6	9	8				
Actuated Green, G (s)	29.0	62.0			56.2	56.2		22.8	50.0			
Effective Green, g (s)	29.0	62.0			56.2	56.2		22.8	50.0			
Actuated g/C Ratio	0.24	0.52			0.47	0.47		0.19	0.42			
Clearance Time (s)	4.0	4.0						4.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	427	1828			1657	741		337	1161			
v/s Ratio Prot	c0.12	0.16			0.22				0.04			
v/s Ratio Perm						c0.41		0.15				
v/c Ratio	0.50	0.31			0.46	0.87		0.79	0.10			
Uniform Delay, d1	39.2	16.7			21.6	28.6		46.3	21.3			
Progression Factor	1.34	1.59			0.50	1.42		1.00	1.00			
Incremental Delay, d2	0.8	0.4			0.1	6.5		11.6	0.0			
Delay (s)	53.3	26.9			10.9	47.0		57.9	21.3			
Level of Service	D	C			B	D		E	C			
Approach Delay (s)		34.1			31.5			46.8			0.0	
Approach LOS		C			C			D			A	

Intersection Summary

HCM 2000 Control Delay	34.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
 31: 47th St & Imperial Ave

2022 Plus Project AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	400	120	90	1190	60	270	510	110	50	230	210
Future Volume (veh/h)	130	400	120	90	1190	60	270	510	110	50	230	210
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	146	449	135	101	1337	67	303	573	124	56	258	236
Adj No. of Lanes	1	2	0	1	3	0	1	2	0	1	2	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	854	255	262	1578	79	151	949	205	72	508	426
Arrive On Green	0.30	0.64	0.64	0.15	0.32	0.32	0.09	0.33	0.33	0.04	0.29	0.29
Sat Flow, veh/h	1774	2684	800	1774	4944	248	1774	2864	617	1774	1770	1482
Grp Volume(v), veh/h	146	295	289	101	917	487	303	353	344	56	258	236
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1695	1802	1774	1770	1711	1774	1770	1482
Q Serve(g_s), s	8.3	10.9	11.1	6.2	30.3	30.3	10.2	20.0	20.2	3.8	14.6	16.2
Cycle Q Clear(g_c), s	8.3	10.9	11.1	6.2	30.3	30.3	10.2	20.0	20.2	3.8	14.6	16.2
Prop In Lane	1.00		0.47	1.00		0.14	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	262	563	546	262	1082	575	151	587	567	72	508	426
V/C Ratio(X)	0.56	0.52	0.53	0.38	0.85	0.85	2.01	0.60	0.61	0.78	0.51	0.55
Avail Cap(c_a), veh/h	262	563	546	262	1082	575	151	619	599	151	622	521
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)	0.97	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	16.8	16.9	46.2	38.1	38.1	54.9	33.5	33.6	57.0	35.7	36.3
Incr Delay (d2), s/veh	1.5	3.4	3.6	0.3	8.2	14.4	476.8	1.0	1.1	6.5	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	5.8	5.7	3.1	15.4	17.3	25.0	10.0	9.7	2.0	7.2	6.7
LnGrp Delay(d),s/veh	40.5	20.2	20.4	46.5	46.4	52.5	531.8	34.5	34.6	63.6	36.0	36.7
LnGrp LOS	D	C	C	D	D	D	F	C	C	E	D	D
Approach Vol, veh/h		730			1505			1000			550	
Approach Delay, s/veh		24.3			48.4			185.2			39.1	
Approach LOS		C			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.1	43.6	14.6	39.7	22.1	43.6	9.3	45.0				
Change Period (Y+Rc), s	4.4	5.4	4.4	* 5.2	4.4	5.3	4.4	5.2				
Max Green Setting (Gmax), s	10.2	38.2	10.2	* 42	10.2	38.3	10.2	42.0				
Max Q Clear Time (g_c+10), s	10.2	13.1	12.2	18.2	10.3	32.3	5.8	22.2				
Green Ext Time (p_c), s	0.1	2.4	0.0	5.5	0.0	4.0	0.0	5.2				

Intersection Summary												
HCM 2010 Ctrl Delay												78.5
HCM 2010 LOS												E
Notes												

Intersection	
Intersection Delay, s/veh	18.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕				
Traffic Vol, veh/h	40	50	0	0	40	10	150	790	60	0	0	0
Future Vol, veh/h	40	50	0	0	40	10	150	790	60	0	0	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	55	0	0	44	11	165	868	66	0	0	0
Number of Lanes	0	1	0	0	1	0	1	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	1
HCM Control Delay	11.4	10.2	19.1
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1
Vol Left, %	100%	0%	0%	44%	0%
Vol Thru, %	0%	100%	81%	56%	80%
Vol Right, %	0%	0%	19%	0%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	150	527	323	90	50
LT Vol	150	0	0	40	0
Through Vol	0	527	263	50	40
RT Vol	0	0	60	0	10
Lane Flow Rate	165	579	355	99	55
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.254	0.811	0.485	0.191	0.102
Departure Headway (Hd)	5.549	5.047	4.917	6.964	6.69
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	646	718	732	512	532
Service Time	3.298	2.796	2.665	4.747	4.48
HCM Lane V/C Ratio	0.255	0.806	0.485	0.193	0.103
HCM Control Delay	10.2	25.8	12.3	11.4	10.2
HCM Lane LOS	B	D	B	B	B
HCM 95th-tile Q	1	8.5	2.7	0.7	0.3

HCM 2010 Signalized Intersection Summary
 2: 17th St & Imperial Ave

2022 Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑					↑	↑↑	↑
Traffic Volume (veh/h)	0	530	50	20	90	0	0	0	0	380	120	130
Future Volume (veh/h)	0	530	50	20	90	0	0	0	0	380	120	130
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		1.00				1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	558	53	21	95	0				400	126	137
Adj No. of Lanes	0	2	0	0	1	0				1	2	1
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	2	2	2	2	0				2	2	2
Cap, veh/h	0	1864	177	184	789	0				493	984	423
Arrive On Green	0.00	1.00	1.00	0.19	0.19	0.00				0.28	0.28	0.28
Sat Flow, veh/h	0	3356	309	207	1381	0				1774	3539	1522
Grp Volume(v), veh/h	0	302	309	116	0	0				400	126	137
Grp Sat Flow(s),veh/h/ln	0	1770	1803	1588	0	0				1774	1770	1522
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0				13.7	1.7	4.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	0.0	0.0				13.7	1.7	4.6
Prop In Lane	0.00		0.17	0.18		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1011	1030	973	0	0				493	984	423
V/C Ratio(X)	0.00	0.30	0.30	0.12	0.00	0.00				0.81	0.13	0.32
Avail Cap(c_a), veh/h	0	1011	1030	973	0	0				822	1639	705
HCM Platoon Ratio	1.00	2.00	2.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.93	0.93	0.98	0.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.7	0.0	0.0				21.9	17.6	18.6
Incr Delay (d2), s/veh	0.0	0.7	0.7	0.2	0.0	0.0				1.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	1.8	0.0	0.0				6.8	0.8	2.0
LnGrp Delay(d),s/veh	0.0	0.7	0.7	12.9	0.0	0.0				23.1	17.6	18.8
LnGrp LOS		A	A	B						C	B	B
Approach Vol, veh/h		611			116						663	
Approach Delay, s/veh		0.7			12.9						21.2	
Approach LOS		A			B						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		42.0		23.0		42.0						
Change Period (Y+Rc), s		4.9		4.9		4.9						
Max Green Setting (Gmax), s		25.1		30.1		25.1						
Max Q Clear Time (g_c+I1), s		2.0		15.7		5.4						
Green Ext Time (p_c), s		3.0		1.3		2.9						
Intersection Summary												
HCM 2010 Ctrl Delay				11.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 3: 19th St & Imperial Ave

2022 Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	390	510	0	0	90	110	20	310	30	0	0	0
Future Volume (veh/h)	390	510	0	0	90	110	20	310	30	0	0	0
Number	5	2	12	1	6	16	3	8	18			
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			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	419	548	0	0	97	118	22	333	32			
Adj No. of Lanes	1	1	0	0	1	0	0	3	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	2	0	0	2	2	0	2	0			
Cap, veh/h	875	1338	0	0	383	466	38	601	59			
Arrive On Green	0.30	1.00	0.00	0.00	0.50	0.50	0.13	0.13	0.13			
Sat Flow, veh/h	1774	1863	0	0	766	932	286	4591	449			
Grp Volume(v), veh/h	419	548	0	0	0	215	142	118	127			
Grp Sat Flow(s),veh/h/ln	1774	1863	0	0	0	1698	1848	1695	1783			
Q Serve(g_s), s	7.6	0.0	0.0	0.0	0.0	4.7	4.7	4.2	4.3			
Cycle Q Clear(g_c), s	7.6	0.0	0.0	0.0	0.0	4.7	4.7	4.2	4.3			
Prop In Lane	1.00		0.00	0.00		0.55	0.15		0.25			
Lane Grp Cap(c), veh/h	875	1338	0	0	0	848	242	222	234			
V/C Ratio(X)	0.48	0.41	0.00	0.00	0.00	0.25	0.59	0.53	0.54			
Avail Cap(c_a), veh/h	931	1338	0	0	0	848	572	524	552			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.87	0.87	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	4.1	0.0	0.0	0.0	0.0	9.3	26.6	26.4	26.4			
Incr Delay (d2), s/veh	0.1	0.8	0.0	0.0	0.0	0.7	2.2	2.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.3	0.3	0.0	0.0	0.0	2.4	2.6	2.1	2.2			
LnGrp Delay(d),s/veh	4.2	0.8	0.0	0.0	0.0	10.0	28.8	28.3	28.4			
LnGrp LOS	A	A				B	C	C	C			
Approach Vol, veh/h		967			215			387				
Approach Delay, s/veh		2.3			10.0			28.5				
Approach LOS		A			B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		51.6			14.2	37.4		13.4				
Change Period (Y+Rc), s		4.9			4.4	4.9		4.9				
Max Green Setting (Gmax), s		35.1			11.9	18.8		20.1				
Max Q Clear Time (g_c+I1), s		2.0			9.6	6.7		6.7				
Green Ext Time (p_c), s		14.6			0.2	7.5		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay					9.8							
HCM 2010 LOS					A							

