

APPENDIX H

Sacramento Commons Traffic Study



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

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MEMORANDUM

Date: December 19, 2014

Project #:
15604.105

To: Aelita Milatzo
City of Sacramento, CA

From: Erin M. Ferguson, P.E. and Aaron C. Elias, P.E.

Project: Traffic Analysis for Sacramento Commons

Subject: Trip Generation Comparison and Site Plan Review

Kittelison & Associates, Inc. (KAI) compared the trip generation of the proposed project's revised land use scenarios (dated October 2014) to the trip generation for land use scenarios evaluated in the July 2014 *Traffic Analysis Report for Sacramento Commons*. As presented below, the October 2014 land use scenarios result in either fewer or an equal number of net new trips as the land use scenarios evaluated in the July 2014 report. Therefore, it is reasonable to assume the findings documented in the July 2014 *Traffic Analysis Report for Sacramento Commons* remain the same with the revised October 2014 land uses.

KAI also reviewed the modifications to the driveway access from 7th Street to the parcel in the northeast quadrant of the site. The revised site plan dated October 13, 2014 illustrates the driveway in a slightly different location on 7th Street and also shows an increased driveway depth. The revised location on 7th Street does not change the previous findings in the July 2014 report. The increased driveway depth exceeds the previously identified minimum queue storage for driveway #2 in the July 2014 report. (Please see additional details in the Site Plan Review section, page 7.)

TRIP GENERATION METHODOLOGY

The same trip generation methodology was used to calculate the trip generation for the proposed project's revised land use scenarios dated October 2014 and the land use scenarios evaluated in the July 2014 *Traffic Analysis Report for Sacramento Commons*. The July 2014 *Traffic Analysis Report for Sacramento Commons* documents the methodology in greater detail. This section provides a brief summary of the approach.

The trip generation for Sacramento Commons is based on information compiled by the Institute of Transportation Engineers (*Trip Generation Manual, 9th Edition, 2012* and *Trip Generation Manual User's Guide and Handbook, 9th Edition, 2012*), the travel mode shares from the travel survey at the

existing Capitol Towers apartment building (conducted in February 2008 and March 2008 at the site), and the *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG House Travel Survey* (DKS, 2001).

The following summarizes the land uses used from the ITE Trip Generation Manual to estimate the initial automobile trips for the proposed project.

- **Neighborhood Support/Retail (Parcel 1, 2A, 2B, 3 and 4A):** ITE Trip Generation Land Use 820 for a shopping center; it is a conservative estimate given that specific types of retail is not known at this time.
- **High-Rise Apartments (Parcel 1 and Parcel 3):** ITE Trip Generation Land Use 222, which is applicable to apartments in buildings with more than ten levels.
- **Mid-Rise Apartments (Parcel 2A, 2B and 4B):** ITE Trip Generation Land Use 223, which is applicable to apartments in buildings that have between three and ten levels. The ITE Trip Generation Manual does not include a weekday daily trip estimate for mid-rise apartments; therefore, to estimate the daily trips for the mid-rise apartments, ITE Trip Generation Land Use 221 for low-rise apartments was used. The low-rise apartment land use provides a more conservative estimate for daily trips than the high-rise apartment land use.
- **Live-Work Units (Parcel 1, 2A, 2B, 3, and 4B):** Live-work units were included as part of the residential trip generation numbers. These units are expected to house artists or incubator businesses where the decrease in trips due to residents working at home is expected to be similar to the number of clients visiting the unit. Therefore, trip generation for these units can be accounted for using the residential land use category.
- **Hotel (Parcel 3 for the Hotel Scenario):** ITE Trip Generation Land Use 310 directly applicable to hotels providing sleeping accommodations and supporting facilities (e.g., restaurants, retail, service shops).

The total automobile trip generation estimates for the proposed project were calculated as the automobile trips generated by the proposed project minus the existing trips generated by the existing land uses to be replaced at the project site.

The total automobile trip generation rates were adjusted to account for transit use, walking, biking and internal trips. Below is a brief summary of these adjustments; the July 2014 *Traffic Analysis Report for Sacramento Commons* presents additional information regarding these adjustments.

- Transit Trips
 - For the retail component of the proposed project, assumed 2.2 percent of total trips would be transit trips.

- For the residential component of the proposed project, assumed:
 - 4.9 percent of total number daily trips would be transit trips;
 - 4.2 percent of a.m. peak hour trips would be transit trips; and
 - 5.3 percent of p.m. peak hour trips would be transit trips.
- Walk, Bike and Other Non-Auto Trips
 - For the retail component of the proposed project, assumed 11.6 percent of total trips were walk, bike and/or other non-auto trips.
 - For the residential component of the proposed project, assumed:
 - 38.9 percent of the total number of daily trips to be walk, bike and/or other non-auto trips;
 - 40 percent of a.m. peak hour trips to be walk, bike and/or other non-auto trips; and
 - 38.8 percent of p.m. peak hour trips to be walk, bike and/or other non-auto trips.

After the adjustments were made for transit, walk, bike, and other non-auto travel, an adjustment was made to account for internal trips between different types of land uses within each parcel within the proposed project. The internal trip adjustments were performed using procedures recommended by the Institute of Transportation Engineers for multi-use developments (*Trip Generation Handbook*, 2012). Internal trips are trips that would occur between different land uses within the same site without accessing the street system.

The project is expected to have a minimal amount of vehicle pass-by trips¹. Given the small number of these trip types, no pass-by trips were assumed for retail uses in the analysis in order to provide a more conservative analysis.

TRIP GENERATION FROM JULY 2014 TRAFFIC ANALYSIS REPORT FOR SACRAMENTO COMMONS

Table 1 and Table 2 show the automobile trip generation summary for the Hotel Scenario and No Hotel Scenario of the proposed project, respectively. These tables correspond to Table 7 and Table 8 in the July 2014 Traffic Analysis Report for Sacramento Commons.

Table 3 and Table 4 show the transit trip generation summary for the Hotel Scenario and No Hotel Scenario of the proposed project, respectively. These tables correspond to Table 9 and Table 10 in the July 2014 Traffic Analysis Report for Sacramento Commons.

¹ A pass-by trip is a project trip that is already on the streets adjacent to the project prior to construction. These trips will visit the project site but will only impact project driveways and not nearby intersections since they are already accounted for in traffic data collected for existing conditions.

Table 1: Trip Generation Summary for Proposed Project, Hotel Scenario as of July 2014

Land Use	Size	Units	Week-day	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Retail (Shopping Center, ITE 820)	65.0	KSF	7,734	118	73	191	316	343	659
Hotel (ITE 310)	320	Rooms	2,491	100	70	170	98	94	192
Mid-rise Apartment (Includes Live/Work, ITE 223 and 221)	533	Units	3,891	55	124	179	128	94	222
High-rise Apartment (Includes Live/Work, ITE 222)	686	Units	3,000	52	155	207	149	95	244
<i>Total Project Trips</i>			<i>17,116</i>	<i>325</i>	<i>422</i>	<i>747</i>	<i>691</i>	<i>626</i>	<i>1317</i>
Transit Adjustments (-3.7%) ^A			-629	-13	-16	-29	-26	-25	-51
Walk, Bike & Other Non-Auto Travel Adjustments (-26.6%) ^A			-4,548	-97	-149	-246	-180	-151	-331
Internal Trips Within This Site (-7.8%) ^A			-1,334	-17	-17	-34	-60	-60	-120
<i>Total External Automobile Trips for New Project</i>			<i>10,605</i>	<i>198</i>	<i>240</i>	<i>438</i>	<i>425</i>	<i>390</i>	<i>815</i>
<i>External Automobile Trips for Existing Land Uses</i>			<i>-1,358</i>	<i>-28</i>	<i>-100</i>	<i>-128</i>	<i>-98</i>	<i>-52</i>	<i>-150</i>
Net New External Automobile Trips^B			9,247	170	140	310	327	338	665

Source: Kittelson & Associates, Inc., 2014.
^A The percentages shown are calculated as the sum of the transit, walk or internal trips per parcel divided by the total project trips for the parcels.
^B Net New External Automobile Trips is the Total External Automobile Trips for the New Project minus (or plus the negative value of) the External Automobile for the Existing Land Uses to be replaced by the Proposed Project.

Table 2: Trip Generation Summary for Proposed Project, No Hotel Scenario as of July 2014

Land Use	Size	Units	Week-day	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Retail (Shopping Center, ITE 820)	61.0	KSF	7,465	115	70	185	304	331	635
Mid-rise Apartment (Includes Live/Work, ITE 223 and 221)	533	Units	3,891	55	124	179	128	94	222
High-rise Apartment (Includes Live/Work, ITE 222)	786	Units	3,422	59	178	237	168	108	276
<i>Total Project Trips</i>			<i>14,778</i>	<i>229</i>	<i>372</i>	<i>601</i>	<i>600</i>	<i>533</i>	<i>1,133</i>
Transit Adjustments (-3.6%) ^A			-522	-9	-14	-23	-22	-20	-42
Walk, Bike & Other Non-Auto Travel Adjustments (-25.9%) ^A			-3,712	-59	-130	-189	-149	-118	-267
Internal Trips Within This Site (-8.2%) ^A			-1,286	-17	-17	-34	-54	-54	-108
<i>Total External Automobile Trips for New Project</i>			<i>9,258</i>	<i>144</i>	<i>211</i>	<i>355</i>	<i>371</i>	<i>337</i>	<i>708</i>
<i>External Automobile Trips for Existing Land Uses</i>			<i>-1,358</i>	<i>-28</i>	<i>-100</i>	<i>-128</i>	<i>-98</i>	<i>-52</i>	<i>-150</i>
Net New External Automobile Trips^B			7,900	116	111	227	273	285	558

Source: Kittelson & Associates, Inc., 2014.
^A The percentages shown are calculated as the sum of the transit, walk or internal trips per parcel divided by the total project trips for the parcels.
^B Net New External Automobile Trips is a sum of the Total External Automobile Trips for the New Project and the External Automobile for the Existing Land Uses to be replaced by the Proposed Project.

Table 3: Net New Transit Trip Summary for Proposed Project, Hotel Scenario as of July 2014

City Block	New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	198	3	7	10	10	8	18
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 1	173	3	5	8	9	7	16
Parcel 2A							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	113	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2A	101	2	2	4	3	4	7
Parcel 2B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	113	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2B	101	2	2	4	3	4	7
Parcel 3, 4A, and 4B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	294	7	6	13	11	11	22
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 3, 4A, and 4B	269	7	4	11	10	10	20
Entire Site Net New Transit Trips	644	14	13	27	25	25	50
Source: Kittelson & Associates, Inc., 2014							

Table 4: Net New Transit Trip Summary for Proposed Project, No Hotel Scenario as of July 2014

City Block	New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	198	3	7	10	10	8	18
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 1	173	3	5	8	9	7	16
Parcel 2A							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	113	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2A	101	2	2	4	3	4	7
Parcel 2B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	113	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2B	101	2	2	4	3	4	7
Parcel 3, 4A, and 4B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	173	2	4	6	7	6	13
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 3, 4A, and 4B	148	2	2	4	6	5	11
Entire Site Net New Transit Trips	523	9	11	20	21	20	41
Source: Kittelson & Associates, Inc., 2014							

TRIP GENERATION FOR OCTOBER 2014 LAND USES

The most recent summary of the proposed land uses from October 2014 (see *Attachment A*) was provided by the City of Sacramento and reflects the following changes to the land use scenarios.

Hotel Scenario

- Parcel 2A: A decrease of 19 residential units from the 7-story mid-rise buildings.
- Parcel 2B: A decrease of 19 residential units from the 7-story mid-rise buildings.
- Parcel 3:
 - Hotel: A decrease of 20 hotel rooms.
 - Residential: A decrease of 10 residential units from the 22-story high rise building.
 - Retail: An increase of 5,000 square feet of retail.

No Hotel Scenario

- Parcel 2A: A decrease of 19 residential units from the 7-story mid-rise buildings.
- Parcel 2B: A decrease of 19 residential units from the 7-story mid-rise buildings.
- Parcel 3:

- Residential: A decrease of 14 residential units from the 22-story high rise building.
- Retail: A decrease of 9,000 square feet of retail.

Table 5 and Table 6 present the updated automobile trip generation summary while Table 7 and Table 8 present the updated transit trip generation summary for the revised October 2014 land uses.

Table 5: Trip Generation Summary for Proposed Project, Hotel Scenario as of October 2014

Land Use	Size	Units	Week-day	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Retail (Shopping Center, ITE 820)	70.0	KSF	8,055	123	75	198	330	358	688
Hotel (ITE 310)	300	Rooms	2,312	94	65	159	92	88	180
Mid-rise Apartment (Includes Live/Work, ITE 223 and 221)	495	Units	3,697	51	114	165	118	86	204
High-rise Apartment (Includes Live/Work, ITE 222)	676	Units	2,955	51	153	204	147	94	241
<i>Total Project Trips</i>			<i>17,019</i>	<i>319</i>	<i>407</i>	<i>726</i>	<i>687</i>	<i>626</i>	<i>1,313</i>
Transit Adjustments (-3.6%) ^A			-615	-13	-14	-27	-26	-23	-49
Walk, Bike & Other Non-Auto Travel Adjustments (-26%) ^A			-4,422	-94	-141	-235	-175	-148	-323
Internal Trips Within This Site (-8.2%) ^A			-1,388	-17	-17	-34	-63	-63	-126
<i>Total External Automobile Trips for New Project</i>			<i>10,594</i>	<i>195</i>	<i>235</i>	<i>430</i>	<i>423</i>	<i>392</i>	<i>815</i>
<i>External Automobile Trips for Existing Land Uses</i>			<i>-1,358</i>	<i>-28</i>	<i>-100</i>	<i>-128</i>	<i>-98</i>	<i>-52</i>	<i>-150</i>
Net New External Automobile Trips^B			9,236	167	135	302	325	340	665

Source: Kittelson & Associates, Inc., 2014.
^A The percentages shown are calculated as the sum of the transit, walk or internal trips per parcel divided by the total project trips for the parcels.
^B Net New External Automobile Trips is the Total External Automobile Trips for the New Project minus (or plus the negative value of) the External Automobile for the Existing Land Uses to be replaced by the Proposed Project.

Table 6: Trip Generation Summary for Proposed Project, No Hotel Scenario as of October 2014

Land Use	Size	Units	Week-day	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Retail (Shopping Center, ITE 820)	52.0	KSF	6,803	105	65	170	277	300	577
Mid-rise Apartment (Includes Live/Work, ITE 223 and 221)	495	Units	3,697	51	114	165	118	86	204
High-rise Apartment (Includes Live/Work, ITE 222)	772	Units	3,365	58	175	233	166	106	272
<i>Total Project Trips</i>			<i>13,865</i>	<i>214</i>	<i>354</i>	<i>568</i>	<i>561</i>	<i>492</i>	<i>1,053</i>
Transit Adjustments (-3.6%) ^A			-495	-9	-11	-20	-21	-17	-38
Walk, Bike & Other Non-Auto Travel Adjustments (-25.6%) ^A			-3,537	-58	-122	-180	-141	-111	-252
Internal Trips Within This Site (-8.4%) ^A			-1,174	-15	-15	-30	-52	-52	-104
<i>Total External Automobile Trips for New Project</i>			<i>8,659</i>	<i>132</i>	<i>206</i>	<i>338</i>	<i>347</i>	<i>312</i>	<i>659</i>
<i>External Automobile Trips for Existing Land Uses</i>			<i>-1,358</i>	<i>-28</i>	<i>-100</i>	<i>-128</i>	<i>-98</i>	<i>-52</i>	<i>-150</i>
Net New External Automobile Trips^B			7,301	104	106	210	249	260	509
Source: Kittelson & Associates, Inc., 2014.									
^A The percentages shown are calculated as the sum of the transit, walk or internal trips per parcel divided by the total project trips for the parcels.									
^B Net New External Automobile Trips is the Total External Automobile Trips for the New Project minus (or plus the negative value of) the External Automobile for the Existing Land Uses to be replaced by the Proposed Project.									

Attachment B contains the worksheets for the October 2014 land uses trip generation calculations.