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	↕
Traffic Vol, veh/h	30	520	20	10	180	10	20	10	10	20	10	20
Future Vol, veh/h	30	520	20	10	180	10	20	10	10	20	10	20
Conflicting Peds, #/hr	33	0	59	59	0	33	3	0	1	1	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
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, %	2	2	2	16	2	2	2	2	2	2	2	2
Mvmt Flow	33	571	22	11	198	11	22	11	11	22	11	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	231	0	0	630	0	0	935	949	631	902	949	234
Stage 1	-	-	-	-	-	-	696	696	-	253	253	-
Stage 2	-	-	-	-	-	-	239	253	-	649	696	-
Critical Hdwy	4.12	-	-	4.26	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.344	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1337	-	-	888	-	-	246	260	481	259	260	805
Stage 1	-	-	-	-	-	-	432	443	-	751	698	-
Stage 2	-	-	-	-	-	-	764	698	-	458	443	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1334	-	-	887	-	-	210	228	457	228	228	781
Mov Cap-2 Maneuver	-	-	-	-	-	-	210	228	-	228	228	-
Stage 1	-	-	-	-	-	-	396	406	-	703	669	-
Stage 2	-	-	-	-	-	-	718	669	-	418	406	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.5			22.6			18.7		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	248	1334	-	-	887	-	-	318
HCM Lane V/C Ratio	0.177	0.025	-	-	0.012	-	-	0.173
HCM Control Delay (s)	22.6	7.8	0	-	9.1	0	-	18.7
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.6

Intersection														
Int Delay, s/veh	4.6													
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔			↔	↔			↔			↔	
Traffic Vol, veh/h	50	430	80	6	70	170	10	2	10	30	60	20	30	20
Future Vol, veh/h	50	430	80	6	70	170	10	2	10	30	60	20	30	20
Conflicting Peds, #/hr	13	0	85	0	85	0	13	0	9	0	16	16	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	50	-	-	-	-	-	-	-
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	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	100	2	2	2	2	2	2
Mvmt Flow	53	457	85	6	74	181	11	2	11	32	64	21	32	21

Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	194	0	0	457	542	0	0	0	1014	1005	558	971	1005	203
Stage 1	-	-	-	-	-	-	-	0	649	649	-	343	356	-
Stage 2	-	-	-	-	-	-	-	0	365	356	-	628	649	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1379	-	-	-	1027	-	-	0	217	241	529	232	241	838
Stage 1	-	-	-	-	-	-	-	0	458	466	-	672	629	-
Stage 2	-	-	-	-	-	-	-	0	654	629	-	471	466	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1369	-	-	~ -13	~ -13	-	-	0	165	209	485	166	209	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	165	209	-	166	209	-
Stage 1	-	-	-	-	-	-	-	0	402	409	-	627	622	-
Stage 2	-	-	-	-	-	-	-	0	600	622	-	351	409	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7		23	26.2
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	305	1369	-	-	+	-	-	243
HCM Lane V/C Ratio	0.349	0.039	-	-	-	-	-	0.306
HCM Control Delay (s)	23	7.7	0	-	-	-	-	26.2
HCM Lane LOS	C	A	A	-	-	-	-	D
HCM 95th %tile Q(veh)	1.5	0.1	-	-	-	-	-	1.3

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

Intersection	
Intersection Delay, s/veh	18.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	
Traffic Vol, veh/h	40	410	60	70	170	20	20	50	50	30	60	40
Future Vol, veh/h	40	410	60	70	170	20	20	50	50	30	60	40
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	441	65	75	183	22	22	54	54	32	65	43
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	24.6	13.7	11.2	11.5
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	17%	9%	0%	29%	0%	23%
Vol Thru, %	42%	91%	0%	71%	0%	46%
Vol Right, %	42%	0%	100%	0%	100%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	450	60	240	20	130
LT Vol	20	40	0	70	0	30
Through Vol	50	410	0	170	0	60
RT Vol	50	0	60	0	20	40
Lane Flow Rate	129	484	65	258	22	140
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.225	0.786	0.091	0.45	0.032	0.245
Departure Headway (Hd)	6.269	5.847	5.093	6.281	5.421	6.314
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	569	619	701	570	656	565
Service Time	4.352	3.6	2.845	4.048	3.187	4.396
HCM Lane V/C Ratio	0.227	0.782	0.093	0.453	0.034	0.248
HCM Control Delay	11.2	26.8	8.4	14.1	8.4	11.5
HCM Lane LOS	B	D	A	B	A	B
HCM 95th-tile Q	0.9	7.5	0.3	2.3	0.1	1

Intersection

Intersection Delay, s/veh 19.3

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↔			↔	
Traffic Vol, veh/h	30	470	20	20	200	30	10	20	40	30	30	40
Future Vol, veh/h	30	470	20	20	200	30	10	20	40	30	30	40
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
Heavy Vehicles, %	2	2	7	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	500	21	21	213	32	11	21	43	32	32	43
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	26	11.4	9.9	10.4
HCM LOS	D	B	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	14%	6%	0%	9%	0%	30%
Vol Thru, %	29%	94%	0%	91%	0%	30%
Vol Right, %	57%	0%	100%	0%	100%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	500	20	220	30	100
LT Vol	10	30	0	20	0	30
Through Vol	20	470	0	200	0	30
RT Vol	40	0	20	0	30	40
Lane Flow Rate	74	532	21	234	32	106
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.124	0.804	0.028	0.375	0.044	0.178
Departure Headway (Hd)	5.986	5.443	4.706	5.764	5.009	6.032
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	598	665	761	625	715	594
Service Time	4.035	3.168	2.431	3.496	2.741	4.08
HCM Lane V/C Ratio	0.124	0.8	0.028	0.374	0.045	0.178
HCM Control Delay	9.9	26.7	7.6	11.9	8	10.4
HCM Lane LOS	A	D	A	B	A	B
HCM 95th-tile Q	0.4	8.2	0.1	1.7	0.1	0.6

HCM 2010 Signalized Intersection Summary
8: 25th St & Imperial Ave

2022 Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	70	340	100	30	160	50	40	190	60	70	190	60
Future Volume (veh/h)	70	340	100	30	160	50	40	190	60	70	190	60
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	73	354	104	31	167	52	42	198	62	73	198	62
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	745	206	145	731	213	131	522	159	177	434	140
Arrive On Green	0.62	0.62	0.62	1.00	1.00	1.00	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	161	1211	334	134	1187	347	261	2233	680	419	1857	600
Grp Volume(v), veh/h	531	0	0	250	0	0	158	0	144	169	0	164
Grp Sat Flow(s),veh/h/ln	1706	0	0	1667	0	0	1598	0	1575	1287	0	1589
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	5.0	3.5	0.0	5.7
Cycle Q Clear(g_c), s	10.5	0.0	0.0	0.0	0.0	0.0	5.8	0.0	5.0	8.5	0.0	5.7
Prop In Lane	0.14		0.20	0.12		0.21	0.27		0.43	0.43		0.38
Lane Grp Cap(c), veh/h	1113	0	0	1089	0	0	444	0	368	380	0	371
V/C Ratio(X)	0.48	0.00	0.00	0.23	0.00	0.00	0.36	0.00	0.39	0.44	0.00	0.44
Avail Cap(c_a), veh/h	1113	0	0	1089	0	0	634	0	557	554	0	562
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	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	0.0	0.0	0.0	0.0	20.9	0.0	21.0	22.2	0.0	21.3
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.5	0.0	0.0	0.8	0.0	1.2	1.4	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	0.0	0.1	0.0	0.0	2.5	0.0	2.3	2.9	0.0	2.7
LnGrp Delay(d),s/veh	8.3	0.0	0.0	0.5	0.0	0.0	21.7	0.0	22.2	23.6	0.0	22.7
LnGrp LOS	A			A			C		C	C		C
Approach Vol, veh/h		531			250			302			333	
Approach Delay, s/veh		8.3			0.5			21.9			23.1	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.9		20.1		44.9		20.1				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		32.2		23.0		32.2		23.0				
Max Q Clear Time (g_c+I1), s		12.5		10.5		2.0		7.8				
Green Ext Time (p_c), s		5.5		4.7		6.3		5.3				
Intersection Summary												
HCM 2010 Ctrl Delay				13.3								
HCM 2010 LOS				B								

Intersection													
Int Delay, s/veh	3.3												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗			↕	↗		↕			↕	
Traffic Vol, veh/h	20	450	30	3	20	180	20	20	20	20	20	30	20
Future Vol, veh/h	20	450	30	3	20	180	20	20	20	20	20	30	20
Conflicting Peds, #/hr	28	0	8	0	8	0	28	13	0	16	16	0	13
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	50	-	-	-	-	-	-
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	87
Heavy Vehicles, %	2	2	2	50	2	2	2	2	2	2	2	4	2
Mvmt Flow	23	517	34	3	23	207	23	23	23	23	23	34	23

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	235	0	0	517	525	0	0	866	859	541	883	859	248
Stage 1	-	-	-	-	-	-	-	571	571	-	281	288	-
Stage 2	-	-	-	-	-	-	-	295	288	-	602	571	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.54	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.54	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.036	3.318
Pot Cap-1 Maneuver	1332	-	-	-	1042	-	-	274	294	541	266	292	791
Stage 1	-	-	-	-	-	-	-	506	505	-	726	670	-
Stage 2	-	-	-	-	-	-	-	713	674	-	486	502	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1318	-	-	~ -8	~ -8	-	-	232	278	530	225	276	764
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	232	278	-	225	276	-
Stage 1	-	-	-	-	-	-	-	490	489	-	691	654	-
Stage 2	-	-	-	-	-	-	-	648	658	-	426	486	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3		20.2	20.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	1318	-	-	+	-	-	313
HCM Lane V/C Ratio	0.225	0.017	-	-	-	-	-	0.257
HCM Control Delay (s)	20.2	7.8	0	-	-	-	-	20.4
HCM Lane LOS	C	A	A	-	-	-	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	-	-	-	1

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

Intersection													
Int Delay, s/veh	1.5												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↔	↔			↔	↔	↔			↔	↔
Traffic Vol, veh/h	3	10	460	10	10	210	10	10	10	10	10	10	20
Future Vol, veh/h	3	10	460	10	10	210	10	10	10	10	10	10	20
Conflicting Peds, #/hr	0	2	0	14	14	0	2	6	0	4	4	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	50	-	-	50	-	-	-	-	-	-
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	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	11	505	11	11	231	11	11	11	11	11	11	22