Table 7: Net New Transit Trip Summary for Proposed Project, Hotel Scenario as of October 2014

City Block	New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	198	3	7	10	10	8	18
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 1	173	3	5	8	9	7	16
Parcel 2A							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	108	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2A	96	2	2	4	3	4	7
Parcel 2B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	108	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2B	96	2	2	4	3	4	7
Parcel 3, 4A, and 4B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	291	6	6	12	12	11	23
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 3, 4A, and 4B	266	6	4	10	11	10	21
Entire Site Net New Transit Trips	631	13	13	26	26	25	51
Source: Kittelson & Associates, Inc., 2014							

Table 8: Net New Transit Trip Summary for Proposed Project, No Hotel Scenario as of October 2014

City Block	New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	198	3	7	10	10	8	18
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 1	173	3	5	8	9	7	16
Parcel 2A							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	108	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2A	96	2	2	4	3	4	7
Parcel 2B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	108	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2B	96	2	2	4	3	4	7
Parcel 3, 4A, and 4B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	153	2	3	5	6	5	11
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 3, 4A, and 4B	128	2	1	3	5	4	9
Entire Site Net New Transit Trips	493	9	10	19	20	19	39
Source: Kittelson & Associates, Inc., 2014							

TRIP GENERATION COMPARISON

Table 9 and Table 10 compare the net new trips between the land use scenarios evaluated in the July 2014 Traffic Analysis Report for Sacramento Commons and the October 2014 land use scenarios.

Table 9: Trip Generation Comparison, Hotel Scenario

Land Use Scenario	Weekday	AM Peak Hour	PM Peak Hour
July 2014 Traffic Analysis Report for Sacramento Commons	9,247	310	665
October 2014 Revised Land Uses for Sacramento Commons	9,236	302	665
Difference (Percent Change vs. July 2014)	-11 (-0.1%)	-8 (-2.6%)	0 (0%)

Table 10: Trip Generation Comparison, No Hotel Scenario

Land Use Scenario	Weekday	AM Peak Hour	PM Peak Hour
July 2014 Traffic Analysis Report for Sacramento Commons	7,900	227	558
October 2014 Revised Land Uses for Sacramento Commons	7,301	210	509
Difference (Percent Change vs. July 2014)	-599 (-7.6%)	-17 (-7.5%)	-49 (-8.8%)

As shown in Table 9 and Table 10, the October 2014 land uses generate fewer or an equal number of net new trips for weekday daily and peak periods. The difference in number of trips ranges from zero to a decrease in trips of 8.8%. Additionally, the trip distribution would be similar due to the minimal changes in trip generation and the one-way street network of downtown Sacramento. Given the October 2014 land uses result in either fewer or an equal number of net new trips and that the trip distribution would be the similar, the findings documented in the July 2014 *Traffic Analysis Report for Sacramento Commons* can be considered a conservative estimate of transportation impacts related to the Sacramento Commons development.

SITE PLAN REVIEW

KAI compared the October 13, 2014 site plan to the previous site plan dated May 20, 2014. The revised October 2014 site plan illustrates the above driveway accessing 7th Street approximately 15 feet further south than the previous site plan dated May 20, 2014. The revised driveway also illustrates increased driveway depth onsite providing more inbound vehicle queue storage reducing the likelihood of vehicles queuing onto 7th Street.

The revised location shown in the October 13, 2014 site plan does not change the findings documented in the July 2014 *Traffic Analysis Report for Sacramento Commons*. The revised driveway depth exceeds the minimum two vehicle queue storage documented in the July 2014 *Traffic Analysis Report for Sacramento Commons*, and thus, the recommendation to provide a minimum of two vehicle queue storage is satisfied.

Attachment A – October 2014 Land Use Scenarios

Table 2.1: Land Use Summary

Land Use	Max. Units or Rooms	Use Area (square feet)
Parcel 1 (3.22 net acres)		
Residential (24-story high-rises)	550	496,680
Neighborhood Support/Retail [2]	NA	24,000
Live/Work Units	12	10,800
Parcel 2A (1.83 net acres)		
Residential (7-story mid-rises)	206	163,530
Neighborhood Support/Retail [2]	NA	4,500
Live/Work Units	15	13,500
Parcel 2B (1.90 net acres)		
Residential (7-story mid-rises)	206	163,530
Neighborhood Support/Retail [2]	NA	4,500
Live/Work Units	15	13,500
Parcel 3, Hotel / Condo / Retail Scenario (2.02 net acres)		
Hotel Rooms	300	131,250
Residential (22-story high-rise)	110	158,400
Neighborhood Support/Retail [1], [3],	NA	37,000
Live-Work Units	4	3,600
Parcel 3, Condo / Retail Scenario (2.02 net acres)		
Residential (22-story high-rise)	206	296,640
Neighborhood Support/Retail [1],[2],[3]	NA	19,000
Live-Work Units	4	3,600
Parcel 4A (0.76 net acres), Existing Capitol Towers		
Residential (15-story high-rise)	203	171,000
Neighborhood Support/Retail	NA	4,122
Parcel 4B (0.40 net acres)		
Residential (7-story mid-rise; 2 levels of live-work)	50	33,250
Live/Work Units	3	2,700
Project Totals Based on Hotel / Condo / Retail Scenario on Parcel 3 (10.13 net acres)		
Total Residential	1,374 (49 live-work units)	1,230,490
Hotel Rooms	300	131,250
Neighborhood Support/Retail	NA	74,122
Project Totals Based on Condo / Retail Scenario on Parcel 3 (10.13 net acres)		
Total Residential	1,470 (49 live-work units)	1,368,730
Neighborhood Support/Retail	NA	56,122

Notes:

- [1] In Parcel 3, neighborhood support/retail includes first and second floor space.
- [2] Neighborhood support uses in Parcels 1, 2A, 2B, 3 (No Hotel Scenario), and 4B may consist of amenities exclusively available for building residents (e.g. gym, spa, etc.).
- [3] Neighborhood Support/Retail square footage includes the possibility of a market. The total Neighborhood Support/Retail square footage, including the possibility of a market, would not exceed 37,000 square feet under the Hotel/Condo/Retail Scenario and 19,000 square feet under the Condo/Retail Scenario.

Attachment B – Trip Generation Worksheets for October 2014 Land Use Scenarios

Proposed Project - Option 1 (Hotel) - October 2014 Land Uses

Trip Generation for Proposed Project - Option 1 (Hotel) - October 2014 Land Uses								
Land Use	Amount	Trips Generated						
		Weekday	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Parcel 1								
Retail (Shopping Center)	24.0 KSF	2,686	40	25	65	110	120	230
High-rise Apartment (Includes Live/Work)	562 Units	2,334	42	127	169	117	75	192
Total Trips for Site		5,020	82	152	234	227	195	422
Transit Adjustments (-3.4%)		-173	-3	-5	-8	-8	-7	-15
Walk, Bike & Other Non-Auto Travel Adjustments (-24.3%)		-1,220	-22	-54	-76	-58	-43	-101
Internal Trips Within This Site (-9.2%)		-462	-6	-6	-12	-21	-21	-42
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		3,165	51	87	138	140	124	264
External Automobile Trips for Existing Land Uses		-455	-9	-32	-41	-32	-17	-49
New External Automobile Trips		2,710	42	55	97	108	107	215
Parcel 2A								
Retail (Shopping Center)	4.5 KSF	905	15	9	24	36	39	75
Mid-rise Apartment (Includes Live/Work)	221 Units	1,519	24	54	78	55	40	95
Total Trips for Site		2,424	39	63	102	91	79	170
Transit Adjustments (-3.9%)		-94	-2	-2	-4	-4	-3	-7
Walk, Bike & Other Non-Auto Travel Adjustments (-28.7%)		-696	-12	-22	-34	-25	-21	-46
Internal Trips Within This Site (-6.4%)		-156	-2	-2	-4	-7	-7	-14
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		1,478	23	37	60	55	48	103
External Automobile Trips for Existing Land Uses		-224	-5	-18	-23	-17	-9	-26
New External Automobile Trips		1,254	18	19	37	38	39	77
Parcel 2B								
Retail (Shopping Center)	4.5 KSF	905	15	9	24	36	39	75
Mid-rise Apartment (Includes Live/Work)	221 Units	1,519	24	54	78	55	40	95
Total Trips for Site		2,424	39	63	102	91	79	170
Transit Adjustments (-3.9%)		-94	-2	-2	-4	-4	-3	-7
Walk, Bike & Other Non-Auto Travel Adjustments (-28.7%)		-696	-12	-22	-34	-25	-21	-46
Internal Trips Within This Site (-6.4%)		-156	-2	-2	-4	-7	-7	-14
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		1,478	23	37	60	55	48	103
External Automobile Trips for Existing Land Uses		-224	-5	-18	-23	-17	-9	-26
New External Automobile Trips		1,254	18	19	37	38	39	77
Parcel 3, 4A, and 4B								
Retail (Shopping Center)	37.0 KSF	3,559	53	32	85	148	160	308
Hotel	300 Rooms	2,312	94	65	159	92	88	180
Mid-rise Apartment (Includes Live/Work)	53 Units	659	3	6	9	8	6	14
High-rise Apartment (Includes Live/Work)	114 Units	621	9	26	35	30	19	49
Total Trips for Site		7,151	159	129	288	278	273	551
Transit Adjustments (-3.6%)		-254	-6	-5	-11	-10	-10	-20
Walk, Bike & Other Non-Auto Travel Adjustments (-25.3%)		-1,810	-48	-43	-91	-67	-63	-130
Internal Trips Within This Site (-8.6%)		-614	-7	-7	-14	-28	-28	-56
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		4,473	98	74	172	173	172	345
External Automobile Trips for Existing Land Uses		-455	-9	-32	-41	-32	-17	-49
New External Automobile Trips		4,018	89	42	131	141	155	296
Total Project Trips - Proposed Project Option 1								
Retail (Shopping Center)	70.0 KSF	8,055	123	75	198	330	358	688
Hotel	300 Units	2,312	94	65	159	92	88	180
Mid-rise Apartment (Includes Live/Work)	495 Units	3,697	51	114	165	118	86	204
High-rise Apartment (Includes Live/Work)	676 Units	2,955	51	153	204	147	94	241
Total Project Trips		17,019	319	407	726	687	626	1,313
Transit Adjustments (-3.6%)		-615	-13	-14	-27	-26	-23	-49
Walk, Bike & Other Non-Auto Travel Adjustments (-26%)		-4,422	-94	-141	-235	-175	-148	-323
Internal Trips Within This Site (-8.2%)		-1,388	-17	-17	-34	-63	-63	-126
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		10,594	195	235	430	423	392	815
External Automobile Trips for Existing Land Uses		-1,358	-28	-100	-128	-98	-52	-150
New External Automobile Trips		9,236	167	135	302	325	340	665

Source: Kittelson & Associates, Inc. 2014

62.2%

59.2%

62.1%

Proposed Project - Option 1 (Hotel) - October 2014 Land Uses

New Transit Trips for Proposed Project - Option 1 (Hotel) - October 2014 Land Uses							
City Block	Net New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1	173	3	5	8	9	7	16
Parcel 2A	96	2	2	4	3	4	7
Parcel 2B	96	2	2	4	3	4	7
Parcel 3, 4A, and 4B	266	6	4	10	11	10	21
Netl New Transit Trips	631	13	13	26	26	25	51

Source: Kittelson & Associates, Inc., 2014

Sacramento Commons
Adjustments to ITE Trip Generation Rates for High Non-Auto Travel

Shares of Total Trips			
Transit Shares	Work Trips ^a	Non-Work Trips ^b	Total
Walk Access			
Downtown	7.4%	1.8%	
Suburban	1.4%	0.3%	
Increase Above Suburban Conditions	6.0%	1.5%	
Drive Access			
Downtown	6.2%	1.2%	
Suburban	0.1%	0.3%	
Increase Above Suburban Conditions	6.1%	0.9%	
Walk, Bike & Other Non-Auto Shares			
Downtown	4.5%	18.8%	
Suburban	2.8%	6.5%	
Increase Above Suburban Conditions	1.7%	12.3%	

Capitol Towers Survey Data	
Transit Shares	
AM Peak Hour	5%
PM Peak Hour	6%
Walk Shares	
AM Peak Hour	45%
PM Peak Hour	44%

Adjustments for Higher Transit Use Downtown			
Office¹	10.9%	0.2%	11.1%
Retail²	0.8%	1.4%	2.2%
	Home-Work	Home-Non-Work	Non Home-Based
Residential^{3,c}			Total
AM Peak Hour			4.2%
PM Peak Hour			5.3%
Daily			4.9%

Suburban Transit Shares			
	Home-Work	Home-Non-Work	Non Home-Based
			Total
	0.6%	0.1%	0.0%
	0.5%	0.1%	0.1%
	0.4%	0.1%	0.1%

Adjustments for Higher Walk, Bike & Other Non-Auto Travel Downtown			
Office¹	1.5%	1.2%	2.8%
Retail²	0.1%	11.4%	11.6%
	Home-Work	Home-Non-Work	Non Home-Based
Residential^c			Total
AM Peak Hour			40.0%
PM Peak Hour			38.8%
Daily			38.9%

Suburban Walk, Bike, Other Shares			
	Home-Work	Home-Non-Work	Non Home-Based
			Total
	1.2%	2.9%	0.9%
	1.0%	2.5%	1.8%
	0.7%	3.0%	1.9%

Transit Trips			
	Work Trips	Non-Work Trips	Total
Office¹	12.2%	0.3%	12.5%
Retail²	1.0%	1.7%	2.6%
	Home-Work	Home-Non-Work	Non Home-Based
Residential			
AM Peak Hour			5.0%
PM Peak Hour			6.0%
Daily			5.5%

¹ Assumes 90 percent of office trips are work trips.

² Assumes 7 percent of retail trips are work trips. Non-work trips would only include walk trips to transit.

³ Transit adjustments for residential uses only include walk trips to transit.

Source: *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey*, DKS, 2001.

Table references from the source are provided as follows:

^a Table A26

^b Table A27

^c The amount of transit use for each trip purpose is based on the following data from Table A33:

Travel Hours	Home-Work	Home-Non-Work	Non Home-Based	Total
AM Peak Hour	73,190	78,124	25,868	177,182
PM Peak Hour	60,563	67,068	47,784	175,415
Daily	473,704	861,535	557,764	1,893,003

Sacramento Commons
Proposed Project - Option 1 (Hotel) - October 2014 Land Uses
Parcel 1

Trip Generation Land Use Category	Amount	Source	Trips Generated									Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak			
				In	Out	Total	In	Out	Total	In	Out	In	Out		
Parcel 1															
Automobile Trips for New Project															
Retail (Shopping Center)	24.0 KSF	ITE (820)	2,686	40	25	65	110	120	230	62%	38%	48%	52%		
Residential															
High-rise Apartment (Includes Live/Work)	562 Units	ITE (222)	2,334	42	127	169	117	75	192	25%	75%	61%	39%		
Subtotal Residential	562 Units		2,334	42	127	169	117	75	192						
Other															
Total Trips for Site			5,020	82	152	234	227	195	422						
Transit Adjustments															
Office (-11.1%)			0	0	0	0	0	0	0						
Retail (-2.2%)			-59	-1	0	-1	-2	-3	-5						
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-114	-2	-5	-7	-6	-4	-10						
Total Transit Adjustments			-173	-3	-5	-8	-8	-7	-15						
Walk, Bike & Other Non-Auto Travel Adjustments															
Office (-2.8%)			0	0	0	0	0	0	0						
Retail (-11.6%)			-312	-5	-3	-8	-13	-14	-27						
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-908	-17	-51	-68	-45	-29	-74						
Total Walk, Bike & Other Non-Auto Travel Adjustments			-1,220	-22	-54	-76	-58	-43	-101						
Internal Trips Within This Site			-462	-6	-6	-12	-21	-21	-42						
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0						
External Automobile Trips for New Project															
Office (General Office Building)				0	0	0	0	0	0						
Retail (Shopping Center)				31	19	50	86	91	177						
Subtotal Residential				20	68	88	54	33	87						
Total External Automobile Trips for New Project			3,165	51	87	138	140	124	264						
External Auto Trips Percent of Total Project Trips			63%	62%	57%	59%	62%	64%	63%						
External Automobile Trips for Existing Land Uses															
Low-rise Apartment	69 Units	ITE (221)	-455	-9	-32	-41	-32	-17	-49	21%	79%	65%	35%		
New External Automobile Trips															
Total			2,710	42	55	97	108	107	215						
Transit Trips															
New Project															
Office (12.5%)			0	0	0	0	0	0	0						
Retail (2.6%)			70	1	1	2	3	3	6						
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			128	2	6	8	7	5	12						
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-25	0	-2	-2	-1	-1	-2						
Total Transit Trips			173	3	5	8	9	7	16						

Sacramento Commons
Proposed Project - Option 1 (Hotel) - October 2014 Land Uses
Parcel 2A

Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution				
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak		
				In	Out	Total	In	Out	Total	In	Out	In	Out	
Parcel 2A														
Automobile Trips for New Project														
Retail (Shopping Center)	4.5 KSF	ITE (820)	905	15	9	24	36	39	75	62%	38%	48%	52%	
Residential		ITE (221 - Daily)												
Mid-rise Apartment (Includes Live/Work)	221 Units	(223 - AM/PM)	1,519	24	54	78	55	40	95	31%	69%	58%	42%	
Subtotal Residential	221 Units		1,519	24	54	78	55	40	95					
Other														
Total Trips for Site			2,424	39	63	102	91	79	170					
Transit Adjustments														
Office (-11.1%)			0	0	0	0	0	0	0					
Retail (-2.2%)			-20	-1	0	-1	-1	-1	-2					
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-74	-1	-2	-3	-3	-2	-5					
Total Transit Adjustments			-94	-2	-2	-4	-4	-3	-7					
Walk, Bike & Other Non-Auto Travel Adjustments														
Office (-2.8%)			0	0	0	0	0	0	0					
Retail (-11.6%)			-105	-2	-1	-3	-4	-5	-9					
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-591	-10	-21	-31	-21	-16	-37					
Total Walk, Bike & Other Non-Auto Travel Adjustments			-696	-12	-22	-34	-25	-21	-46					
Internal Trips Within This Site			-156	-2	-2	-4	-7	-7	-14					
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0					
External Automobile Trips for New Project														
Office (General Office Building)				0	0	0	0	0	0					
Retail (Shopping Center)				11	7	18	28	29	57					
Subtotal Residential				12	30	42	27	19	46					
Total External Automobile Trips for New Project			1,478	23	37	60	55	48	103					
External Auto Trips Percent of Total Project Trips			61%	59%	59%	59%	60%	61%	61%					
External Automobile Trips for Existing Land Uses														
Low-rise Apartment	34 Units	ITE (221)	-224	-5	-18	-23	-17	-9	-26	21%	79%	65%	35%	
New External Automobile Trips														
Total			1,254	18	19	37	38	39	77					
Transit Trips														
New Project														
Office (12.5%)			0	0	0	0	0	0	0					
Retail (2.6%)			24	1	0	1	1	1	2					
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			84	1	3	4	3	3	6					
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-12	0	-1	-1	-1	0	-1					
Total Transit Trips			96	2	2	4	3	4	7					

Sacramento Commons
Proposed Project - Option 1 (Hotel) - October 2014 Land Uses
Parcel 2B

Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak	
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 2B													
Automobile Trips for New Project													
Retail (Shopping Center)	4.5 KSF	ITE (820)	905	15	9	24	36	39	75	62%	38%	48%	52%
Residential		ITE (221 - Daily)											
Mid-rise Apartment (Includes Live/Work)	221 Units	(223 - AM/PM)	1,519	24	54	78	55	40	95	31%	69%	58%	42%
Subtotal Residential	221 Units		1,519	24	54	78	55	40	95				
Other													
Total Trips for Site			2,424	39	63	102	91	79	170				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-20	-1	0	-1	-1	-1	-2				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-74	-1	-2	-3	-3	-2	-5				
Total Transit Adjustments			-94	-2	-2	-4	-4	-3	-7				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-105	-2	-1	-3	-4	-5	-9				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-591	-10	-21	-31	-21	-16	-37				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-696	-12	-22	-34	-25	-21	-46				
Internal Trips Within This Site			-156	-2	-2	-4	-7	-7	-14				
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0				
External Automobile Trips for New Project													
Office (General Office Building)			0	0	0	0	0	0	0				
Retail (Shopping Center)			11	7	18	28	29	57					
Subtotal Residential			12	30	42	27	19	46					
Total External Automobile Trips for New Project			1,478	23	37	60	55	48	103				
External Auto Trips Percent of Total Project Trips			61%	59%	59%	59%	60%	61%	61%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	34 Units	ITE (221)	-224	-5	-18	-23	-17	-9	-26	21%	79%	65%	35%
New External Automobile Trips													
Total			1,254	18	19	37	38	39	77				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			24	1	0	1	1	1	2				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			84	1	3	4	3	3	6				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-12	0	-1	-1	-1	0	-1				
Total Transit Trips			96	2	2	4	3	4	7				

Sacramento Commons
Proposed Project - Option 1 (Hotel) - October 2014 Land Uses
Parcel 3, 4A, and 4B

Trip Generation Land Use Category	Amount	Source	Trips Generated						Distribution				
			Weekday	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak			
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 3, 4A, and 4B													
Automobile Trips for New Project													
Retail (Shopping Center)	37.0 KSF	ITE (820)	3,559	53	32	85	148	160	308	62%	38%	48%	52%
Residential													
Hotel	300 Rooms	ITE (310)	2,312	94	65	159	92	88	180	59%	41%	51%	49%
		ITE(221 - Daily), ITE											
Mid-rise Apartment (Includes Live/Work)	53 Unites	(223 - AM/PM)	659	3	6	9	8	6	14	31%	69%	58%	42%
High-rise Apartment (Includes Live/Work)	114 Units	ITE (222)	621	9	26	35	30	19	49	25%	75%	61%	39%
Subtotal Residential	467 Units		3,592	106	97	203	130	113	243				
Other													
Total Trips for Site			7,151	159	129	288	278	273	551				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-78	-1	-1	-2	-3	-4	-7				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-176	-5	-4	-9	-7	-6	-13				
Total Transit Adjustments			-254	-6	-5	-11	-10	-10	-20				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-413	-6	-4	-10	-17	-19	-36				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-1,397	-42	-39	-81	-50	-44	-94				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-1,810	-48	-43	-91	-67	-63	-130				
Internal Trips Within This Site			-614	-7	-7	-14	-28	-28	-56				
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0				
External Automobile Trips for New Project													
Office (General Office Building)				0	0	0	0	0	0				
Retail (Shopping Center)				42	24	66	116	121	237				
Subtotal Residential				56	50	106	57	51	108				
Total External Automobile Trips for New Project			4,473	98	74	172	173	172	345				
External Auto Trips Percent of Total Project Trips			63%	62%	57%	60%	62%	63%	63%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	69 Units	ITE (221)	-455	-9	-32	-41	-32	-17	-49	21%	79%	65%	35%
New External Automobile Trips													
Total			4,018	89	42	131	141	155	296				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			93	1	1	2	4	4	8				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			198	5	5	10	8	7	15				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-25	0	-2	-2	-1	-1	-2				
Total Transit Trips			266	6	4	10	11	10	21				

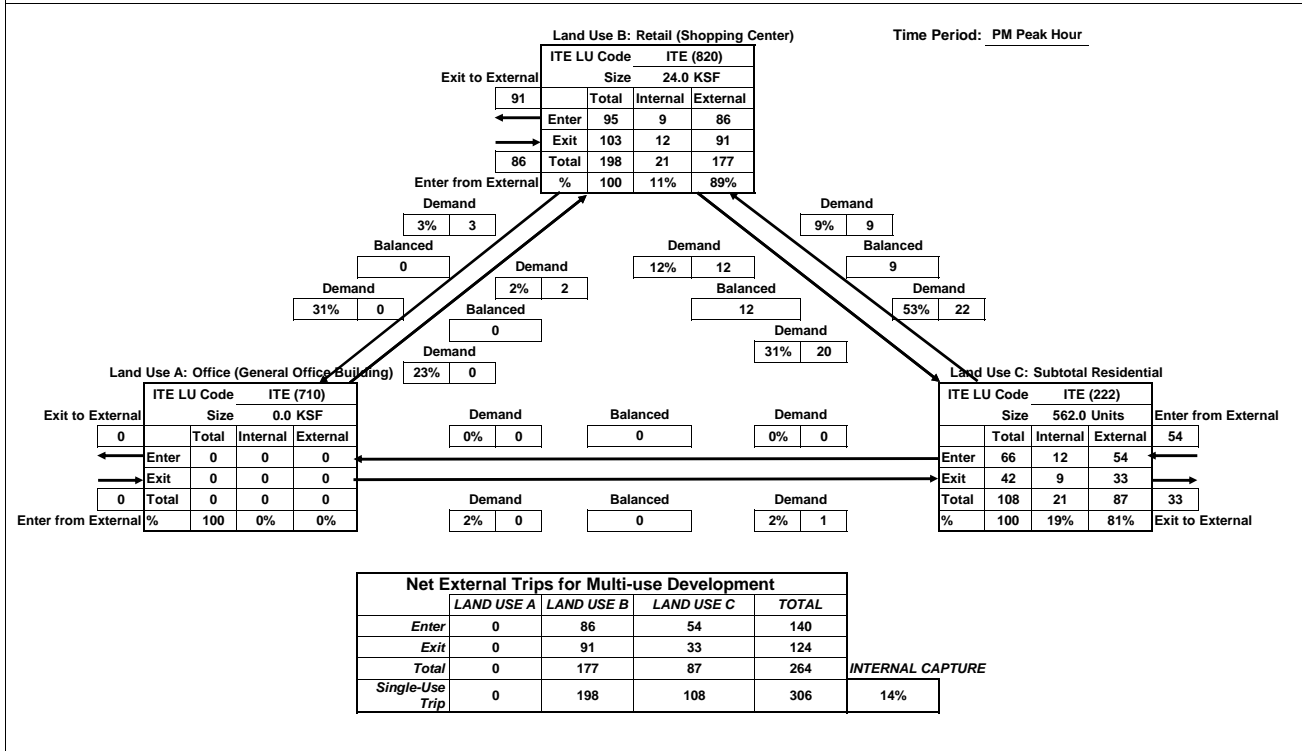
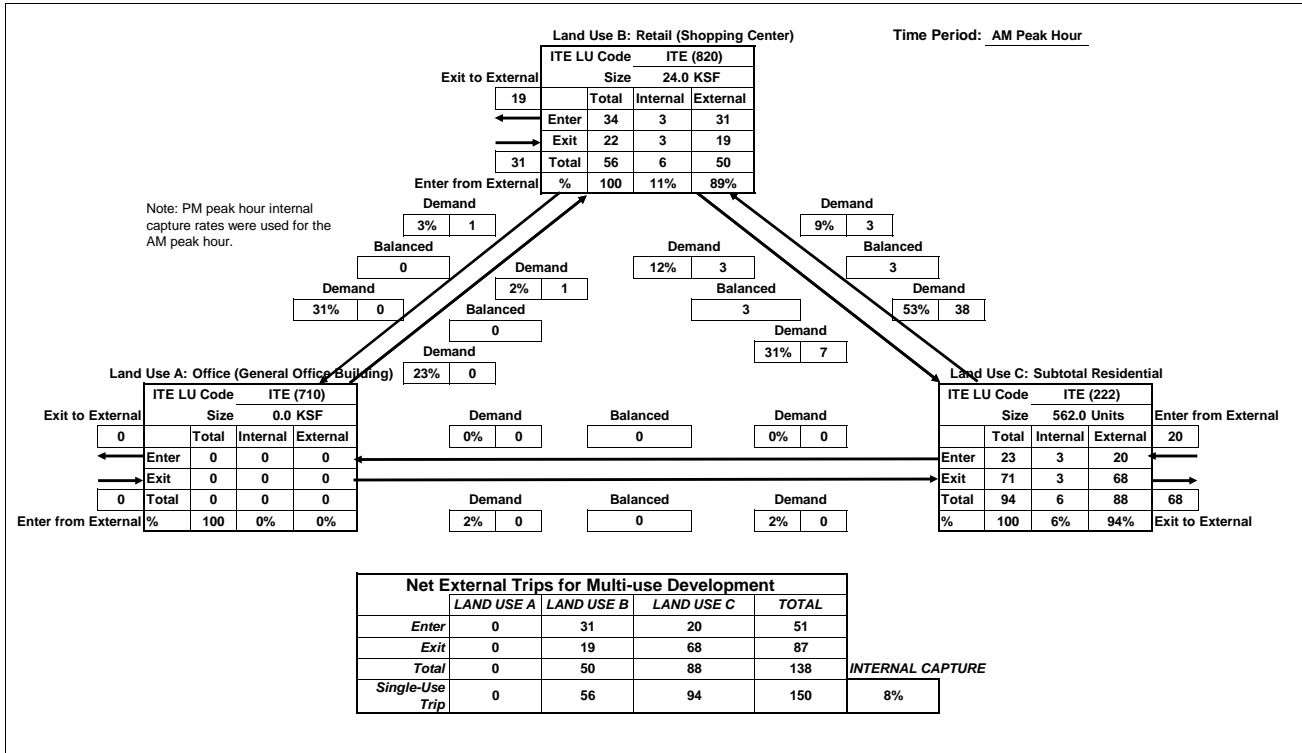
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 1**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons

Date: 12/19/2014

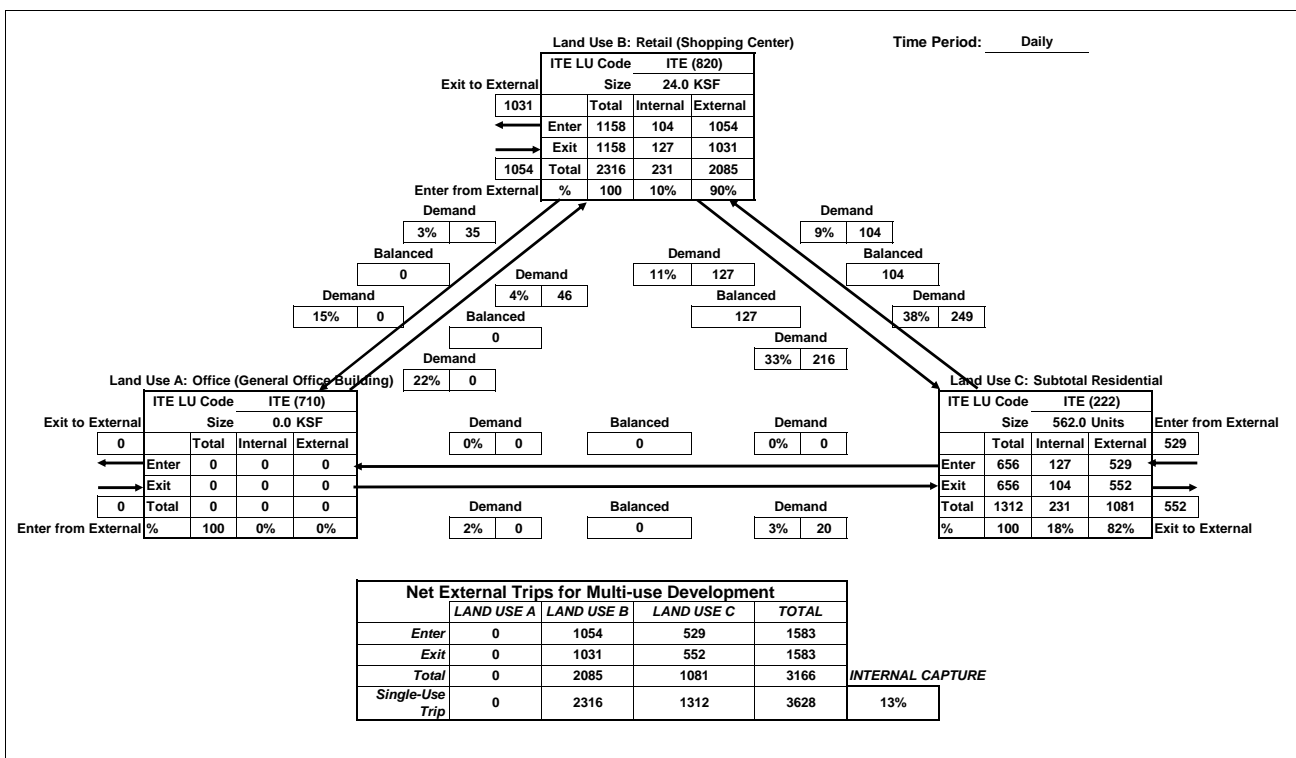
Proposed Project - Option 1 (Hotel) - October 2014 Land Uses