Major/Minor	Major1		Major2		Minor1		Minor2						
Conflicting Flow All	230	233	0	0	519	0	0	816	803	523	797	803	239
Stage 1	-	-	-	-	-	-	-	541	548	-	255	255	-
Stage 2	-	-	-	-	-	-	-	275	255	-	542	548	-
Critical Hdwy	-	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	-	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	-	1335	-	-	1047	-	-	296	317	554	305	317	800
Stage 1	-	-	-	-	-	-	-	525	517	-	749	696	-
Stage 2	-	-	-	-	-	-	-	731	696	-	525	517	-
Platoon blocked, %			-	-	-	-							
Mov Cap-1 Maneuver	~ -4	~ -4	-	-	1044	-	-	273	309	546	287	309	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	273	309	-	287	309	-
Stage 1	-	-	-	-	-	-	-	525	511	-	749	687	-
Stage 2	-	-	-	-	-	-	-	688	687	-	502	511	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s			0.4		16.6		14.3	
HCM LOS					C		B	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	344	+	-	-	1044	-	-	433
HCM Lane V/C Ratio	0.096	-	-	-	0.011	-	-	0.102
HCM Control Delay (s)	16.6	-	-	-	8.5	0	-	14.3
HCM Lane LOS	C	-	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0	-	-	0.3

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

Intersection													
Int Delay, s/veh	1.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕				↕	
Traffic Vol, veh/h	10	450	20	20	210	10	10	10	20	2	10	10	10
Future Vol, veh/h	10	450	20	20	210	10	10	10	20	2	10	10	10
Conflicting Peds, #/hr	28	0	20	20	0	28	2	0	5	0	5	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-	-
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	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	517	23	23	241	11	11	11	23	2	11	11	11

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	269	0	0	537	0	0	861	875	542	0	877	875	271
Stage 1	-	-	-	-	-	-	560	560	-	0	315	315	-
Stage 2	-	-	-	-	-	-	301	315	-	0	562	560	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1295	-	-	1031	-	-	276	288	540	0	269	288	768
Stage 1	-	-	-	-	-	-	513	511	-	0	696	656	-
Stage 2	-	-	-	-	-	-	708	656	-	0	512	511	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1293	-	-	1027	-	-	251	266	529	0	235	266	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	251	266	-	0	235	266	-
Stage 1	-	-	-	-	-	-	498	496	-	0	672	624	-
Stage 2	-	-	-	-	-	-	665	624	-	0	471	496	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.7			17			17.6		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	347	1293	-	-	1027	-	-	321
HCM Lane V/C Ratio	0.132	0.009	-	-	0.022	-	-	0.107
HCM Control Delay (s)	17	7.8	0	-	8.6	0	-	17.6
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.4

Intersection													
Int Delay, s/veh	1.5												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔			↔	↔		↔			↔	
Traffic Vol, veh/h	10	460	10	2	20	230	10	10	10	10	10	10	10
Future Vol, veh/h	10	460	10	2	20	230	10	10	10	10	10	10	10
Conflicting Peds, #/hr	23	0	21	0	21	0	23	10	0	8	8	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	100	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	535	12	2	23	267	12	12	12	12	12	12	12

Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	290	0	0	534	556	0	0	915	921	564	915	921	300
Stage 1	-	-	-	-	-	-	-	579	579	-	337	342	-
Stage 2	-	-	-	-	-	-	-	336	342	-	578	579	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1272	-	-	-	1015	-	-	253	270	525	253	270	740
Stage 1	-	-	-	-	-	-	-	501	501	-	677	638	-
Stage 2	-	-	-	-	-	-	-	678	638	-	501	501	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1261	-	-	~ -11	~ -11	-	-	232	257	512	230	257	720
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	232	257	-	230	257	-
Stage 1	-	-	-	-	-	-	-	485	485	-	655	626	-
Stage 2	-	-	-	-	-	-	-	649	626	-	468	485	-



















Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2		18.8	18
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	295	1261	-	-	+	-	-	312
HCM Lane V/C Ratio	0.118	0.009	-	-	-	-	-	0.112
HCM Control Delay (s)	18.8	7.9	0	-	-	-	-	18
HCM Lane LOS	C	A	A	-	-	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	-	-	-	0.4

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

HCM 2010 Signalized Intersection Summary
 13: 28th St & Imperial Ave

2022 Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	370	60	40	160	50	30	260	60	40	200	60
Future Volume (veh/h)	80	370	60	40	160	50	30	260	60	40	200	60
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	88	407	66	44	176	55	33	286	66	44	220	66
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	892	938	212	808	938	84	378	83	101	335	93
Arrive On Green	1.00	1.00	1.00	1.00	1.00	1.00	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	231	1505	1583	246	1364	1583	87	1387	305	142	1231	343
Grp Volume(v), veh/h	495	0	66	220	0	55	385	0	0	330	0	0
Grp Sat Flow(s),veh/h/ln	1736	0	1583	1609	0	1583	1778	0	0	1716	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0	10.9	0.0	0.0
Prop In Lane	0.18		1.00	0.20		1.00	0.09		0.17	0.13		0.20
Lane Grp Cap(c), veh/h	1094	0	938	1020	0	938	544	0	0	530	0	0
V/C Ratio(X)	0.45	0.00	0.07	0.22	0.00	0.06	0.71	0.00	0.00	0.62	0.00	0.00
Avail Cap(c_a), veh/h	1094	0	938	1020	0	938	894	0	0	853	0	0
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	21.9	0.0	0.0	21.1	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.1	0.5	0.0	0.1	0.6	0.0	0.0	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(50%),veh/ln	0.4	0.0	0.0	0.1	0.0	0.0	6.4	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	1.4	0.0	0.1	0.5	0.0	0.1	22.5	0.0	0.0	21.6	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		561			275			385			330	
Approach Delay, s/veh		1.2			0.4			22.5			21.6	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.7		22.3		42.7		22.3				
Change Period (Y+Rc), s		* 4.2		4.6		* 4.2		* 4.6				
Max Green Setting (Gmax), s		* 26		30.6		* 26		* 31				
Max Q Clear Time (g_c+I1), s		2.0		12.9		2.0		14.8				
Green Ext Time (p_c), s		1.8		3.0		1.8		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			10.7									
HCM 2010 LOS			B									
Notes												

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕		↕			↕	↕
Traffic Vol, veh/h	20	420	20	20	190	20	20	20	20	10	20	10
Future Vol, veh/h	20	420	20	20	190	20	20	20	20	10	20	10
Conflicting Peds, #/hr	13	0	15	15	0	13	17	0	11	11	0	17
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	50	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	6	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	488	23	23	221	23	23	23	23	12	23	12



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	234	0	0	503	0	0	852	830	514	849	830	251
Stage 1	-	-	-	-	-	-	550	550	-	280	280	-
Stage 2	-	-	-	-	-	-	302	280	-	569	550	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1333	-	-	1061	-	-	280	306	560	281	306	788
Stage 1	-	-	-	-	-	-	519	516	-	727	679	-
Stage 2	-	-	-	-	-	-	707	679	-	507	516	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1314	-	-	1051	-	-	242	284	548	238	284	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	242	284	-	238	284	-
Stage 1	-	-	-	-	-	-	500	497	-	701	655	-
Stage 2	-	-	-	-	-	-	646	655	-	447	497	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.7			19.5			18.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	317	1314	-	-	1051	-	-	319
HCM Lane V/C Ratio	0.22	0.018	-	-	0.022	-	-	0.146
HCM Control Delay (s)	19.5	7.8	0	-	8.5	0	-	18.2
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	0.5

HCM 2010 Signalized Intersection Summary
15: 30th St & Imperial Ave

2022 Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	370	40	30	160	30	40	70	40	40	80	30
Future Volume (veh/h)	20	370	40	30	160	30	40	70	40	40	80	30
Number	5	2	12	1	6	16	3	8	18	7	4	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
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	394	43	32	170	32	43	74	43	43	85	32
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1307	1150	211	1081	1150	116	123	62	117	140	46
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	40	1799	1583	202	1488	1583	345	919	465	347	1046	348
Grp Volume(v), veh/h	415	0	43	202	0	32	160	0	0	160	0	0
Grp Sat Flow(s),veh/h/ln	1839	0	1583	1690	0	1583	1729	0	0	1742	0	0
Q Serve(g_s), s	0.0	0.0	1.4	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.9	0.0	1.4	5.6	0.0	1.0	5.5	0.0	0.0	5.4	0.0	0.0
Prop In Lane	0.05		1.00	0.16		1.00	0.27		0.27	0.27		0.20
Lane Grp Cap(c), veh/h	1394	0	1150	1292	0	1150	301	0	0	303	0	0
V/C Ratio(X)	0.30	0.00	0.04	0.16	0.00	0.03	0.53	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	1394	0	1150	1292	0	1150	854	0	0	851	0	0
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.3	0.0	7.3	8.9	0.0	7.1	26.8	0.0	0.0	26.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.3	0.0	0.0	0.5	0.0	0.0	0.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	0.6	3.0	0.0	0.5	2.8	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	11.8	0.0	7.3	9.1	0.0	7.2	27.3	0.0	0.0	27.3	0.0	0.0
LnGrp LOS	B		A	A		A	C			C		
Approach Vol, veh/h		458			234			160			160	
Approach Delay, s/veh		11.4			8.9			27.3			27.3	
Approach LOS		B			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.8		13.2		51.8		13.2				
Change Period (Y+Rc), s		* 4.6		4.5		4.6		* 4.5				
Max Green Setting (Gmax), s		* 25		30.9		25.0		* 31				
Max Q Clear Time (g_c+I1), s		13.9		7.4		7.6		7.5				
Green Ext Time (p_c), s		3.3		1.2		4.1		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									
Notes												

HCM 2010 Signalized Intersection Summary
 16: 31st St & Imperial Ave

2022 Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕			↕	
Traffic Volume (veh/h)	40	420	20	20	180	20	20	30	30	40	40	20
Future Volume (veh/h)	40	420	20	20	180	20	20	30	30	40	40	20
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	0.95		0.91	0.95		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1727	1900	1853	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	452	22	22	194	22	22	32	32	43	43	22
Adj No. of Lanes	0	1	1	0	1	1	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	10	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	1251	1040	143	1188	1122	103	112	86	142	119	47
Arrive On Green	0.49	0.49	0.49	0.73	0.73	0.73	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	93	1712	1423	112	1625	1535	230	765	590	440	817	322
Grp Volume(v), veh/h	495	0	22	216	0	22	86	0	0	108	0	0
Grp Sat Flow(s),veh/h/ln	1805	0	1423	1737	0	1535	1585	0	0	1579	0	0
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	10.7	0.0	0.5	2.3	0.0	0.3	3.0	0.0	0.0	3.7	0.0	0.0
Prop In Lane	0.09		1.00	0.10		1.00	0.26		0.37	0.40		0.20
Lane Grp Cap(c), veh/h	1380	0	1040	1331	0	1122	301	0	0	308	0	0
V/C Ratio(X)	0.36	0.00	0.02	0.16	0.00	0.02	0.29	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1380	0	1040	1331	0	1122	476	0	0	481	0	0
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96	0.94	0.00	0.94	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	0.0	4.6	2.7	0.0	2.4	25.0	0.0	0.0	25.3	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.2	0.0	0.0	0.5	0.0	0.0	0.7	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(50%),veh/ln	5.8	0.0	0.2	1.2	0.0	0.1	1.4	0.0	0.0	1.8	0.0	0.0
LnGrp Delay(d),s/veh	7.9	0.0	4.6	2.9	0.0	2.4	25.5	0.0	0.0	26.0	0.0	0.0
LnGrp LOS	A		A	A		A	C			C		
Approach Vol, veh/h		517			238			86			108	
Approach Delay, s/veh		7.8			2.9			25.5			26.0	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.5		13.5		51.5		13.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		40.0		17.0		40.0		17.0				
Max Q Clear Time (g_c+I1), s		12.7		5.7		4.3		5.0				
Green Ext Time (p_c), s		5.2		0.8		5.5		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				10.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 17: 32nd St & Imperial Ave

2022 Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (veh/h)	40	420	30	20	160	90	20	110	80	160	110	40
Future Volume (veh/h)	40	420	30	20	160	90	20	110	80	160	110	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	0.99		0.95	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1857	1900	1900	1849	1900	1900	1863	1900
Adj Flow Rate, veh/h	42	438	31	21	167	94	21	115	83	167	115	42
Adj No. of Lanes	0	1	1	0	1	0	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	979	879	99	613	322	91	283	186	296	177	56
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	84	1723	1547	55	1079	567	75	972	639	689	607	193
Grp Volume(v), veh/h	480	0	31	282	0	0	219	0	0	324	0	0
Grp Sat Flow(s),veh/h/ln	1806	0	1547	1700	0	0	1686	0	0	1489	0	0
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0
Cycle Q Clear(g_c), s	8.5	0.0	0.5	4.7	0.0	0.0	6.0	0.0	0.0	10.7	0.0	0.0
Prop In Lane	0.09		1.00	0.07		0.33	0.10		0.38	0.52		0.13
Lane Grp Cap(c), veh/h	1095	0	879	1034	0	0	560	0	0	529	0	0
V/C Ratio(X)	0.44	0.00	0.04	0.27	0.00	0.00	0.39	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	1095	0	879	1034	0	0	742	0	0	685	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)	0.94	0.00	0.94	0.99	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	0.0	5.4	6.3	0.0	0.0	16.4	0.0	0.0	17.9	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.1	0.6	0.0	0.0	0.4	0.0	0.0	1.2	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(50%),veh/ln	4.6	0.0	0.2	2.5	0.0	0.0	2.9	0.0	0.0	4.7	0.0	0.0
LnGrp Delay(d),s/veh	8.4	0.0	5.5	7.0	0.0	0.0	16.9	0.0	0.0	19.0	0.0	0.0
LnGrp LOS	A		A	A			B			B		
Approach Vol, veh/h		511			282			219			324	
Approach Delay, s/veh		8.2			7.0			16.9			19.0	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.4		20.6		36.4		20.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		26.0		23.0		26.0		23.0				
Max Q Clear Time (g_c+I1), s		10.5		12.7		6.7		8.0				
Green Ext Time (p_c), s		4.6		2.6		5.1		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay				12.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 18: 33rd St & Imperial Ave

2022 Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	510	70	30	180	20	40	30	20	20	20	30
Future Volume (veh/h)	60	510	70	30	180	20	40	30	20	20	20	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	66	560	77	33	198	22	44	33	22	22	22	33
Adj No. of Lanes	1	1	1	1	1	1	0	1	0	0	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	904	1247	1060	575	1183	1006	139	64	35	103	60	69
Arrive On Green	0.06	0.67	0.67	0.03	0.64	0.64	0.10	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	614	674	368	337	629	725
Grp Volume(v), veh/h	66	560	77	33	198	22	99	0	0	77	0	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1656	0	0	1691	0	0
Q Serve(g_s), s	0.8	9.2	1.1	0.4	2.8	0.3	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	9.2	1.1	0.4	2.8	0.3	3.5	0.0	0.0	2.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.44		0.22	0.29		0.43
Lane Grp Cap(c), veh/h	904	1247	1060	575	1183	1006	238	0	0	233	0	0
V/C Ratio(X)	0.07	0.45	0.07	0.06	0.17	0.02	0.42	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	904	1247	1060	635	1183	1006	742	0	0	747	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)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	3.2	5.1	3.7	4.2	4.8	4.4	28.1	0.0	0.0	27.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	0.1	0.0	0.3	0.0	1.2	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	5.0	0.5	0.2	1.5	0.2	1.8	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	3.2	6.1	3.9	4.2	5.1	4.4	29.3	0.0	0.0	28.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C			C		
Approach Vol, veh/h		703			253			99			77	
Approach Delay, s/veh		5.6			5.0			29.3			28.6	
Approach LOS		A			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.7	6.3	48.0		10.7	8.5	45.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		27.5	4.0	20.0		27.5	4.0	20.0				
Max Q Clear Time (g_c+I1), s		5.5	2.4	11.2		4.7	2.8	4.8				
Green Ext Time (p_c), s		0.9	0.0	3.4		1.0	0.0	4.7				
Intersection Summary												
HCM 2010 Ctrl Delay			9.1									
HCM 2010 LOS			A									

Intersection	
Intersection Delay, s/veh	18.6
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	80	470	200	10	40	30
Future Vol, veh/h	80	470	200	10	40	30
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	540	230	11	46	34
Number of Lanes	0	1	2	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	23.3	9.2	9.6
HCM LOS	C	A	A

Lane	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	15%	0%	0%	57%
Vol Thru, %	85%	100%	87%	0%
Vol Right, %	0%	0%	13%	43%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	550	133	77	70
LT Vol	80	0	0	40
Through Vol	470	133	67	0
RT Vol	0	0	10	30
Lane Flow Rate	632	153	88	80
Geometry Grp	5	7	7	2
Degree of Util (X)	0.801	0.223	0.126	0.128
Departure Headway (Hd)	4.562	5.243	5.151	5.716
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	790	682	694	623
Service Time	2.599	2.994	2.902	3.791
HCM Lane V/C Ratio	0.8	0.224	0.127	0.128
HCM Control Delay	23.3	9.5	8.7	9.6
HCM Lane LOS	C	A	A	A
HCM 95th-tile Q	8.4	0.9	0.4	0.4

HCM 2010 Signalized Intersection Summary
 20: 36th St & Imperial Ave












2022 Plus Project PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	110	430	200	200	350	30		
Future Volume (veh/h)	110	430	200	200	350	30		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.97		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1860	1900		
Adj Flow Rate, veh/h	115	448	208	208	365	31		
Adj No. of Lanes	1	1	1	1	1	0		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	513	457	583	1159	420	36		
Arrive On Green	0.29	0.29	0.11	0.21	0.25	0.25		
Sat Flow, veh/h	1774	1583	1774	1863	1686	143		
Grp Volume(v), veh/h	115	448	208	208	0	396		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	0	1830		
Q Serve(g_s), s	4.4	25.3	9.8	8.3	0.0	18.7		
Cycle Q Clear(g_c), s	4.4	25.3	9.8	8.3	0.0	18.7		
Prop In Lane	1.00	1.00	1.00			0.08		
Lane Grp Cap(c), veh/h	513	457	583	1159	0	456		
V/C Ratio(X)	0.22	0.98	0.36	0.18	0.00	0.87		
Avail Cap(c_a), veh/h	513	457	583	1159	0	630		
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.91	0.91	0.00	1.00		
Uniform Delay (d), s/veh	24.3	31.7	31.3	16.8	0.0	32.4		
Incr Delay (d2), s/veh	0.2	36.6	0.3	0.3	0.0	9.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.2	23.7	4.9	4.4	0.0	10.5		
LnGrp Delay(d),s/veh	24.6	68.3	31.6	17.1	0.0	41.8		
LnGrp LOS	C	E	C	B		D		
Approach Vol, veh/h	563			416	396			
Approach Delay, s/veh	59.4			24.4	41.8			
Approach LOS	E			C	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		60.0		30.0	33.6	26.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		56.0		26.0	21.0	31.0		
Max Q Clear Time (g_c+I1), s		10.3		27.3	11.8	20.7		
Green Ext Time (p_c), s		1.9		0.0	1.3	1.8		
Intersection Summary								
HCM 2010 Ctrl Delay			43.7					
HCM 2010 LOS			D					