**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 1**

Date: 12/19/2014

Time Period: Daily



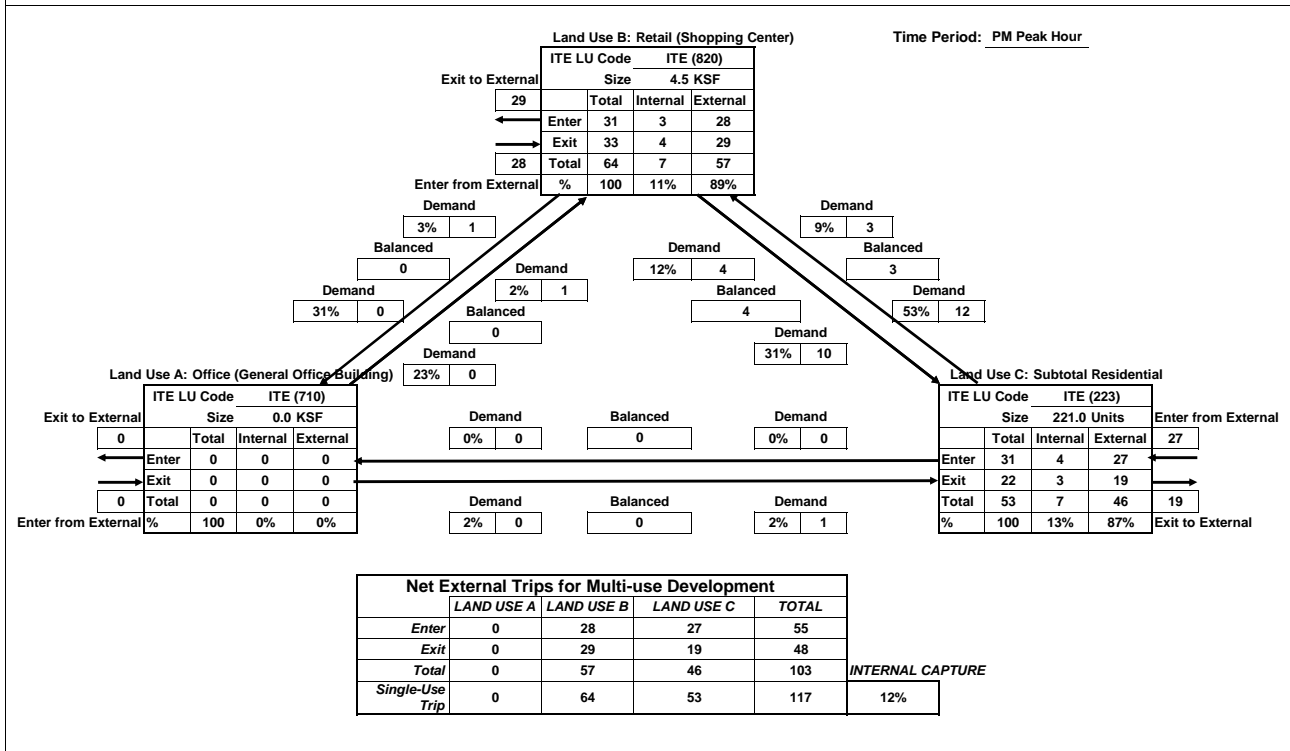
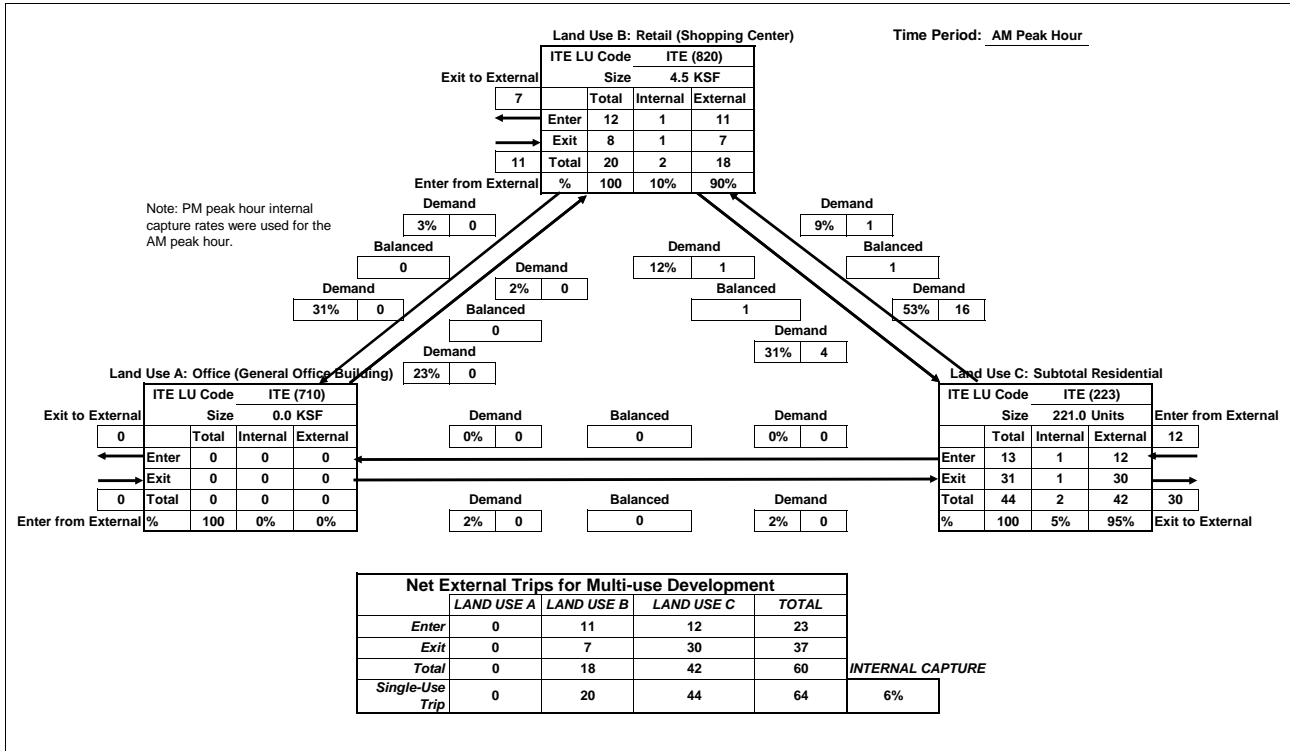
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2A**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons

Date: 12/19/2014

Proposed Project - Option 1 (Hotel) - October 2014 Land Uses



**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2A**

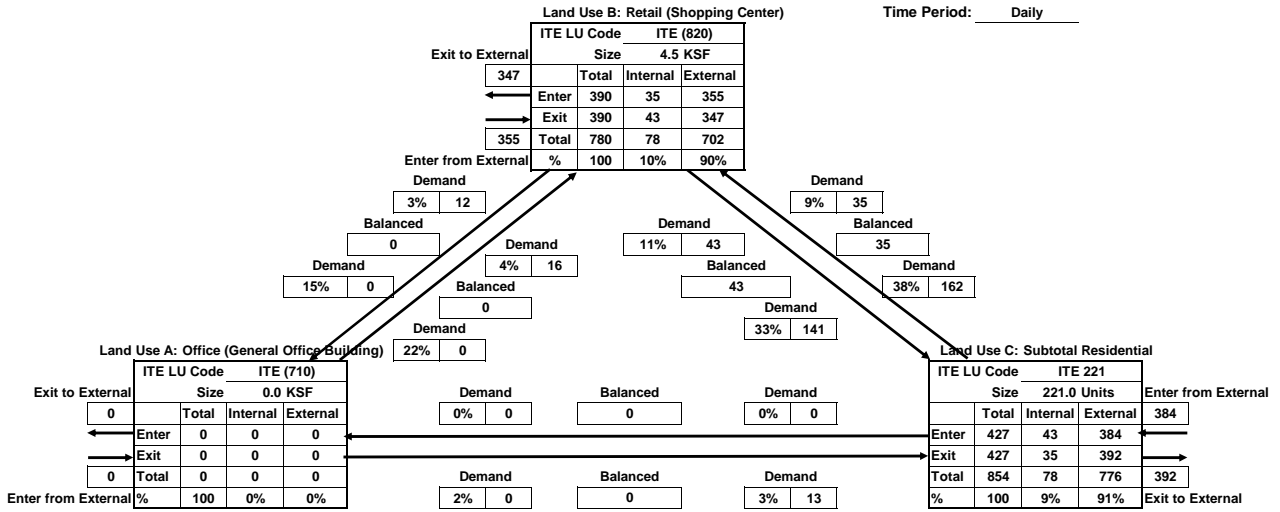
Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons

Date: 12/19/2014

Proposed Project - Option 1 (Hotel) - October 2014 Land Uses

Time Period: Daily



Net External Trips for Multi-use Development					
	LAND USE A	LAND USE B	LAND USE C	TOTAL	
Enter	0	355	384	739	
Exit	0	347	392	739	
Total	0	702	776	1478	
Single-Use Trip	0	780	854	1634	INTERNAL CAPTURE 10%

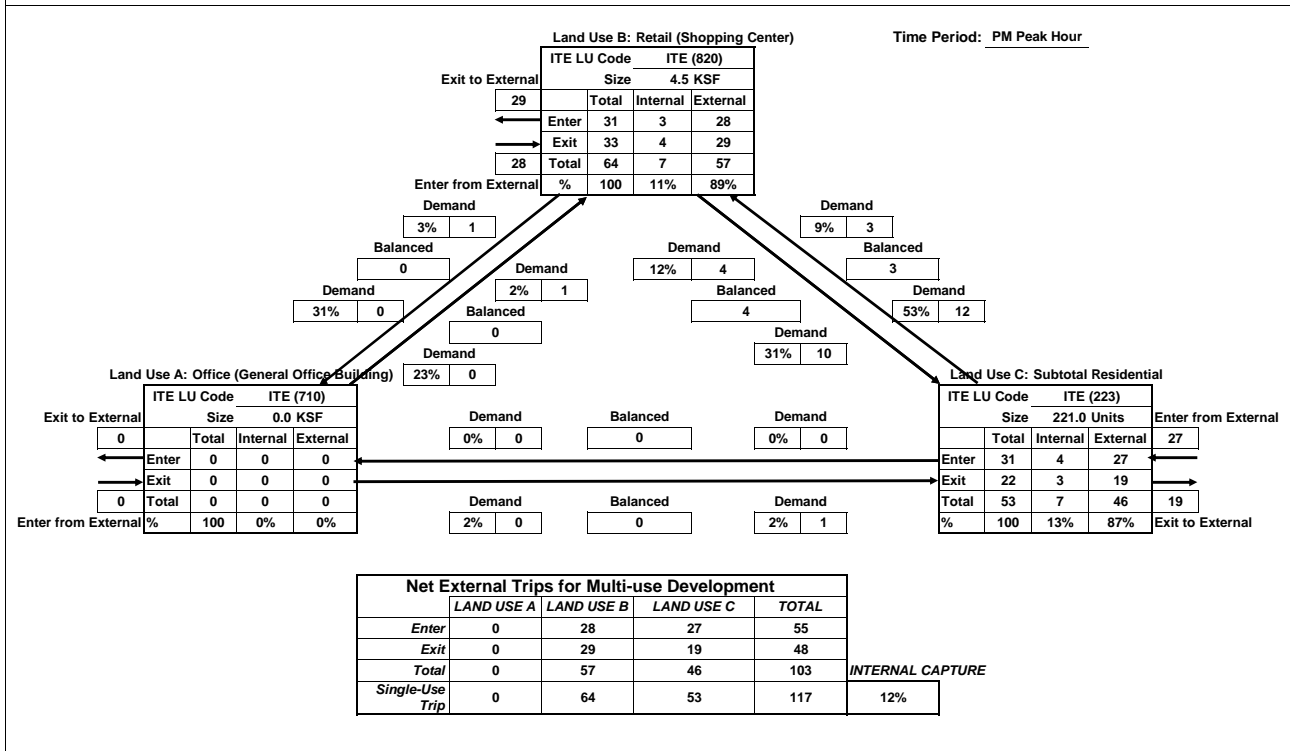
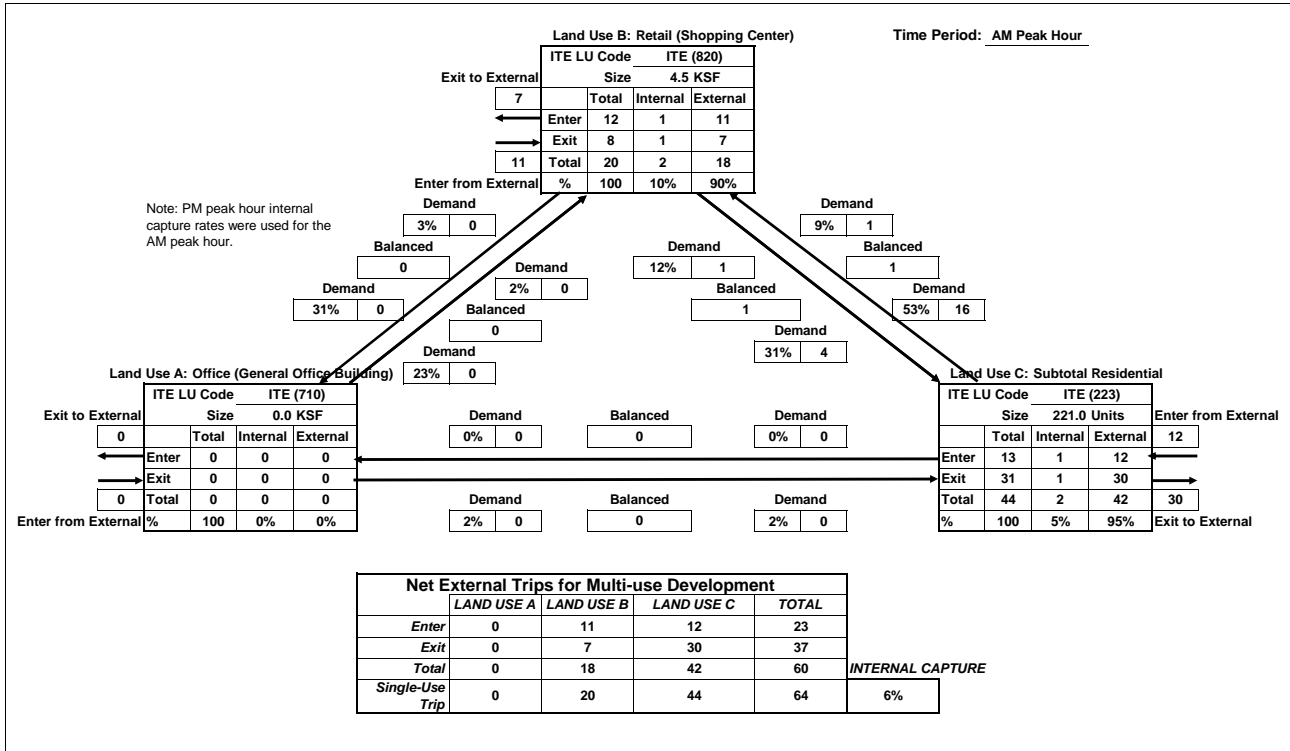
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons

Date: 12/19/2014

Proposed Project - Option 1 (Hotel) - October 2014 Land Uses



**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2B**

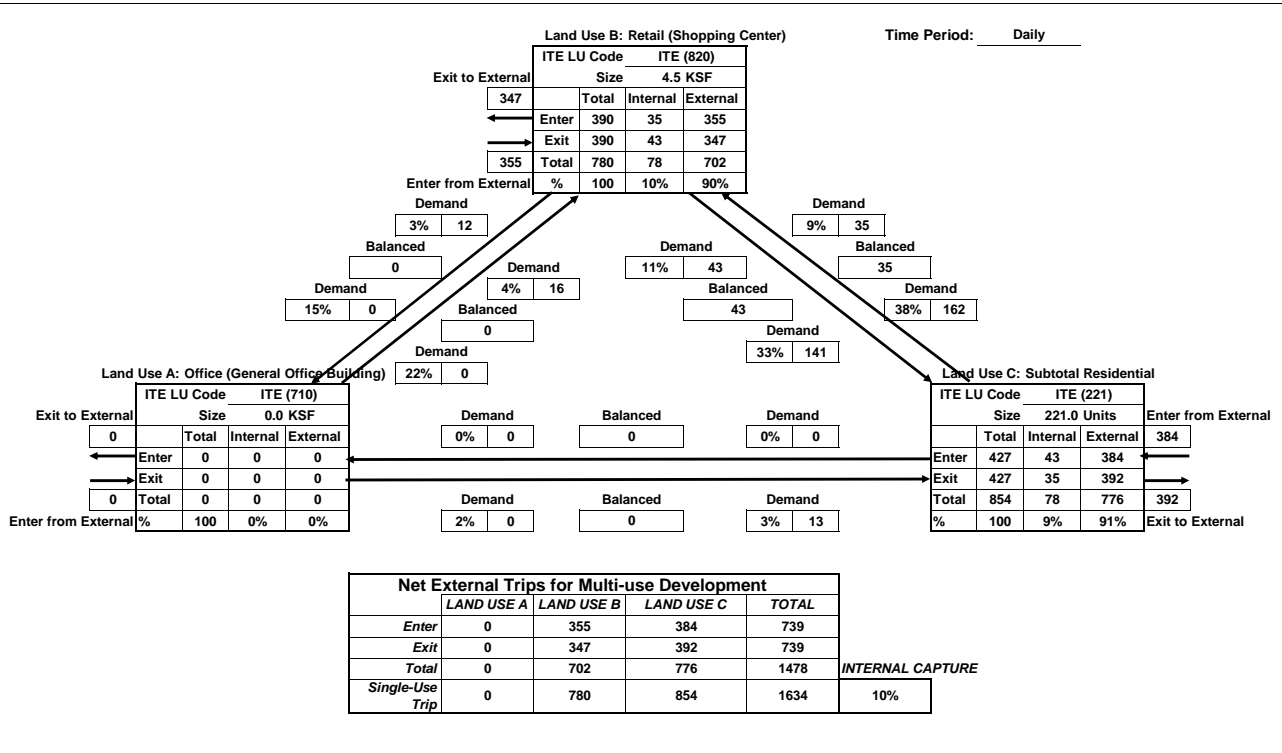
Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons

Date: 12/19/2014

Proposed Project - Option 1 (Hotel) - October 2014 Land Uses

Time Period: Daily



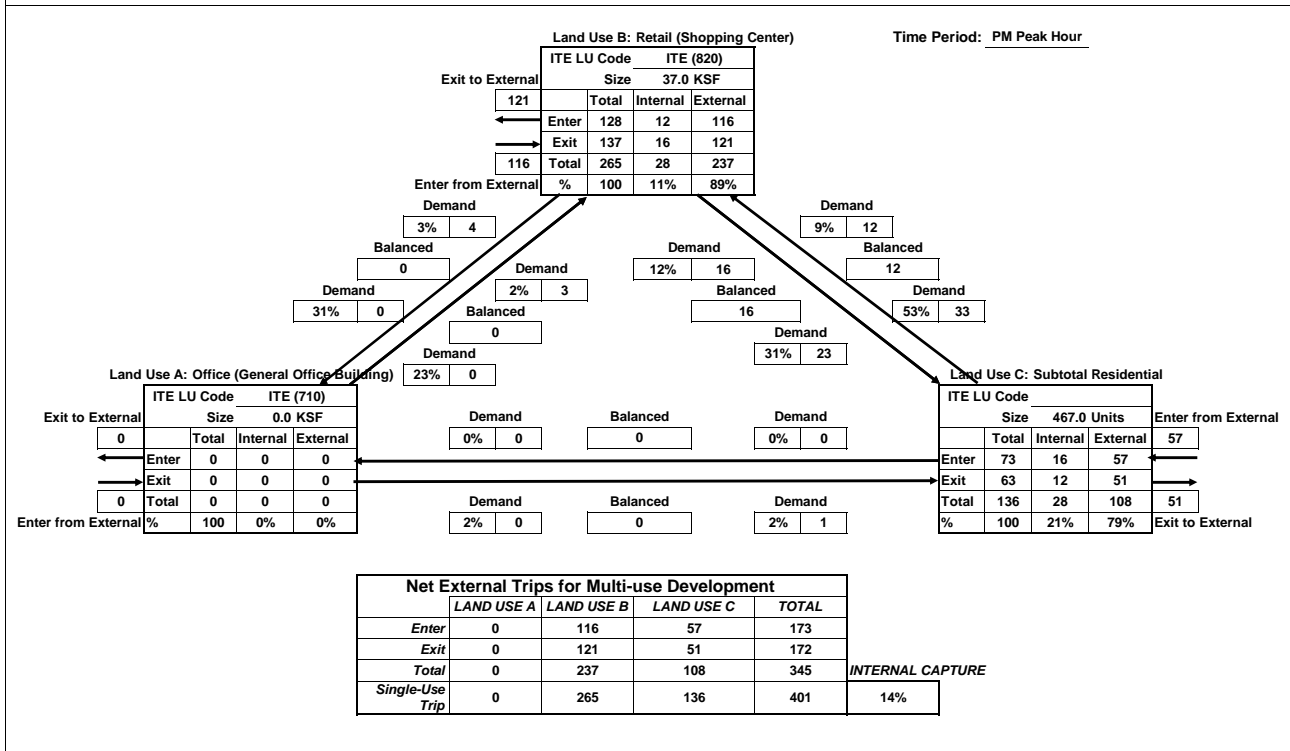
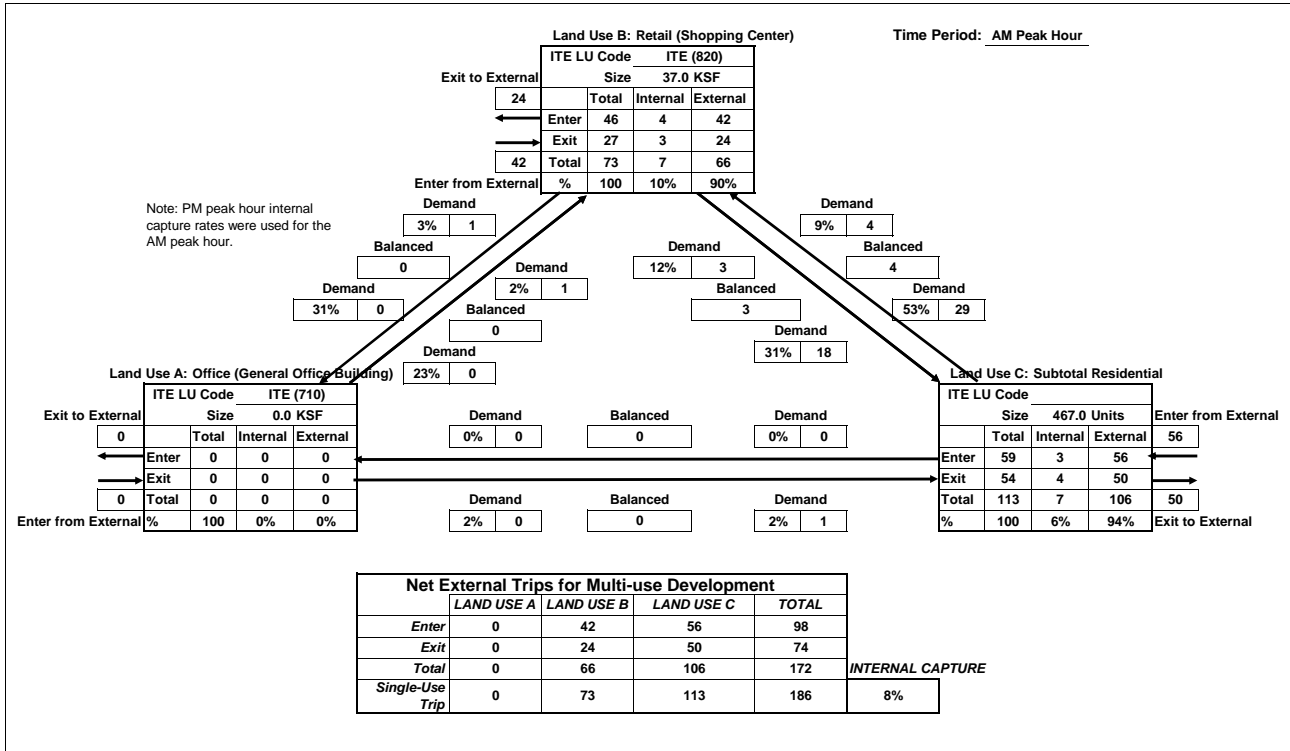
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 3, 4A, and 4B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons

Date: 12/19/2014

Proposed Project - Option 1 (Hotel) - October 2014 Land Uses



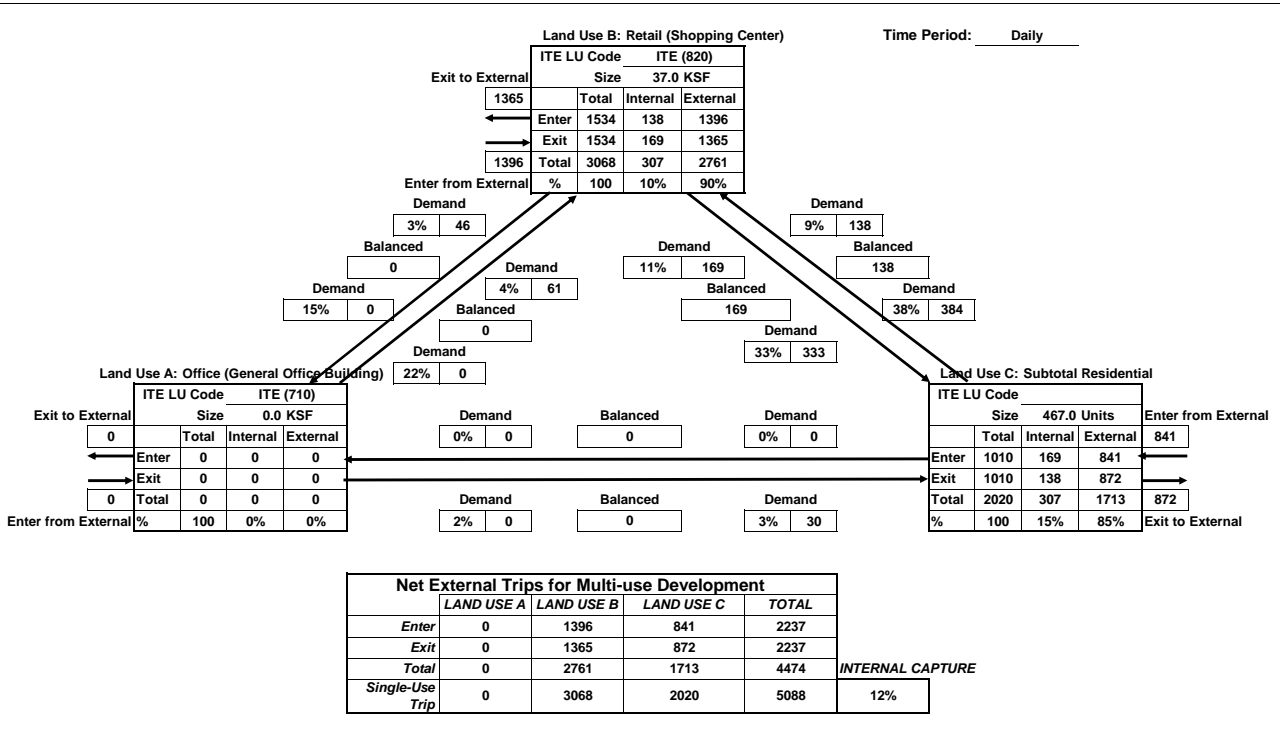
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 3, 4A, and 4B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 1 (Hotel) - October 2014 Land Uses

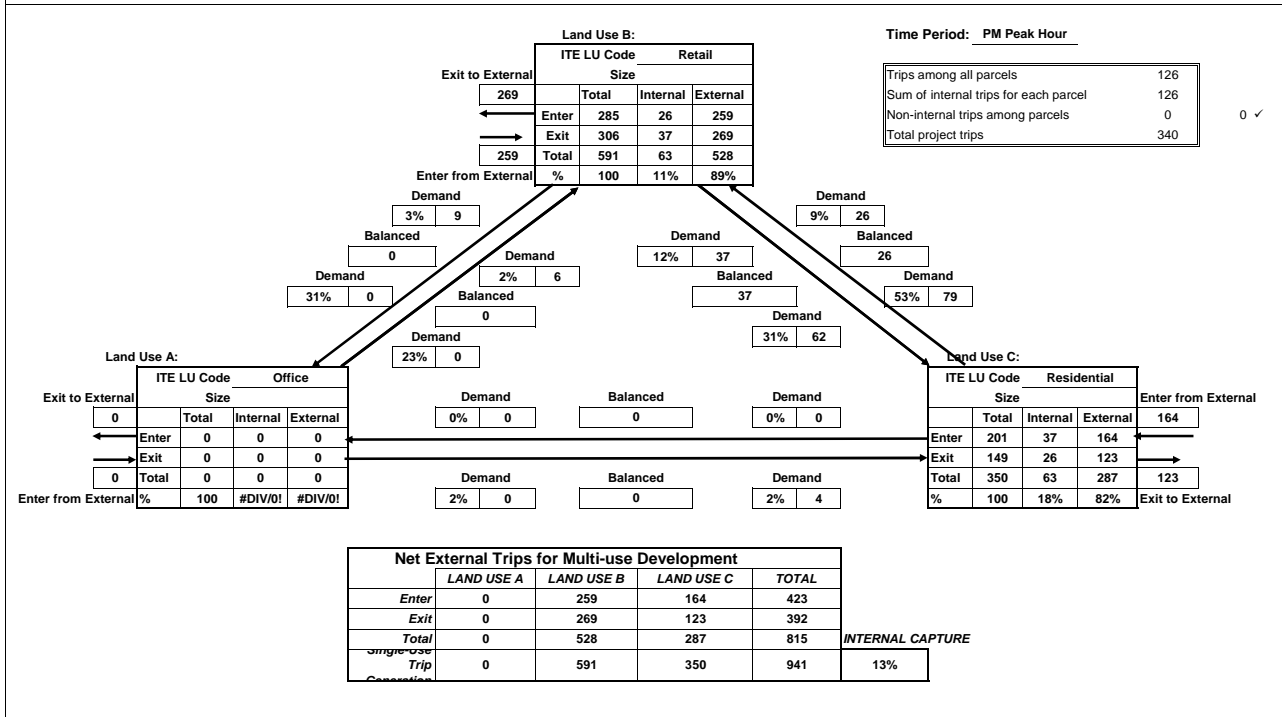
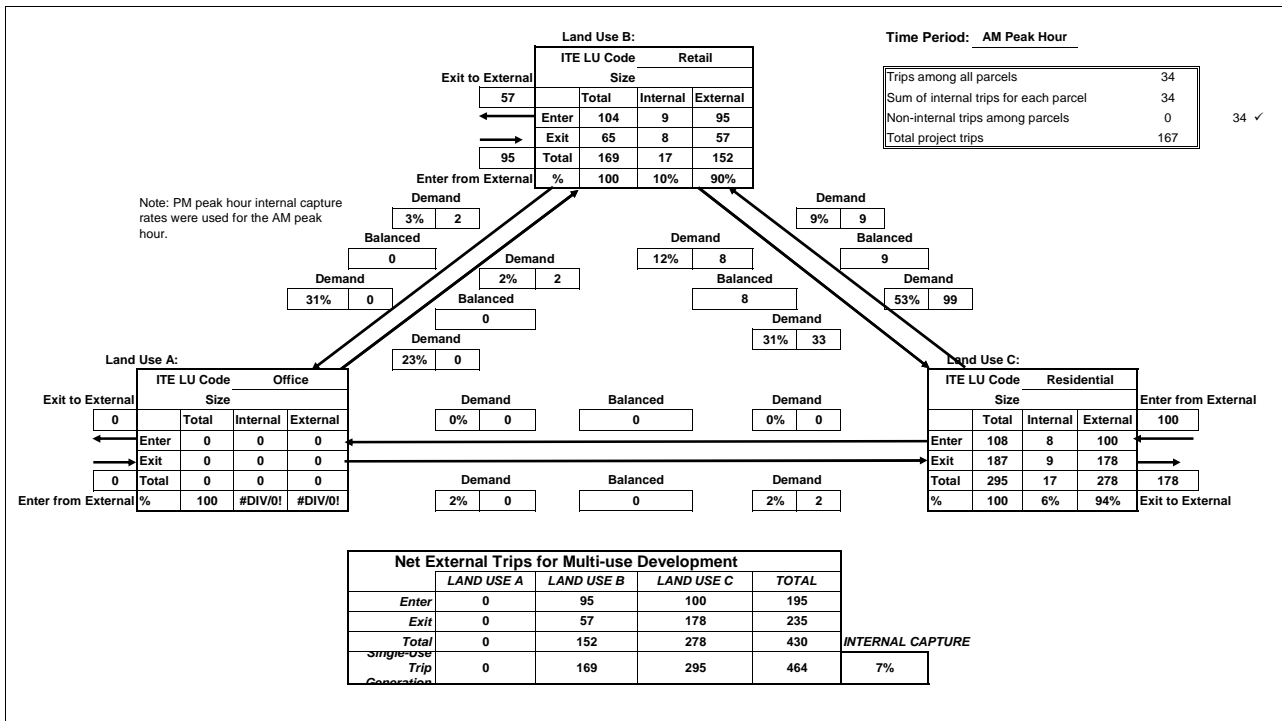
Date: 12/19/2014

Time Period: Daily



**MULTI-USE DEVELOPMENT
TRIP GENERATION
TRIPS AMONG ALL PARCELS**

Date: 12/19/2014

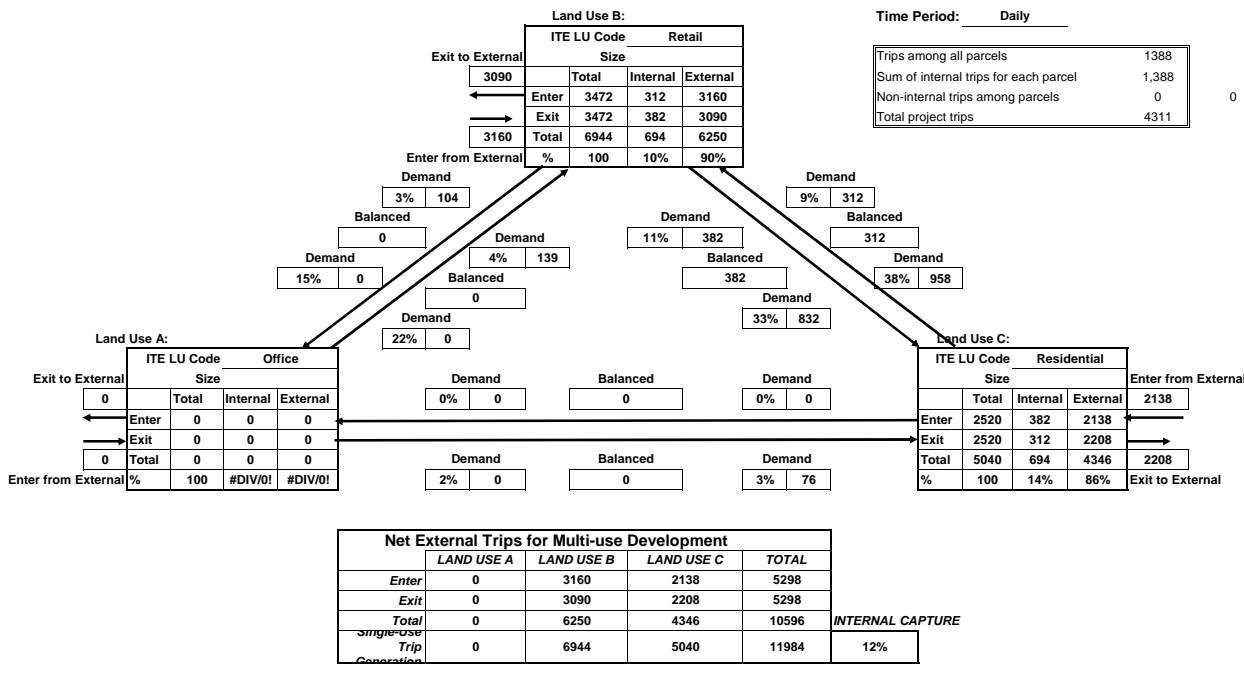


**MULTI-USE DEVELOPMENT
TRIP GENERATION
TRIPS AMONG ALL PARCELS**

Date: 12/19/2014

Time Period: Daily

Trips among all parcels	1388
Sum of internal trips for each parcel	1,388
Non-internal trips among parcels	0
Total project trips	4311



Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions

Trip Generation for Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions								
Land Use	Amount	Trips Generated						
		Weekday	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Parcel 1								
Retail (Shopping Center)	24.0 KSF	2,686	40	25	65	110	120	230
High-rise Apartment (Includes Live/Work)	562 Units	2,334	42	127	169	117	75	192
Total Trips for Site		5,020	82	152	234	227	195	422
Transit Adjustments (-3.4%)		-173	-3	-5	-8	-8	-7	-15
Walk, Bike & Other Non-Auto Travel Adjustments (-24.3%)		-1,220	-22	-54	-76	-58	-43	-101
Internal Trips Within This Site (-9.2%)		-462	-6	-6	-12	-21	-21	-42
Trips To-From Other Sites within the Project (0%)		-2	0	0	0	0	0	0
Total External Automobile Trips for New Project		3,163	51	87	138	140	124	264
External Automobile Trips for Existing Land Uses		-455	-9	-32	-41	-32	-17	-49
New External Automobile Trips		2,708	42	55	97	108	107	215
Parcel 2A								
Retail (Shopping Center)	4.5 KSF	905	15	9	24	36	39	75
Mid-rise Apartment (Includes Live/Work)	221 Units	1,519	24	54	78	55	40	95
Total Trips for Site		2,424	39	63	102	91	79	170
Transit Adjustments (-3.9%)		-94	-2	-2	-4	-4	-3	-7
Walk, Bike & Other Non-Auto Travel Adjustments (-28.7%)		-696	-12	-22	-34	-25	-21	-46
Internal Trips Within This Site (-6.4%)		-156	-2	-2	-4	-7	-7	-14
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		1,478	23	37	60	55	48	103
External Automobile Trips for Existing Land Uses		-224	-5	-18	-23	-17	-9	-26
New External Automobile Trips		1,254	18	19	37	38	39	77
Parcel 2B								
Retail (Shopping Center)	4.5 KSF	905	15	9	24	36	39	75
Mid-rise Apartment (Includes Live/Work)	221 Units	1,519	24	54	78	55	40	95
Total Trips for Site		2,424	39	63	102	91	79	170
Transit Adjustments (-3.9%)		-94	-2	-2	-4	-4	-3	-7
Walk, Bike & Other Non-Auto Travel Adjustments (-28.7%)		-696	-12	-22	-34	-25	-21	-46
Internal Trips Within This Site (-6.4%)		-156	-2	-2	-4	-7	-7	-14
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		1,478	23	37	60	55	48	103
External Automobile Trips for Existing Land Uses		-224	-5	-18	-23	-17	-9	-26
New External Automobile Trips		1,254	18	19	37	38	39	77
Parcel 3, 4A, and 4B								
Retail (Shopping Center)	19.0 KSF	2,307	35	22	57	95	102	197
Mid-rise Apartment (Includes Live/Work)	53 rooms	659	3	6	9	8	6	14
High-rise Apartment (Includes Live/Work)	210 Units	1,031	16	48	64	49	31	80
Total Trips for Site		3,997	54	76	130	152	139	291
Transit Adjustments (-3.4%)		-134	-2	-2	-4	-5	-4	-9
Walk, Bike & Other Non-Auto Travel Adjustments (-23.1%)		-925	-12	-24	-36	-33	-26	-59
Internal Trips Within This Site (-9.9%)		-396	-5	-5	-10	-17	-17	-34
Trips To-From Other Sites within the Project (-0.1%)		-2	0	0	0	0	0	0
Total External Automobile Trips for New Project		2,540	35	45	80	97	92	189
External Automobile Trips for Existing Land Uses		-455	-9	-32	-41	-32	-17	-49
New External Automobile Trips		2,085	26	13	39	65	75	140
Total Project Trips								
Retail (Shopping Center)	52.0 KSF	6,803	105	65	170	277	300	577
Mid-rise Apartment (Includes Live/Work)	495 Units	3,697	51	114	165	118	86	204
High-rise Apartment (Includes Live/Work)	772 Units	3,365	58	175	233	166	106	272
Total Project Trips		13,865	214	354	568	561	492	1,053
Transit Adjustments (-3.6%)		-495	-9	-11	-20	-21	-17	-38
Walk, Bike & Other Non-Auto Travel Adjustments (-25.5%)		-3,537	-58	-122	-180	-141	-111	-252
Internal Trips Within This Site (-8.4%)		-1,170	-15	-15	-30	-52	-52	-104
Trips To-From Other Sites within the Project (0%)		-4	0	0	0	0	0	0
Total External Automobile Trips for New Project		8,659	132	206	338	347	312	659
External Automobile Trips for Existing Land Uses		-1,358	-28	-100	-128	-98	-52	-150
New External Automobile Trips		7,301	104	106	210	249	260	509

Source: Kittelson & Associates, Inc. 2014

62.5%

59.5%

62.6%

Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions

New Transit Trips for Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions (By City Block)							
City Block	Net New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1	173	3	5	8	9	7	16
Parcel 2A	96	2	2	4	3	4	7
Parcel 2B	96	2	2	4	3	4	7
Parcel 3, 4A, and 4B	128	2	1	3	5	4	9
Net New Transit Trips	493	9	10	19	20	19	39

Source: Kittelson & Associates, Inc. 2014

Sacramento Commons
Adjustments to ITE Trip Generation Rates for High Non-Auto Travel

Shares of Total Trips			
Transit Shares	Work Trips^a	Non-Work Trips^b	Total
Walk Access			
Downtown	7.4%	1.8%	
Suburban	1.4%	0.3%	
Increase Above Suburban Conditions	6.0%	1.5%	
Drive Access			
Downtown	6.2%	1.2%	
Suburban	0.1%	0.3%	
Increase Above Suburban Conditions	6.1%	0.9%	
Walk, Bike & Other Non-Auto Shares			
Downtown	4.5%	18.8%	
Suburban	2.8%	6.5%	
Increase Above Suburban Conditions	1.7%	12.3%	

Capitol Towers Survey Data	
Transit Shares	
AM Peak Hour	5%
PM Peak Hour	6%
Walk Shares	
AM Peak Hour	45%
PM Peak Hour	44%

Adjustments for Higher Transit Use Downtown			
Office¹	10.9%	0.2%	11.1%
Retail²	0.8%	1.4%	2.2%
	Home-Work	Home-Non-Work	Non Home-Based
Residential^{3,c}			Total
AM Peak Hour			4.2%
PM Peak Hour			5.3%
Daily			4.9%

Suburban Transit Shares			
	Home-Work	Home-Non-Work	Non Home-Based
			Total
	0.6%	0.1%	0.0%
	0.5%	0.1%	0.1%
	0.4%	0.1%	0.1%

Adjustments for Higher Walk, Bike & Other Non-Auto Travel Downtown			
Office¹	1.5%	1.2%	2.8%
Retail²	0.1%	11.4%	11.6%
	Home-Work	Home-Non-Work	Non Home-Based
Residential^c			Total
AM Peak Hour			40.0%
PM Peak Hour			38.8%
Daily			38.9%

Suburban Walk, Bike, Other Shares			
	Home-Work	Home-Non-Work	Non Home-Based
			Total
	1.2%	2.9%	0.9%
	1.0%	2.5%	1.8%
	0.7%	3.0%	1.9%

Transit Trips			
	Work Trips	Non-Work Trips	Total
Office¹	12.2%	0.3%	12.5%
Retail²	1.0%	1.7%	2.6%
	Home-Work	Home-Non-Work	Non Home-Based
Residential			
AM Peak Hour			5.0%
PM Peak Hour			6.0%
Daily			5.5%

¹ Assumes 90 percent of office trips are work trips.

² Assumes 7 percent of retail trips are work trips. Non-work trips would only include walk trips to transit.

³ Transit adjustments for residential uses only include walk trips to transit.

Source: *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey*, DKS, 2001.

Table references from the source are provided as follows:

^a Table A26

^b Table A27

^c The amount of transit use for each trip purpose is based on the following data from Table A33:

Travel Hours	Home-Work	Home-Non-Work	Non Home-Based	Total
AM Peak Hour	73,190	78,124	25,868	177,182
PM Peak Hour	60,563	67,068	47,784	175,415
Daily	473,704	861,535	557,764	1,893,003

Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions
Parcel 1

Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak	
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 1													
Automobile Trips for New Project													
Retail (Shopping Center)	24.0 KSF	ITE (820)	2,686	40	25	65	110	120	230	62%	38%	48%	52%
Residential													
High-rise Apartment (Includes Live/Work)	562 Units	ITE (222)	2,334	42	127	169	117	75	192	25%	75%	61%	39%
Subtotal Residential	562 Units		2,334	42	127	169	117	75	192				
Other													
Total Trips for Site			5,020	82	152	234	227	195	422				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-59	-1	0	-1	-2	-3	-5				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-114	-2	-5	-7	-6	-4	-10				
Total Transit Adjustments			-173	-3	-5	-8	-8	-7	-15				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-312	-5	-3	-8	-13	-14	-27				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-908	-17	-51	-68	-45	-29	-74				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-1,220	-22	-54	-76	-58	-43	-101				
Internal Trips Within This Site			-462	-6	-6	-12	-21	-21	-42				
Trips To-From Other Sites within the Project			-2	0	0	0	0	0	0				
External Automobile Trips for New Project													
Office (General Office Building)				0	0	0	0	0	0				
Retail (Shopping Center)				31	19	50	86	91	177				
Subtotal Residential				20	68	88	54	33	87				
Total External Automobile Trips for New Project			3,163	51	87	138	140	124	264				
External Auto Trips Percent of Total Project Trips			63%	62%	57%	59%	62%	64%	63%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	69 Units	ITE (221)	-455	-9	-32	-41	-32	-17	-49	21%	79%	65%	35%
New External Automobile Trips													
Total			2,708	42	55	97	108	107	215				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			70	1	1	2	3	3	6				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			128	2	6	8	7	5	12				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-25	0	-2	-2	-1	-1	-2				
Total Transit Trips			173	3	5	8	9	7	16				
			493	9	10	19	20	19	39				

Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions
Parcel 2A

Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution				
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak		
				In	Out	Total	In	Out	Total	In	Out	In	Out	
Parcel 2A														
Automobile Trips for New Project														
Retail (Shopping Center)	4.5 KSF	ITE (820)	905	15	9	24	36	39	75	62%	38%	48%	52%	
Residential		ITE (221 - Daily)												
Mid-rise Apartment (Includes Live/Work)	221 Units	(223 - AM/PM)	1,519	24	54	78	55	40	95	31%	69%	58%	42%	
Subtotal Residential	221 Units		1,519	24	54	78	55	40	95					
Other														
Total Trips for Site			2,424	39	63	102	91	79	170					
Transit Adjustments														
Office (-11.1%)			0	0	0	0	0	0	0					
Retail (-2.2%)			-20	-1	0	-1	-1	-1	-2					
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-74	-1	-2	-3	-3	-2	-5					
Total Transit Adjustments			-94	-2	-2	-4	-4	-3	-7					
Walk, Bike & Other Non-Auto Travel Adjustments														
Office (-2.8%)			0	0	0	0	0	0	0					
Retail (-11.6%)			-105	-2	-1	-3	-4	-5	-9					
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-591	-10	-21	-31	-21	-16	-37					
Total Walk, Bike & Other Non-Auto Travel Adjustments			-696	-12	-22	-34	-25	-21	-46					
Internal Trips Within This Site			-156	-2	-2	-4	-7	-7	-14					
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0					
External Automobile Trips for New Project														
Office (General Office Building)			0	0	0	0	0	0	0					
Retail (Shopping Center)			11	7	18	28	29	57						
Subtotal Residential			12	30	42	27	19	46						
Total External Automobile Trips for New Project			1,478	23	37	60	55	48	103					
External Auto Trips Percent of Total Project Trips			61%	59%	59%	59%	60%	61%	61%					
External Automobile Trips for Existing Land Uses														
Low-rise Apartment	34 Units	ITE (221)	-224	-5	-18	-23	-17	-9	-26	21%	79%	65%	35%	
New External Automobile Trips														
Total			1,254	18	19	37	38	39	77					
Transit Trips														
New Project														
Office (12.5%)			0	0	0	0	0	0	0					
Retail (2.6%)			24	1	0	1	1	1	2					
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			84	1	3	4	3	3	6					
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-12	0	-1	-1	-1	0	-1					
Total Transit Trips			96	2	2	4	3	4	7					

Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions
Parcel 2B

Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution				
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak		
				In	Out	Total	In	Out	Total	In	Out	In	Out	
Parcel 2B														
Automobile Trips for New Project														
Retail (Shopping Center)	4.5 KSF	ITE (820)	905	15	9	24	36	39	75	62%	38%	48%	52%	
Residential		ITE (221 - Daily)												
Mid-rise Apartment (Includes Live/Work)	221 Units	(223 - AM/PM)	1,519	24	54	78	55	40	95	31%	69%	58%	42%	
Subtotal Residential	221 Units		1,519	24	54	78	55	40	95					
Other														
Total Trips for Site			2,424	39	63	102	91	79	170					
Transit Adjustments														
Office (-11.1%)			0	0	0	0	0	0	0					
Retail (-2.2%)			-20	-1	0	-1	-1	-1	-2					
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-74	-1	-2	-3	-3	-2	-5					
Total Transit Adjustments			-94	-2	-2	-4	-4	-3	-7					
Walk, Bike & Other Non-Auto Travel Adjustments														
Office (-2.8%)			0	0	0	0	0	0	0					
Retail (-11.6%)			-105	-2	-1	-3	-4	-5	-9					
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-591	-10	-21	-31	-21	-16	-37					
Total Walk, Bike & Other Non-Auto Travel Adjustments			-696	-12	-22	-34	-25	-21	-46					
Internal Trips Within This Site			-156	-2	-2	-4	-7	-7	-14					
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0					
External Automobile Trips for New Project														
Office (General Office Building)			0	0	0	0	0	0	0					
Retail (Shopping Center)			11	7	18	28	29	57						
Subtotal Residential			12	30	42	27	19	46						
Total External Automobile Trips for New Project			1,478	23	37	60	55	48	103					
External Auto Trips Percent of Total Project Trips			61%	59%	59%	59%	60%	61%	61%					
External Automobile Trips for Existing Land Uses														
Low-rise Apartment	34 Units	ITE (221)	-224	-5	-18	-23	-17	-9	-26	21%	79%	65%	35%	
New External Automobile Trips														
Total			1,254	18	19	37	38	39	77					
Transit Trips														
New Project														
Office (12.5%)			0	0	0	0	0	0	0					
Retail (2.6%)			24	1	0	1	1	1	2					
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			84	1	3	4	3	3	6					
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-12	0	-1	-1	-1	0	-1					
Total Transit Trips			96	2	2	4	3	4	7					

Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions
Parcel 3, 4A, and 4B

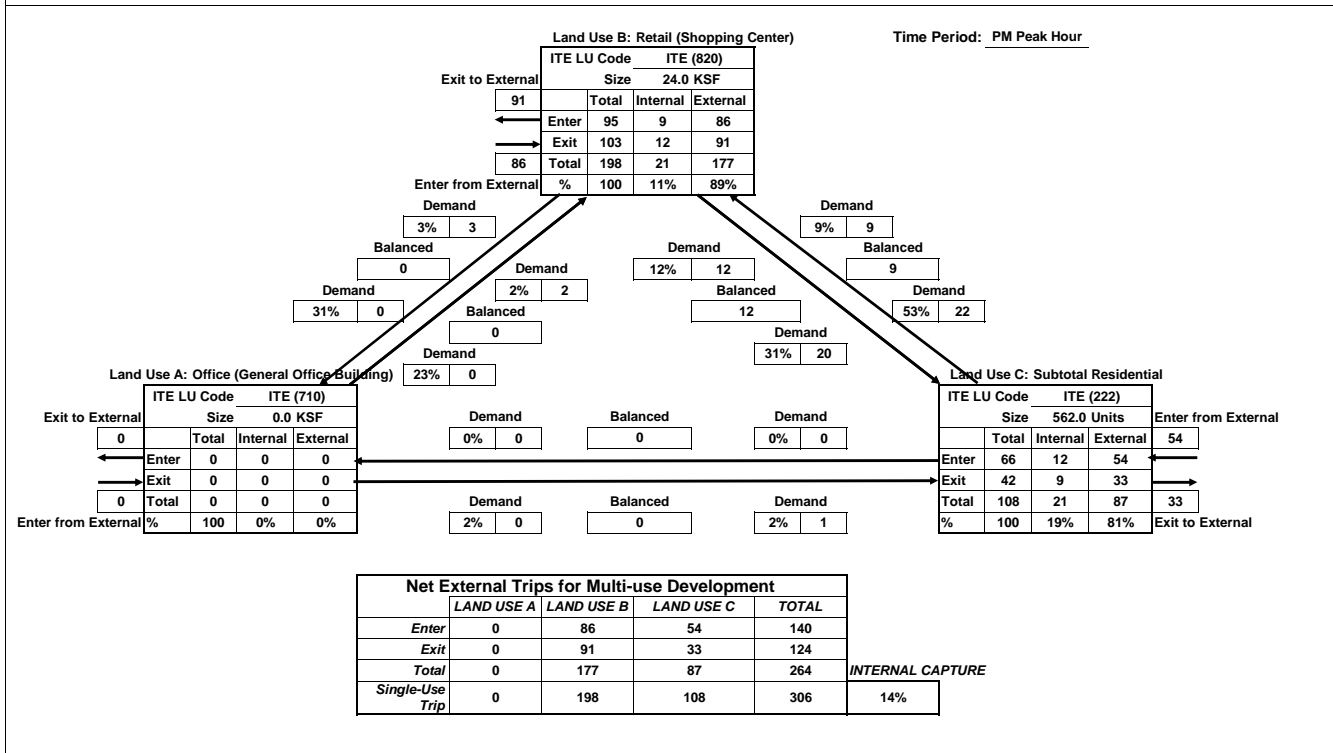
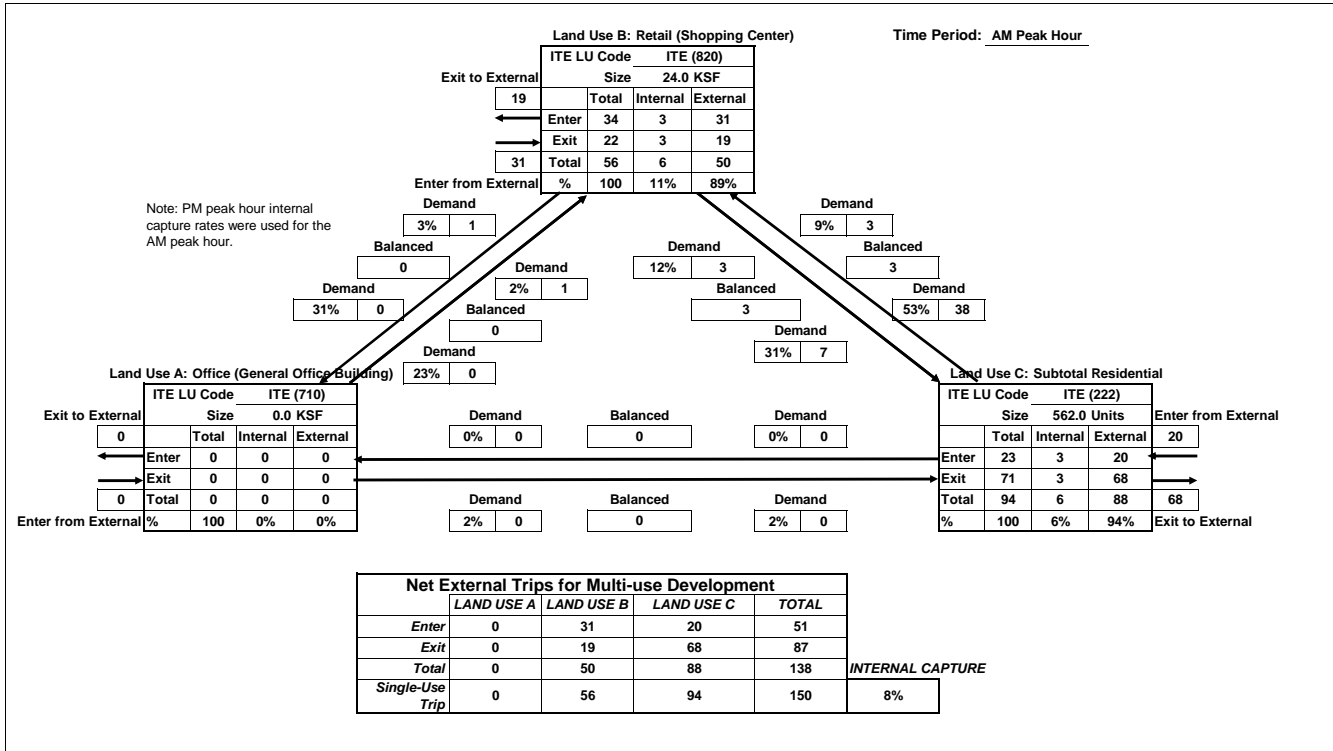
Trip Generation Land Use Category	Amount	Source	Trips Generated						Distribution				
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak	
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 3, 4A, and 4B													
Automobile Trips for New Project													
Retail (Shopping Center)	19.0 KSF	ITE (820)	2,307	35	22	57	95	102	197	62%	38%	48%	52%
Residential													
		ITE (221 - Daily)											
Mid-rise Apartment (Includes Live/Work)	53 rooms	(223 - AM/PM)	659	3	6	9	8	6	14	31%	69%	58%	42%
High-rise Apartment (Includes Live/Work)	210 Units	ITE (222)	1,031	16	48	64	49	31	80	25%	75%	61%	39%
Subtotal Residential	263 Units		1,690	19	54	73	57	37	94				
Other													
Total Trips for Site			3,997	54	76	130	152	139	291				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-51	-1	0	-1	-2	-2	-4				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-83	-1	-2	-3	-3	-2	-5				
Total Transit Adjustments			-134	-2	-2	-4	-5	-4	-9				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-268	-4	-3	-7	-11	-12	-23				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-657	-8	-21	-29	-22	-14	-36				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-925	-12	-24	-36	-33	-26	-59				
Internal Trips Within This Site			-396	-5	-5	-10	-17	-17	-34				
Trips To-From Other Sites within the Project			-2	0	0	0	0	0	0				
External Automobile Trips for New Project													
Office (General Office Building)				0	0	0	0	0	0				
Retail (Shopping Center)				27	17	44	75	78	153				
Subtotal Residential				8	28	36	22	14	36				
Total External Automobile Trips for New Project			2,540	35	45	80	97	92	189				
External Auto Trips Percent of Total Project Trips			64%	65%	59%	62%	64%	66%	65%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	69 Units	ITE (221)	-455	-9	-32	-41	-32	-17	-49	21%	79%	65%	35%
New External Automobile Trips													
Total			2,085	26	13	39	65	75	140				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			60	1	0	1	2	3	5				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			93	1	3	4	4	2	6				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-25	0	-2	-2	-1	-1	-2				
Total Transit Trips			128	2	1	3	5	4	9				
				153	2	3	5	6	5				11

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 1**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions

Date: 12/19/2014



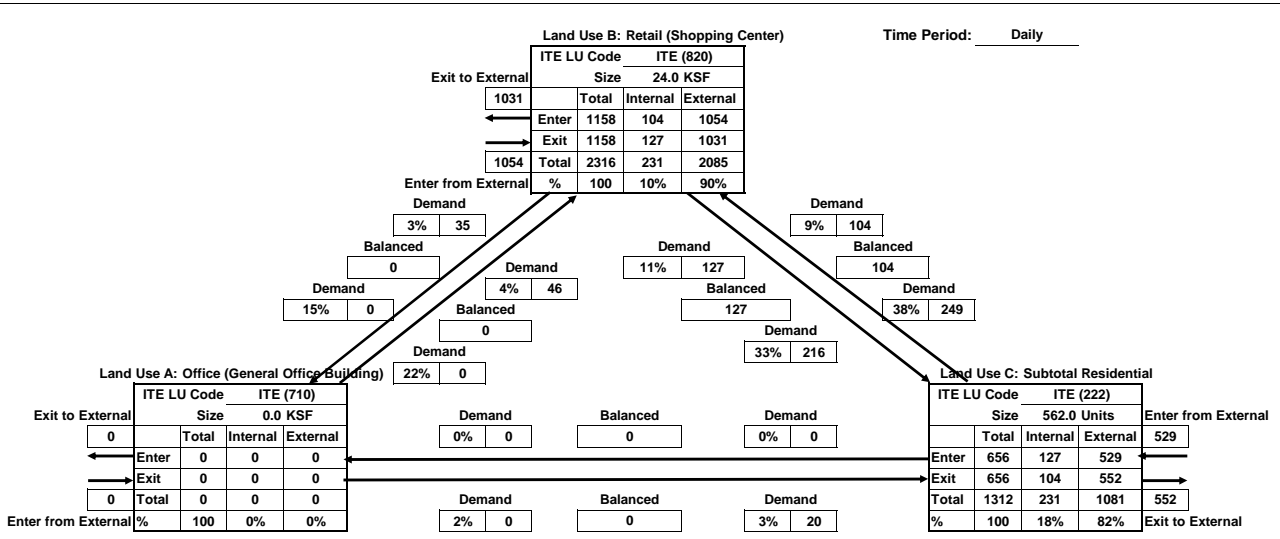
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 1**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions

Date: 12/19/2014

Time Period: Daily



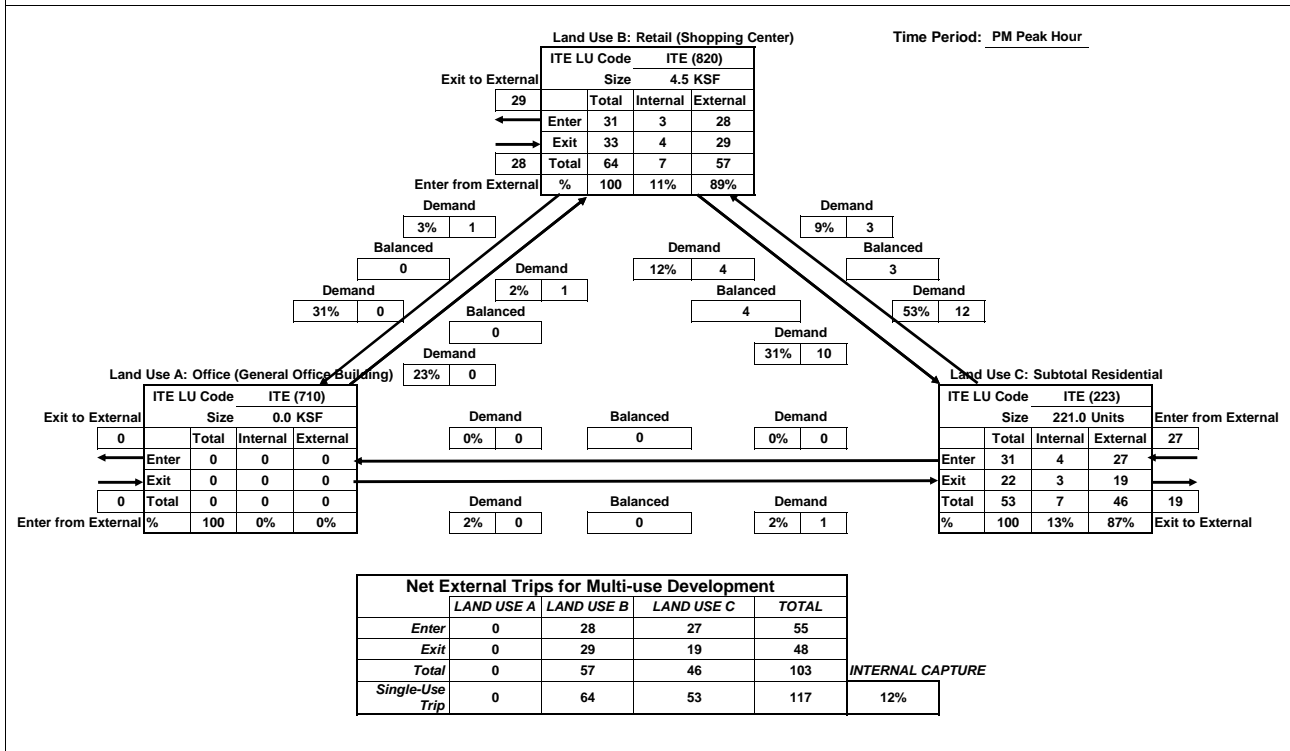
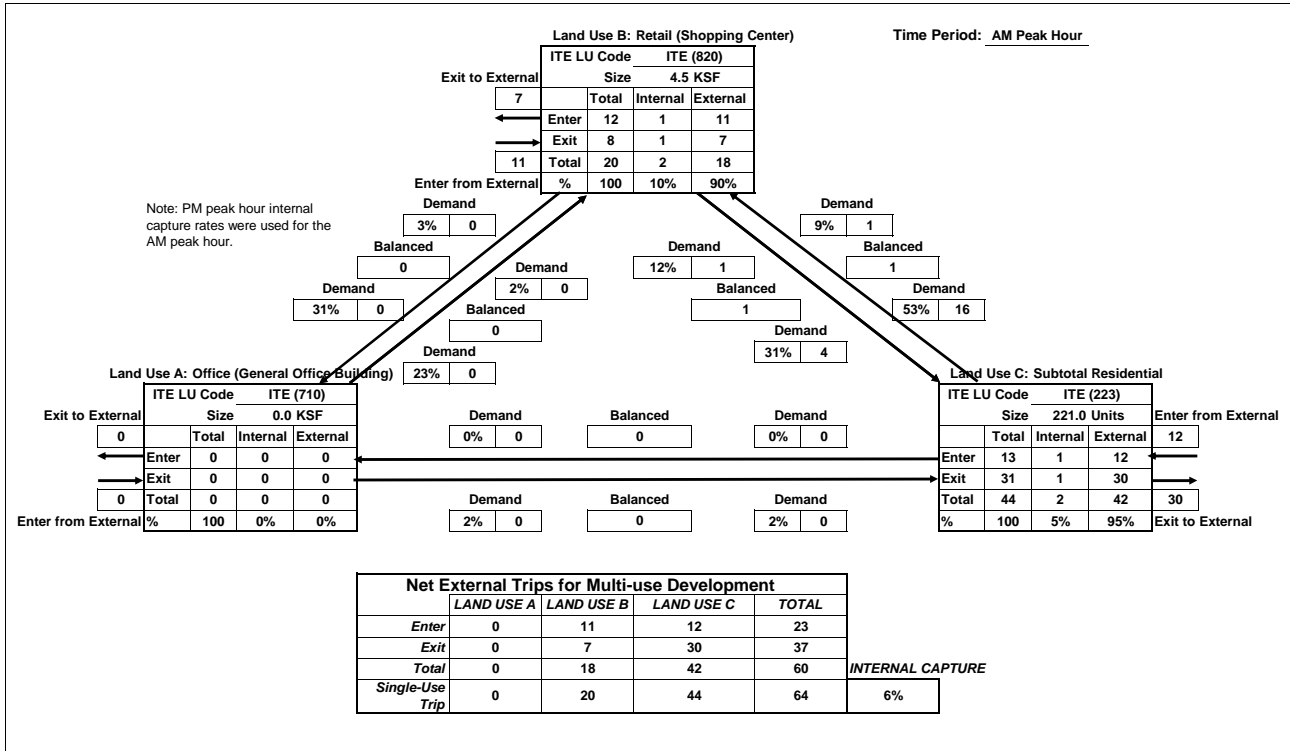
Net External Trips for Multi-use Development					
	LAND USE A	LAND USE B	LAND USE C	TOTAL	
Enter	0	1054	529	1583	
Exit	0	1031	552	1583	
Total	0	2085	1081	3166	
Single-Use Trip	0	2316	1312	3628	INTERNAL CAPTURE 13%