HCM Signalized Intersection Capacity Analysis
 21: Imperial Ave & 36th St

2022 Plus Project PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	280	110	40	580	210
Future Volume (vph)	40	280	110	40	580	210
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1571	1776		1755	1848
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1571	1776		1755	1848
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	40	283	111	40	586	212
RTOR Reduction (vph)	0	198	14	0	0	0
Lane Group Flow (vph)	40	85	137	0	586	212
Confl. Peds. (#/hr)	9			8	8	
Bus Blockages (#/hr)	0	2	0	0	2	2
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	27.0	27.0	18.1		32.9	55.0
Effective Green, g (s)	27.0	27.0	18.1		32.9	55.0
Actuated g/C Ratio	0.30	0.30	0.20		0.37	0.61
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	531	471	357		641	1129
v/s Ratio Prot	0.02		c0.08		c0.33	0.11
v/s Ratio Perm		c0.05				
v/c Ratio	0.08	0.18	0.38		0.91	0.19
Uniform Delay, d1	22.6	23.3	31.1		27.2	7.7
Progression Factor	1.00	1.00	1.00		0.91	0.56
Incremental Delay, d2	0.3	0.8	3.1		15.2	0.3
Delay (s)	22.8	24.1	34.2		39.9	4.6
Level of Service	C	C	C		D	A
Approach Delay (s)	24.0		34.2			30.5
Approach LOS	C		C			C
Intersection Summary						
HCM 2000 Control Delay			29.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	16.0
Intersection Capacity Utilization			58.8%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	400	80	150	210	60	120		
Future Volume (veh/h)	400	80	150	210	60	120		
Number	2	12	1	6	3	18		
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		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	412	82	155	216	62	124		
Adj No. of Lanes	1	0	1	1	1	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	608	121	237	1247	175	368		
Arrive On Green	0.40	0.40	0.13	0.67	0.10	0.10		
Sat Flow, veh/h	1509	300	1774	1863	1774	1583		
Grp Volume(v), veh/h	0	494	155	216	62	124		
Grp Sat Flow(s),veh/h/ln	0	1810	1774	1863	1774	1583		
Q Serve(g_s), s	0.0	9.1	3.4	1.8	1.3	2.6		
Cycle Q Clear(g_c), s	0.0	9.1	3.4	1.8	1.3	2.6		
Prop In Lane		0.17	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	0	729	237	1247	175	368		
V/C Ratio(X)	0.00	0.68	0.65	0.17	0.35	0.34		
Avail Cap(c_a), veh/h	0	1160	276	1635	175	368		
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	1.00		
Uniform Delay (d), s/veh	0.0	9.9	16.7	2.5	17.1	13.0		
Incr Delay (d2), s/veh	0.0	1.5	5.6	0.1	0.5	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	4.8	2.0	0.9	0.7	1.2		
LnGrp Delay(d),s/veh	0.0	11.4	22.3	2.6	17.5	13.2		
LnGrp LOS		B	C	A	B	B		
Approach Vol, veh/h	494			371	186			
Approach Delay, s/veh	11.4			10.8	14.6			
Approach LOS	B			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.8	21.7				32.5		8.0
Change Period (Y+Rc), s	5.4	* 5.4				5.4		4.0
Max Green Setting (Gmax), s	3	* 26				35.6		4.0
Max Q Clear Time (g_c+I), s	11.1	11.1				3.8		4.6
Green Ext Time (p_c), s	0.1	5.2				7.1		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			11.8					
HCM 2010 LOS			B					
Notes								

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	500	20	50	350	10	30
Future Vol, veh/h	500	20	50	350	10	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	65	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	543	22	54	380	11	33

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	565	0	1043
Stage 1	-	-	-	-	554
Stage 2	-	-	-	-	489
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1007	-	254
Stage 1	-	-	-	-	575
Stage 2	-	-	-	-	616
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1007	-	240
Mov Cap-2 Maneuver	-	-	-	-	240
Stage 1	-	-	-	-	575
Stage 2	-	-	-	-	583

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	408	-	-	1007	-
HCM Lane V/C Ratio	0.107	-	-	0.054	-
HCM Control Delay (s)	14.9	-	-	8.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑		↔
Traffic Vol, veh/h	480	50	10	400	10	20
Future Vol, veh/h	480	50	10	400	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	115	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	533	56	11	444	11	22






















Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	589	0	1028 561
Stage 1	-	-	-	-	561 -
Stage 2	-	-	-	-	467 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	986	-	259 527
Stage 1	-	-	-	-	571 -
Stage 2	-	-	-	-	631 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	986	-	256 527
Mov Cap-2 Maneuver	-	-	-	-	256 -
Stage 1	-	-	-	-	571 -
Stage 2	-	-	-	-	624 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	527	-	-	986	-
HCM Lane V/C Ratio	0.042	-	-	0.011	-
HCM Control Delay (s)	12.1	-	-	8.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 2010 Signalized Intersection Summary
 25: Redworks Dwy/Greenwood & Imperial Ave

2022 Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	350	140	180	230	20	160	10	260	30	10	20
Future Volume (veh/h)	10	350	140	180	230	20	160	10	260	30	10	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	11	368	147	189	242	21	168	11	274	32	11	21
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	465	186	259	934	794	457	368	543	231	88	92
Arrive On Green	0.01	0.37	0.37	0.15	0.50	0.50	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1774	1267	506	1774	1863	1583	1372	1863	1583	508	447	466
Grp Volume(v), veh/h	11	0	515	189	242	21	168	11	274	64	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1773	1774	1863	1583	1372	1863	1583	1420	0	0
Q Serve(g_s), s	0.3	0.0	10.7	4.2	3.1	0.3	3.0	0.2	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.3	0.0	10.7	4.2	3.1	0.3	4.2	0.2	0.0	1.3	0.0	0.0
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	0.50		0.33
Lane Grp Cap(c), veh/h	20	0	651	259	934	794	457	368	543	411	0	0
V/C Ratio(X)	0.54	0.00	0.79	0.73	0.26	0.03	0.37	0.03	0.50	0.16	0.00	0.00
Avail Cap(c_a), veh/h	171	0	985	385	1259	1070	1378	1619	1607	1296	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.4	0.0	11.7	16.9	5.9	5.2	14.9	13.4	10.8	13.8	0.0	0.0
Incr Delay (d2), s/veh	20.4	0.0	2.6	4.0	0.1	0.0	0.5	0.0	0.7	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(50%),veh/ln	0.2	0.0	5.6	2.3	1.6	0.1	1.8	0.1	2.5	0.6	0.0	0.0
LnGrp Delay(d),s/veh	40.8	0.0	14.3	20.9	6.1	5.2	15.4	13.4	11.5	14.0	0.0	0.0
LnGrp LOS	D		B	C	A	A	B	B	B	B		
Approach Vol, veh/h		526			452			453			64	
Approach Delay, s/veh		14.8			12.2			13.0			14.0	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.2	10.0	19.2		12.2	4.5	24.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		36.0	9.0	23.0		36.0	4.0	28.0				
Max Q Clear Time (g_c+I1), s		6.2	6.2	12.7		3.3	2.3	5.1				
Green Ext Time (p_c), s		2.0	0.6	2.5		2.0	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			13.5									
HCM 2010 LOS			B									

Intersection												
Int Delay, s/veh	7.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔		↔		↔	
Traffic Vol, veh/h	0	590	40	280	420	0	10	0	300	0	0	0
Future Vol, veh/h	0	590	40	280	420	0	10	0	300	0	0	0
Conflicting Peds, #/hr	2	0	18	18	0	2	1	0	1	1	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	150	-	-	125	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	608	41	289	433	0	10	0	309	0	0	0



















Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	667	0	0	1658	-	648	1642	1679	436
Stage 1	-	-	-	-	-	-	647	-	-	1012	1012	-
Stage 2	-	-	-	-	-	-	1011	-	-	630	667	-
Critical Hdwy	-	-	-	4.12	-	-	7.12	-	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	-	-	6.12	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	-	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	923	-	-	78	0	470	80	95	620
Stage 1	0	-	-	-	-	-	460	0	-	288	317	-
Stage 2	0	-	-	-	-	-	289	0	-	470	457	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	922	-	-	58	-	463	20	64	618
Mov Cap-2 Maneuver	-	-	-	-	-	-	58	-	-	20	64	-
Stage 1	-	-	-	-	-	-	460	-	-	288	217	-
Stage 2	-	-	-	-	-	-	198	-	-	156	450	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			4.3			28.8			0		
HCM LOS							D			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	58	463	-	-	922	-	-	-
HCM Lane V/C Ratio	0.178	0.668	-	-	0.313	-	-	-
HCM Control Delay (s)	80	27.1	-	-	10.7	-	-	0
HCM Lane LOS	F	D	-	-	B	-	-	A
HCM 95th %tile Q(veh)	0.6	4.8	-	-	1.3	-	-	-

HCM 2010 Signalized Intersection Summary
 27: 45th St & Imperial Ave

2022 Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	840	40	90	680	60	10	20	50	50	10	10
Future Volume (veh/h)	20	840	40	90	680	60	10	20	50	50	10	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
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	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	21	894	43	96	723	64	11	21	53	53	11	11
Adj No. of Lanes	1	1	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	34	1126	54	123	2273	201	74	43	90	186	30	21
Arrive On Green	0.02	0.64	0.64	0.07	0.69	0.69	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1774	1749	84	1774	3276	290	132	491	1033	1051	340	239
Grp Volume(v), veh/h	21	0	937	96	390	397	85	0	0	75	0	0
Grp Sat Flow(s),veh/h/ln	1774	0	1833	1774	1770	1797	1656	0	0	1630	0	0
Q Serve(g_s), s	0.8	0.0	24.2	3.5	5.6	5.6	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.8	0.0	24.2	3.5	5.6	5.6	3.1	0.0	0.0	2.6	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.16	0.13		0.62	0.71		0.15
Lane Grp Cap(c), veh/h	34	0	1180	123	1228	1247	206	0	0	236	0	0
V/C Ratio(X)	0.61	0.00	0.79	0.78	0.32	0.32	0.41	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	109	0	1180	164	1228	1247	712	0	0	679	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	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.6	0.0	8.4	29.8	3.9	3.9	28.5	0.0	0.0	28.3	0.0	0.0
Incr Delay (d2), s/veh	16.1	0.0	5.5	15.8	0.7	0.7	1.3	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	13.8	2.2	2.9	3.0	1.5	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	47.8	0.0	14.0	45.6	4.6	4.6	29.9	0.0	0.0	29.0	0.0	0.0
LnGrp LOS	D		B	D	A	A	C			C		
Approach Vol, veh/h		958			883			85			75	
Approach Delay, s/veh		14.7			9.0			29.9			29.0	
Approach LOS		B			A			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		10.1	8.5	46.4		10.1	5.3	49.6				
Change Period (Y+Rc), s		4.5	4.0	4.5		4.5	4.0	4.5				
Max Green Setting (Gmax), s		26.0	6.0	20.0		26.0	4.0	22.0				
Max Q Clear Time (g_c+I1), s		5.1	5.5	26.2		4.6	2.8	7.6				
Green Ext Time (p_c), s		0.8	0.0	0.0		0.8	0.0	9.9				
Intersection Summary												
HCM 2010 Ctrl Delay			13.4									
HCM 2010 LOS			B									

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	↑
Traffic Vol, veh/h	920	20	20	810	10	20
Future Vol, veh/h	920	20	20	810	10	20
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	-	-	125	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	8	2	2	6
Mvmt Flow	958	21	21	844	10	21


















Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	980	0	1434
Stage 1	-	-	-	-	970
Stage 2	-	-	-	-	464
Critical Hdwy	-	-	4.26	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.28	-	3.52
Pot Cap-1 Maneuver	-	-	665	-	125
Stage 1	-	-	-	-	328
Stage 2	-	-	-	-	599
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	665	-	118
Mov Cap-2 Maneuver	-	-	-	-	118
Stage 1	-	-	-	-	328
Stage 2	-	-	-	-	564

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	118	513	-	-	665	-
HCM Lane V/C Ratio	0.088	0.041	-	-	0.031	-
HCM Control Delay (s)	38.4	12.3	-	-	10.6	0.3
HCM Lane LOS	E	B	-	-	B	A
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

HCM 2010 Signalized Intersection Summary
 29: I-805 SB On-Ramp/I-805 SB Off-Ramp & Imperial Ave

2022 Plus Project PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	660	280	220	480	0	0	0	0	470	10	350
Future Volume (veh/h)	0	660	280	220	480	0	0	0	0	470	10	350
Number	5	2	12	1	6	16				7	4	14
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
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1863	1863	1900
Adj Flow Rate, veh/h	0	725	308	242	527	0				456	95	385
Adj No. of Lanes	0	2	0	2	2	0				1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	690	293	980	2164	0				547	100	404
Arrive On Green	0.00	0.28	0.28	0.57	1.00	0.00				0.31	0.31	0.31
Sat Flow, veh/h	0	2515	1029	3442	3632	0				1774	323	1309
Grp Volume(v), veh/h	0	530	503	242	527	0				456	0	480
Grp Sat Flow(s),veh/h/ln	0	1770	1681	1721	1770	0				1774	0	1632
Q Serve(g_s), s	0.0	34.2	34.2	4.2	0.0	0.0				28.7	0.0	34.6
Cycle Q Clear(g_c), s	0.0	34.2	34.2	4.2	0.0	0.0				28.7	0.0	34.6
Prop In Lane	0.00		0.61	1.00		0.00				1.00		0.80
Lane Grp Cap(c), veh/h	0	504	479	980	2164	0				547	0	503
V/C Ratio(X)	0.00	1.05	1.05	0.25	0.24	0.00				0.83	0.00	0.95
Avail Cap(c_a), veh/h	0	504	479	980	2164	0				707	0	650
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	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	42.9	42.9	19.4	0.0	0.0				38.6	0.0	40.6
Incr Delay (d2), s/veh	0.0	53.9	55.0	0.0	0.3	0.0				5.3	0.0	19.6
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(50%),veh/ln	0.0	24.2	23.2	2.0	0.1	0.0				14.9	0.0	18.3
LnGrp Delay(d),s/veh	0.0	96.8	97.9	19.4	0.3	0.0				43.9	0.0	60.2
LnGrp LOS		F	F	B	A					D		E
Approach Vol, veh/h		1033			769						936	
Approach Delay, s/veh		97.3			6.3						52.3	
Approach LOS		F			A						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	39.2	39.2		41.6		78.4						
Change Period (Y+Rc), s	5.0	* 5		4.6		5.0						
Max Green Setting (Gmax), s	24.2	* 34		47.8		62.6						
Max Q Clear Time (g_c+I1), s	6.2	36.2		36.6		2.0						
Green Ext Time (p_c), s	0.7	0.0		0.4		0.7						
Intersection Summary												
HCM 2010 Ctrl Delay				56.4								
HCM 2010 LOS				E								
Notes												

HCM Signalized Intersection Capacity Analysis
 30: I-805 NB Off-Ramp/I-805 NB On-Ramp & Imperial Ave

2022 Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑	↗		↑	↗↗			
Traffic Volume (vph)	320	820	0	0	520	620	180	0	240	0	0	0
Future Volume (vph)	320	820	0	0	520	620	180	0	240	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00	0.88			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1770	3539			3539	1583		1770	2787			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1770	3539			3539	1583		1770	2787			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	340	872	0	0	553	660	191	0	255	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	314	0	0	0	0	0	0
Lane Group Flow (vph)	340	872	0	0	553	346	0	191	255	0	0	0
Turn Type	Prot	NA			NA	Perm	Perm	NA	custom			
Protected Phases	5	2			6	9		8	8			
Permitted Phases						6	9	8				
Actuated Green, G (s)	29.0	67.2			60.3	60.3		18.7	44.8			
Effective Green, g (s)	29.0	67.2			60.3	60.3		18.7	44.8			
Actuated g/C Ratio	0.24	0.56			0.50	0.50		0.16	0.37			
Clearance Time (s)	4.0	4.0						4.0				
Vehicle Extension (s)	3.0	3.0						3.0				
Lane Grp Cap (vph)	427	1981			1778	795		275	1040			
v/s Ratio Prot	c0.19	0.25			0.16				0.09			
v/s Ratio Perm						c0.22		0.11				
v/c Ratio	0.80	0.44			0.31	0.44		0.69	0.25			
Uniform Delay, d1	42.7	15.4			17.6	19.0		47.9	25.9			
Progression Factor	1.28	1.51			0.53	2.02		1.00	1.00			
Incremental Delay, d2	6.6	0.5			0.1	0.3		7.4	0.1			
Delay (s)	61.4	23.7			9.4	38.6		55.3	26.1			
Level of Service	E	C			A	D		E	C			
Approach Delay (s)		34.3			25.3			38.6			0.0	
Approach LOS		C			C			D			A	

Intersection Summary

HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 Signalized Intersection Summary
 31: 47th St & Imperial Ave

2022 Plus Project PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	800	140	110	790	40	180	230	160	80	320	180
Future Volume (veh/h)	130	800	140	110	790	40	180	230	160	80	320	180
Number	5	2	12	1	6	16	3	8	18	7	4	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	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	138	851	149	117	840	43	191	245	170	85	340	191
Adj No. of Lanes	1	2	0	1	3	0	1	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	959	168	417	1577	81	151	456	305	107	440	242
Arrive On Green	0.47	0.64	0.64	0.24	0.32	0.32	0.09	0.22	0.22	0.06	0.20	0.20
Sat Flow, veh/h	1774	3012	527	1774	4941	252	1774	2034	1359	1774	2204	1214
Grp Volume(v), veh/h	138	500	500	117	576	307	191	212	203	85	272	259
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1774	1695	1803	1774	1770	1623	1774	1770	1648
Q Serve(g_s), s	5.9	28.3	28.3	6.5	16.7	16.8	10.2	12.7	13.3	5.7	17.4	17.9
Cycle Q Clear(g_c), s	5.9	28.3	28.3	6.5	16.7	16.8	10.2	12.7	13.3	5.7	17.4	17.9
Prop In Lane	1.00		0.30	1.00		0.14	1.00		0.84	1.00		0.74
Lane Grp Cap(c), veh/h	417	563	563	417	1082	576	151	397	364	107	353	329
V/C Ratio(X)	0.33	0.89	0.89	0.28	0.53	0.53	1.27	0.53	0.56	0.79	0.77	0.79
Avail Cap(c_a), veh/h	417	563	563	417	1082	576	151	619	568	151	622	580
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	20.0	20.0	37.6	33.5	33.5	54.9	41.0	41.3	55.6	45.4	45.6
Incr Delay (d2), s/veh	0.2	17.4	17.4	0.1	1.9	3.5	162.0	0.4	0.5	11.4	1.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	16.0	16.0	3.2	8.1	8.9	11.8	6.2	6.0	3.1	8.7	8.3
LnGrp Delay(d),s/veh	26.0	37.4	37.4	37.7	35.4	37.1	216.9	41.4	41.8	67.0	46.7	47.2
LnGrp LOS	C	D	D	D	D	D	F	D	D	E	D	D
Approach Vol, veh/h		1138			1000			606			616	
Approach Delay, s/veh		36.0			36.2			96.8			49.7	
Approach LOS		D			D			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.6	43.6	14.6	29.2	32.6	43.6	11.6	32.1				
Change Period (Y+Rc), s	4.4	5.4	4.4	* 5.2	4.4	5.3	4.4	5.2				
Max Green Setting (Gmax), s	10.2	38.2	10.2	* 42	10.2	38.3	10.2	42.0				
Max Q Clear Time (g_c+1/5), s	10.5	30.3	12.2	19.9	7.9	18.8	7.7	15.3				
Green Ext Time (p_c), s	0.1	2.9	0.0	4.0	0.1	5.2	0.0	4.2				
Intersection Summary												
HCM 2010 Ctrl Delay				49.5								
HCM 2010 LOS				D								
Notes												

APPENDIX E: SYNCHRO 9.0 ARTERIAL ANALYSIS

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
16th St	III	30	18.9	4.4	23.3	0.14	21.7	C
17th St	III	30	8.0	4.6	12.6	0.05	14.8	D
19th St	III	30	14.4	2.1	16.5	0.10	22.4	C
25th St	III	30	27.8	4.0	31.8	0.22	24.8	B
28th St	III	30	46.9	6.4	53.3	0.37	24.9	B
30th St	III	30	32.1	4.8	36.9	0.25	24.6	B
31st St	III	30	17.6	2.3	19.9	0.12	22.6	C
32nd St	III	30	17.3	8.3	25.6	0.13	18.1	C
33rd St	III	30	20.5	9.4	29.9	0.15	18.4	C
36th St	III	30	25.4	36.8	62.2	0.20	11.6	E
Total	III		228.9	83.1	312.0	1.74	20.1	C

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
33rd St	III	30	21.8	10.0	31.8	0.16	18.4	C
32nd St	III	30	20.5	14.7	35.2	0.15	15.6	D
31st St	III	30	17.3	8.7	26.0	0.13	17.9	D
30th St	III	30	17.6	7.5	25.1	0.12	17.9	D
28th St	III	30	32.1	5.1	37.2	0.25	24.4	B
25th St	III	30	46.9	9.4	56.3	0.37	23.6	C
19th St	III	30	20.7	5.5	26.2	0.15	21.2	C
17th St	III	30	14.4	4.4	18.8	0.10	19.6	C
16th St	III	30	8.0	5.6	13.6	0.05	13.7	E
Total	III		199.3	70.9	270.2	1.50	20.0	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
40th St	III	30	11.7	9.6	21.3	0.08	14.1	D
Redworks Dwy	III	30	46.1	11.6	57.7	0.36	22.7	C
45th St	III	30	27.0	9.5	36.5	0.21	21.0	C
I-805 SB On-Ramp	III	30	16.2	28.3	44.5	0.12	9.3	F
I-805 NB Off-Ramp	III	30	13.5	26.9	40.4	0.10	8.5	F
47th St	III	30	5.8	8.4	14.2	0.04	9.5	F
Total	III		120.3	94.3	214.6	0.91	15.2	D

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
47th St	III	30	27.5	26.5	54.0	0.22	14.4	D
I-805 NB On-Ramp	III	30	5.8	11.5	17.3	0.04	7.8	F
I-805 SB Off-Ramp	III	30	13.5	2.3	15.8	0.10	21.8	C
45th St	III	30	16.2	10.7	26.9	0.12	15.4	D
Greenwood	III	30	27.0	8.6	35.6	0.21	21.5	C
Imperial Ave	III	30	46.1	8.9	55.0	0.36	23.8	C
Total	III		136.1	68.5	204.6	1.04	18.3	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
16th St	III	30	18.9	8.4	27.3	0.14	18.6	C
17th St	III	30	8.0	4.3	12.3	0.05	15.2	D
19th St	III	30	14.4	6.3	20.7	0.10	17.8	D
25th St	III	30	27.8	7.8	35.6	0.22	22.1	C
28th St	III	30	46.9	8.5	55.4	0.37	24.0	C
30th St	III	30	32.1	5.1	37.2	0.25	24.4	B
31st St	III	30	17.6	2.2	19.8	0.12	22.7	C
32nd St	III	30	17.3	8.5	25.8	0.13	18.0	D
33rd St	III	30	20.5	7.1	27.6	0.15	19.9	C
36th St	III	30	25.4	41.7	67.1	0.20	10.7	E
Total	III		228.9	99.9	328.8	1.74	19.1	C

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
33rd St	III	30	21.8	8.6	30.4	0.16	19.3	C
32nd St	III	30	20.5	13.5	34.0	0.15	16.2	D
31st St	III	30	17.3	1.9	19.2	0.13	24.2	B
30th St	III	30	17.6	8.5	26.1	0.12	17.2	D
28th St	III	30	32.1	5.8	37.9	0.25	24.0	C
25th St	III	30	46.9	4.2	51.1	0.37	26.0	B
19th St	III	30	20.7	6.7	27.4	0.15	20.3	C
17th St	III	30	14.4	4.8	19.2	0.10	19.2	C
16th St	III	30	8.0	6.0	14.0	0.05	13.3	E
Total	III		199.3	60.0	259.3	1.50	20.8	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
40th St	III	30	11.7	11.4	23.1	0.08	13.0	E
Redworks Dwy	III	30	46.1	15.6	61.7	0.36	21.2	C
45th St	III	30	27.0	12.0	39.0	0.21	19.6	C
I-805 SB On-Ramp	III	30	16.2	36.5	52.7	0.12	7.9	F
I-805 NB Off-Ramp	III	30	13.5	24.9	38.4	0.10	9.0	F
47th St	III	30	5.8	11.9	17.7	0.04	7.6	F
Total	III		120.3	112.3	232.6	0.91	14.0	D

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
47th St	III	30	27.5	20.5	48.0	0.22	16.2	D
I-805 NB On-Ramp	III	30	5.8	9.8	15.6	0.04	8.6	F
I-805 SB Off-Ramp	III	30	13.5	2.2	15.7	0.10	22.0	C
45th St	III	30	16.2	6.9	23.1	0.12	17.9	D
Greenwood	III	30	27.0	9.1	36.1	0.21	21.2	C
Imperial Ave	III	30	46.1	7.1	53.2	0.36	24.6	B
Total	III		136.1	55.6	191.7	1.04	19.5	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
16th St	III	30	18.9	4.4	23.3	0.14	21.7	C
17th St	III	30	8.0	4.9	12.9	0.05	14.5	D
19th St	III	30	14.4	1.8	16.2	0.10	22.8	C
25th St	III	30	17.4	4.3	21.7	0.12	20.5	C
28th St	III	30	46.9	6.6	53.5	0.37	24.8	B
30th St	III	30	32.1	4.9	37.0	0.25	24.6	B
31st St	III	30	17.6	4.6	22.2	0.12	20.2	C
32nd St	III	30	17.3	3.6	20.9	0.13	22.2	C
33rd St	III	30	20.5	8.9	29.4	0.15	18.7	C
36th St	III	30	25.3	40.3	65.6	0.20	10.9	E
Total	III		218.4	84.3	302.7	1.65	19.6	C

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
33rd St	III	30	21.8	17.8	39.6	0.16	14.8	D
32nd St	III	30	20.5	17.4	37.9	0.15	14.5	D
31st St	III	30	17.3	2.1	19.4	0.13	23.9	C
30th St	III	30	17.6	6.6	24.2	0.12	18.6	C
28th St	III	30	32.1	4.7	36.8	0.25	24.7	B
25th St	III	30	46.9	9.2	56.1	0.37	23.7	C
19th St	III	30	20.7	16.2	36.9	0.15	15.0	D
17th St	III	30	14.4	4.3	18.7	0.10	19.7	C
16th St	III	30	8.0	4.3	12.3	0.05	15.2	D
Total	III		199.3	82.6	281.9	1.50	19.1	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
40th St	III	30	11.7	9.3	21.0	0.08	14.3	D
Redworks Dwy	III	30	46.1	17.5	63.6	0.36	20.6	C
45th St	III	30	27.0	13.8	40.8	0.21	18.8	C
I-805 SB On-Ramp	III	30	16.2	28.3	44.5	0.12	9.3	F
I-805 NB Off-Ramp	III	30	13.5	26.9	40.4	0.10	8.5	F
47th St	III	30	5.8	8.4	14.2	0.04	9.5	F
Total	III		120.3	104.2	224.5	0.91	14.5	D

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
47th St	III	30	27.5	26.5	54.0	0.22	14.4	D
I-805 NB On-Ramp	III	30	5.8	11.5	17.3	0.04	7.8	F
I-805 SB Off-Ramp	III	30	13.5	2.3	15.8	0.10	21.8	C
45th St	III	30	16.2	10.7	26.9	0.12	15.4	D
Greenwood	III	30	27.0	14.6	41.6	0.21	18.4	C
40th St	III	30	46.1	5.0	51.1	0.36	25.6	B
Total	III		136.1	70.6	206.7	1.04	18.1	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
16th St	III	30	18.9	8.4	27.3	0.14	18.6	C
17th St	III	30	8.0	6.9	14.9	0.05	12.5	E
19th St	III	30	14.4	6.1	20.5	0.10	18.0	D
25th St	III	30	17.4	9.1	26.5	0.12	16.8	D
28th St	III	30	46.9	9.3	56.2	0.37	23.6	C
30th St	III	30	32.1	4.7	36.8	0.25	24.7	B
31st St	III	30	17.6	7.1	24.7	0.12	18.2	C
32nd St	III	30	17.3	14.3	31.6	0.13	14.7	D
33rd St	III	30	20.5	13.3	33.8	0.15	16.3	D
36th St	III	30	25.3	41.7	67.0	0.20	10.7	E
Total	III		218.4	120.9	339.3	1.65	17.5	D

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
33rd St	III	30	21.8	10.1	31.9	0.16	18.4	C
32nd St	III	30	20.5	8.7	29.2	0.15	18.8	C
31st St	III	30	17.3	3.7	21.0	0.13	22.1	C
30th St	III	30	17.6	5.6	23.2	0.12	19.4	C
28th St	III	30	32.1	7.4	39.5	0.25	23.0	C
25th St	III	30	46.9	4.8	51.7	0.37	25.7	B
19th St	III	30	20.7	8.3	29.0	0.15	19.1	C
17th St	III	30	14.4	6.9	21.3	0.10	17.3	D
16th St	III	30	8.0	4.9	12.9	0.05	14.5	D
Total	III		199.3	60.4	259.7	1.50	20.8	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
40th St	III	30	11.7	10.4	22.1	0.08	13.5	E
Redworks Dwy	III	30	46.1	23.8	69.9	0.36	18.7	C
45th St	III	30	27.0	23.8	50.8	0.21	15.1	D
I-805 SB On-Ramp	III	30	16.2	36.5	52.7	0.12	7.9	F
I-805 NB Off-Ramp	III	30	13.5	24.9	38.4	0.10	9.0	F
47th St	III	30	5.8	11.9	17.7	0.04	7.6	F
Total	III		120.3	131.3	251.6	0.91	13.0	E

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
47th St	III	30	27.5	20.5	48.0	0.22	16.2	D
I-805 NB On-Ramp	III	30	5.8	9.8	15.6	0.04	8.6	F
I-805 SB Off-Ramp	III	30	13.5	2.2	15.7	0.10	22.0	C
45th St	III	30	16.2	6.9	23.1	0.12	17.9	D
Greenwood	III	30	27.0	9.9	36.9	0.21	20.7	C
40th St	III	30	46.1	1.6	47.7	0.36	27.4	B
Total	III		136.1	50.9	187.0	1.04	20.0	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
16th St	III	30	18.9	4.5	23.4	0.14	21.6	C
17th St	III	30	8.0	4.5	12.5	0.05	14.9	D
19th St	III	30	14.4	2.1	16.5	0.10	22.4	C
25th St	III	30	27.8	4.1	31.9	0.22	24.7	B
28th St	III	30	46.9	6.6	53.5	0.37	24.8	B
30th St	III	30	32.1	5.2	37.3	0.25	24.4	B
31st St	III	30	17.6	2.5	20.1	0.12	22.4	C
32nd St	III	30	17.3	9.0	26.3	0.13	17.7	D
33rd St	III	30	20.5	9.1	29.6	0.15	18.6	C
36th St	III	30	25.4	37.0	62.4	0.20	11.5	E
Total	III		228.9	84.6	313.5	1.74	20.0	C

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
33rd St	III	30	21.8	11.9	33.7	0.16	17.4	D
32nd St	III	30	20.5	16.6	37.1	0.15	14.8	D
31st St	III	30	17.3	9.5	26.8	0.13	17.3	D
30th St	III	30	17.6	8.4	26.0	0.12	17.3	D
28th St	III	30	32.1	5.8	37.9	0.25	24.0	C
25th St	III	30	46.9	9.7	56.6	0.37	23.5	C
19th St	III	30	20.7	6.1	26.8	0.15	20.7	C
17th St	III	30	14.4	4.5	18.9	0.10	19.5	C
16th St	III	30	8.0	5.8	13.8	0.05	13.5	E
Total	III		199.3	78.3	277.6	1.50	19.4	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
40th St	III	30	11.7	9.4	21.1	0.08	14.2	D
Redworks Dwy	III	30	46.1	12.0	58.1	0.36	22.5	C
45th St	III	30	27.0	9.8	36.8	0.21	20.8	C
I-805 SB On-Ramp	III	30	16.2	30.1	46.3	0.12	9.0	F
I-805 NB Off-Ramp	III	30	13.5	27.1	40.6	0.10	8.5	F
47th St	III	30	5.8	8.7	14.5	0.04	9.3	F
Total	III		120.3	97.1	217.4	0.91	15.0	D

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
47th St	III	30	27.5	27.6	55.1	0.22	14.2	D
I-805 NB On-Ramp	III	30	5.8	11.8	17.6	0.04	7.6	F
I-805 SB Off-Ramp	III	30	13.5	2.9	16.4	0.10	21.0	C
45th St	III	30	16.2	11.1	27.3	0.12	15.2	D
Greenwood	III	30	27.0	9.4	36.4	0.21	21.0	C
Imperial Ave	III	30	46.1	9.2	55.3	0.36	23.6	C
Total	III		136.1	72.0	208.1	1.04	18.0	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
16th St	III	30	18.9	9.5	28.4	0.14	17.8	D
17th St	III	30	8.0	4.3	12.3	0.05	15.2	D
19th St	III	30	14.4	6.6	21.0	0.10	17.6	D
25th St	III	30	27.8	8.2	36.0	0.22	21.9	C
28th St	III	30	46.9	9.4	56.3	0.37	23.6	C
30th St	III	30	32.1	5.4	37.5	0.25	24.2	B
31st St	III	30	17.6	2.3	19.9	0.12	22.6	C
32nd St	III	30	17.3	10.2	27.5	0.13	16.9	D
33rd St	III	30	20.5	8.4	28.9	0.15	19.0	C
36th St	III	30	25.2	41.8	67.0	0.20	10.7	E
Total	III		228.7	106.1	334.8	1.74	18.7	C

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
33rd St	III	30	21.8	9.3	31.1	0.16	18.8	C
32nd St	III	30	20.5	13.9	34.4	0.15	16.0	D
31st St	III	30	17.3	1.9	19.2	0.13	24.2	B
30th St	III	30	17.6	8.3	25.9	0.12	17.3	D
28th St	III	30	32.1	6.6	38.7	0.25	23.5	C
25th St	III	30	46.9	4.6	51.5	0.37	25.8	B
19th St	III	30	20.7	6.9	27.6	0.15	20.1	C
17th St	III	30	14.4	5.4	19.8	0.10	18.6	C
16th St	III	30	8.0	6.3	14.3	0.05	13.1	E
Total	III		199.3	63.2	262.5	1.50	20.6	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
40th St	III	30	11.7	11.1	22.8	0.08	13.1	E
Redworks Dwy	III	30	46.1	15.8	61.9	0.36	21.1	C
45th St	III	30	27.0	13.6	40.6	0.21	18.8	C
I-805 SB On-Ramp	III	30	16.2	38.7	54.9	0.12	7.6	F
I-805 NB Off-Ramp	III	30	13.5	25.4	38.9	0.10	8.9	F
47th St	III	30	5.8	12.9	18.7	0.04	7.2	F
Total	III		120.3	117.5	237.8	0.91	13.7	E

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
47th St	III	30	27.5	21.1	48.6	0.22	16.0	D
I-805 NB On-Ramp	III	30	5.8	10.2	16.0	0.04	8.4	F
I-805 SB Off-Ramp	III	30	13.5	2.4	15.9	0.10	21.7	C
45th St	III	30	16.2	7.5	23.7	0.12	17.5	D
Greenwood	III	30	27.0	9.2	36.2	0.21	21.1	C
Imperial Ave	III	30	46.1	7.4	53.5	0.36	24.4	B
Total	III		136.1	57.8	193.9	1.04	19.3	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
16th St	III	30	18.9	4.5	23.4	0.14	21.6	C
17th St	III	30	8.0	4.8	12.8	0.05	14.6	D
19th St	III	30	14.4	1.8	16.2	0.10	22.8	C
25th St	III	30	17.4	4.5	21.9	0.12	20.3	C
28th St	III	30	46.9	7.3	54.2	0.37	24.5	B
30th St	III	30	32.1	5.3	37.4	0.25	24.3	B
31st St	III	30	17.6	4.6	22.2	0.12	20.2	C
32nd St	III	30	17.3	4.3	21.6	0.13	21.5	C
33rd St	III	30	20.5	9.4	29.9	0.15	18.4	C
36th St	III	30	25.3	40.5	65.8	0.20	10.9	E
Total	III		218.4	87.0	305.4	1.65	19.4	C

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
33rd St	III	30	21.8	22.8	44.6	0.16	13.1	E
32nd St	III	30	20.5	17.9	38.4	0.15	14.3	D
31st St	III	30	17.3	2.4	19.7	0.13	23.6	C
30th St	III	30	17.6	7.2	24.8	0.12	18.1	C
28th St	III	30	32.1	5.6	37.7	0.25	24.1	B
25th St	III	30	46.9	9.6	56.5	0.37	23.5	C
19th St	III	30	20.7	17.1	37.8	0.15	14.7	D
17th St	III	30	14.4	4.7	19.1	0.10	19.3	C
16th St	III	30	8.0	4.5	12.5	0.05	14.9	D
Total	III		199.3	91.8	291.1	1.50	18.5	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
40th St	III	30	11.7	9.2	20.9	0.08	14.3	D
Redworks Dwy	III	30	46.1	18.6	64.7	0.36	20.2	C
45th St	III	30	27.0	14.5	41.5	0.21	18.4	C
I-805 SB On-Ramp	III	30	16.2	30.1	46.3	0.12	9.0	F
I-805 NB Off-Ramp	III	30	13.5	27.1	40.6	0.10	8.5	F
47th St	III	30	5.8	8.7	14.5	0.04	9.3	F
Total	III		120.3	108.2	228.5	0.91	14.3	D

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
47th St	III	30	27.5	27.6	55.1	0.22	14.2	D
I-805 NB On-Ramp	III	30	5.8	11.8	17.6	0.04	7.6	F
I-805 SB Off-Ramp	III	30	13.5	2.9	16.4	0.10	21.0	C
45th St	III	30	16.2	11.1	27.3	0.12	15.2	D
Greenwood	III	30	27.0	14.9	41.9	0.21	18.3	C
40th St	III	30	46.1	5.3	51.4	0.36	25.4	B
Total	III		136.1	73.6	209.7	1.04	17.9	D

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
16th St	III	30	18.9	9.5	28.4	0.14	17.8	D
17th St	III	30	8.0	7.1	15.1	0.05	12.4	E
19th St	III	30	14.4	7.0	21.4	0.10	17.2	D
25th St	III	30	17.4	9.7	27.1	0.12	16.4	D
28th St	III	30	46.9	10.4	57.3	0.37	23.2	C
30th St	III	30	32.1	4.8	36.9	0.25	24.6	B
31st St	III	30	17.6	7.6	25.2	0.12	17.8	D
32nd St	III	30	17.3	11.4	28.7	0.13	16.2	D
33rd St	III	30	20.5	13.9	34.4	0.15	16.0	D
36th St	III	30	25.3	41.8	67.1	0.20	10.7	E
Total	III		218.4	123.2	341.6	1.65	17.3	D

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
33rd St	III	30	21.8	10.4	32.2	0.16	18.2	C
32nd St	III	30	20.5	7.6	28.1	0.15	19.6	C
31st St	III	30	17.3	3.9	21.2	0.13	21.9	C
30th St	III	30	17.6	5.8	23.4	0.12	19.2	C
28th St	III	30	32.1	8.4	40.5	0.25	22.4	C
25th St	III	30	46.9	5.2	52.1	0.37	25.5	B
19th St	III	30	20.7	9.1	29.8	0.15	18.6	C
17th St	III	30	14.4	7.9	22.3	0.10	16.5	D
16th St	III	30	8.0	5.0	13.0	0.05	14.4	D
Total	III		199.3	63.3	262.6	1.50	20.6	C

Arterial Level of Service: EB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
40th St	III	30	11.7	10.3	22.0	0.08	13.6	E
Redworks Dwy	III	30	46.1	26.1	72.2	0.36	18.1	C
45th St	III	30	27.0	30.3	57.3	0.21	13.4	E
I-805 SB On-Ramp	III	30	16.2	38.7	54.9	0.12	7.6	F
I-805 NB Off-Ramp	III	30	13.5	25.4	38.9	0.10	8.9	F
47th St	III	30	5.8	12.9	18.7	0.04	7.2	F
Total	III		120.3	143.7	264.0	0.91	12.4	E

Arterial Level of Service: WB Imperial Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
47th St	III	30	27.5	21.1	48.6	0.22	16.0	D
I-805 NB On-Ramp	III	30	5.8	10.2	16.0	0.04	8.4	F
I-805 SB Off-Ramp	III	30	13.5	2.4	15.9	0.10	21.7	C
45th St	III	30	16.2	7.5	23.7	0.12	17.5	D
Greenwood	III	30	27.0	10.1	37.1	0.21	20.6	C
40th St	III	30	46.1	1.6	47.7	0.36	27.4	B
Total	III		136.1	52.9	189.0	1.04	19.8	C

APPENDIX F: ROADWAY SEGMENT VOLUME GROWTH CALCULATIONS

IMPERIAL AVE ANNUAL GROWTH RATE CALCULATION

SANDAG SERIES 13 MODEL - ADT

Roadway		2012	2035	CAGR
IMPERIAL AVE	19th to 20th	8100	10100	1.0%
	25th to 26th	5400	4800	-0.5%
	31st to 32nd	3400	4200	0.9%
	I-15 to 36th	3700	4900	1.2%
	West of I-805	17700	18500	0.2%
TOTAL		38300	42500	0.5%

Source: Fehr & Peers, 2018

Volumes obtained from SANDAG Series 13: 2050 Regional Growth Forecast Model