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2A**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions

Date: 12/19/2014



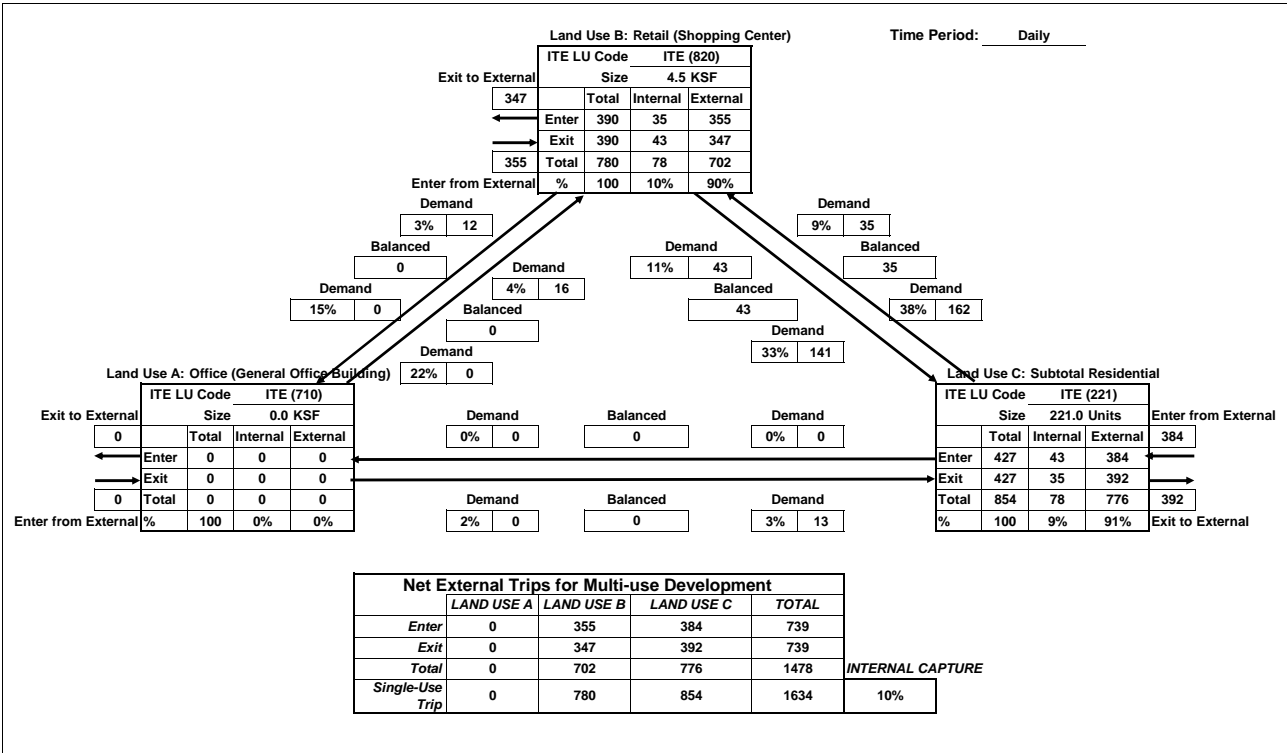
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2A**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land
Use Assumptions

Date: 12/19/2014

Time Period: Daily

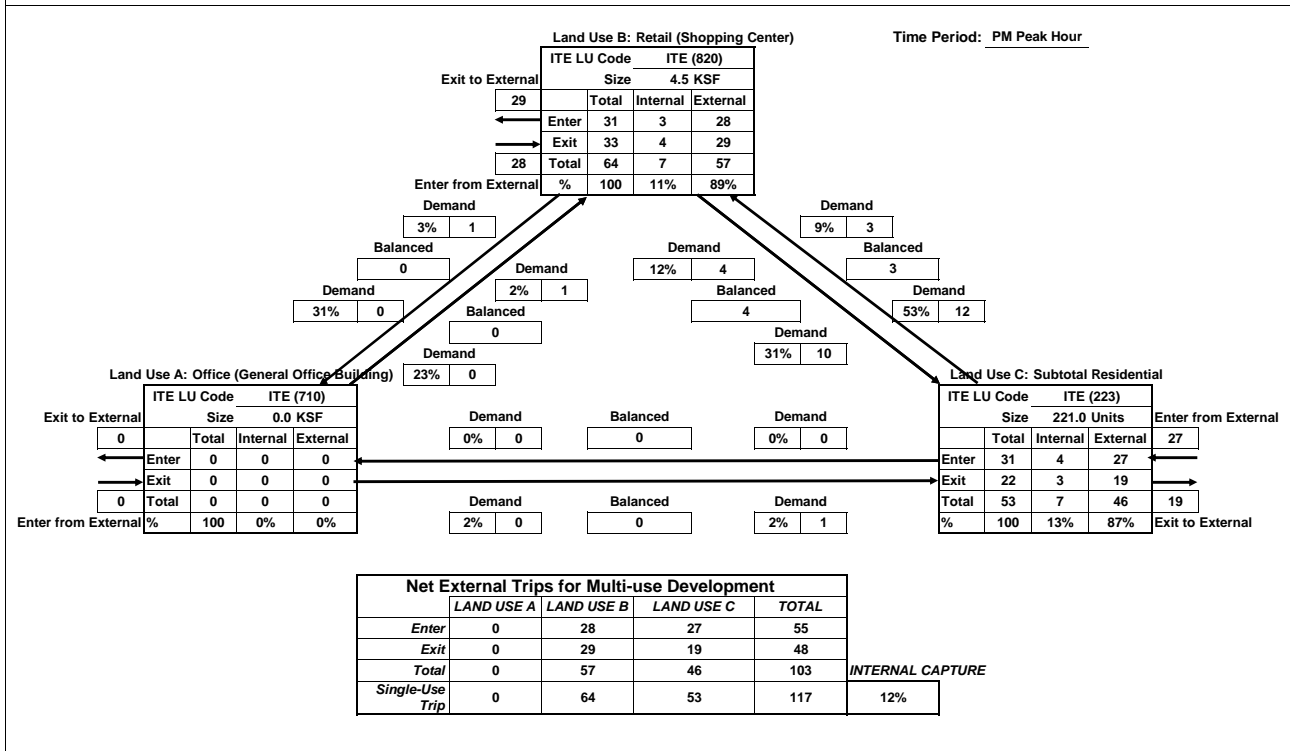
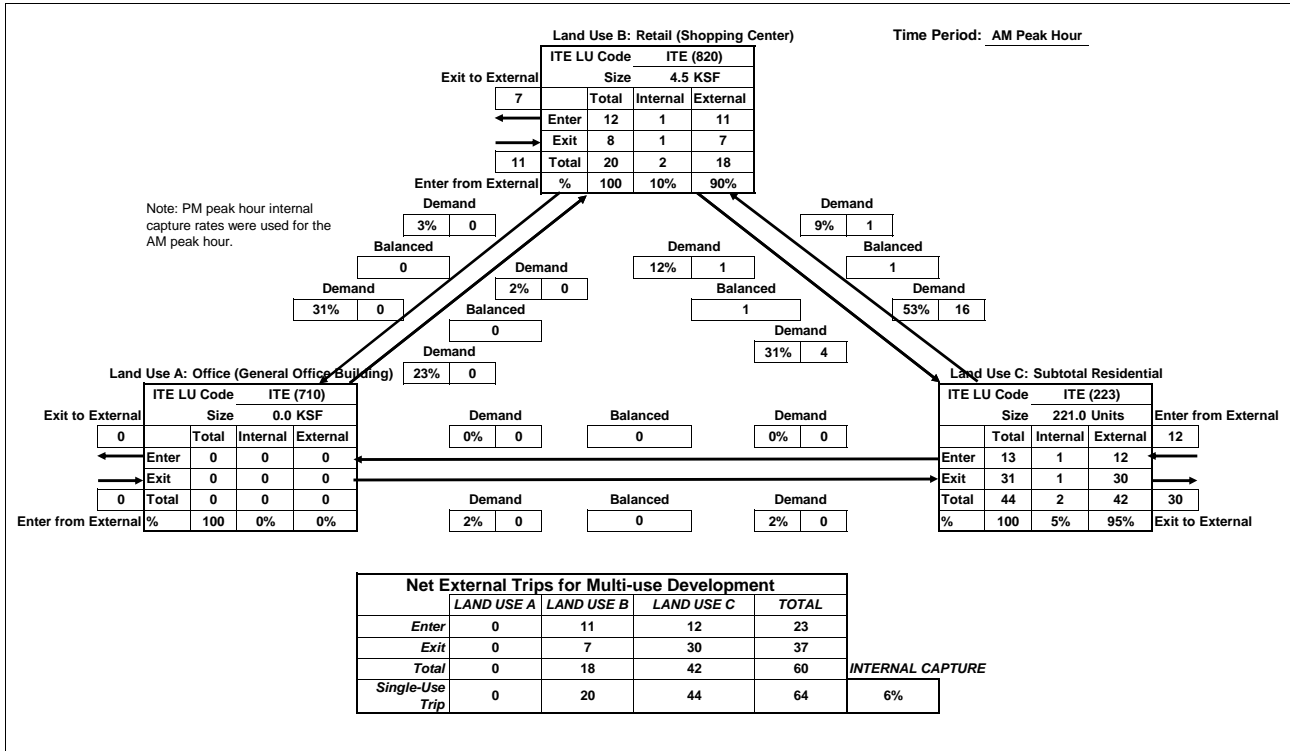


**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions

Date: 12/19/2014



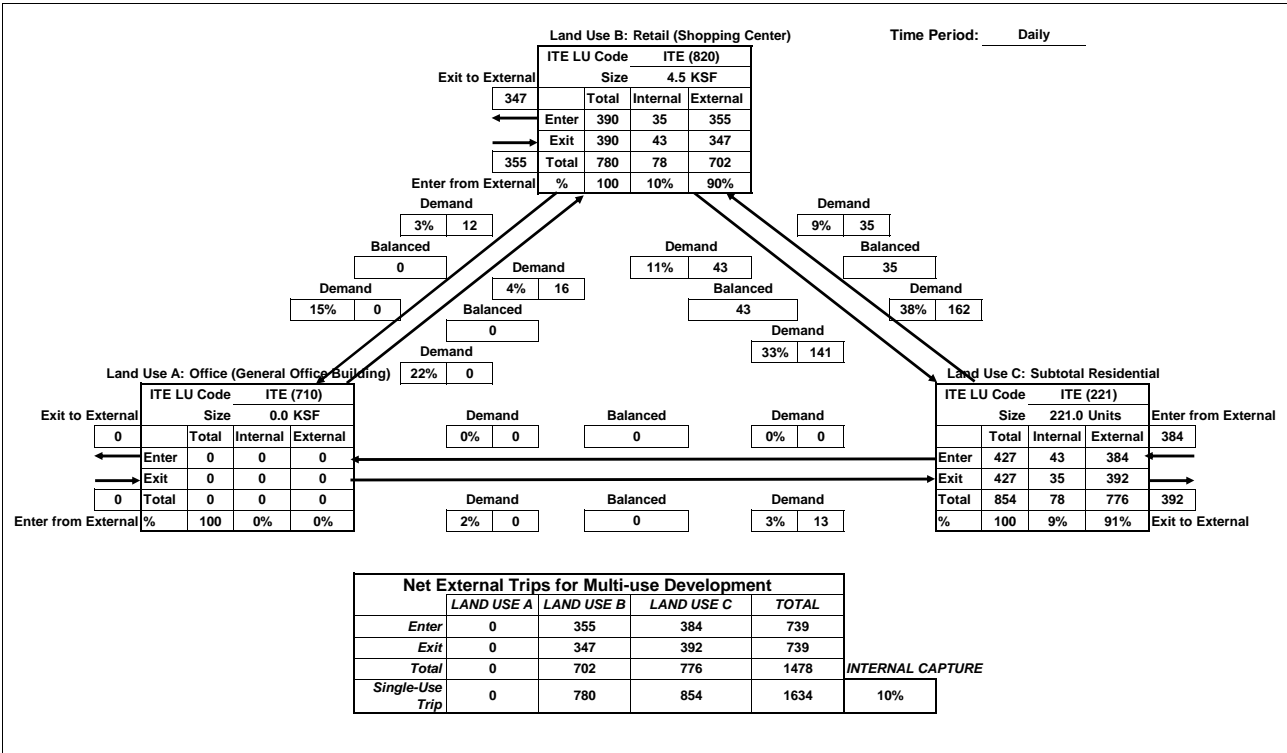
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land
Use Assumptions

Date: 12/19/2014

Time Period: Daily

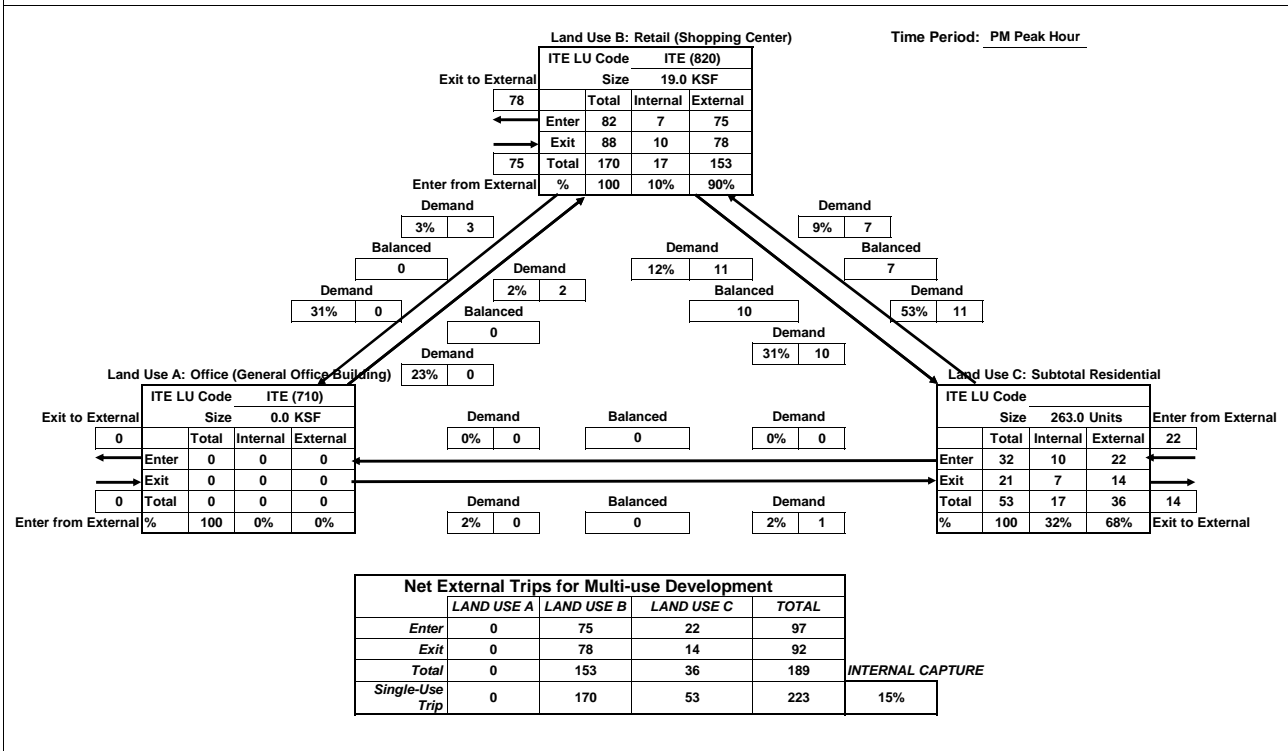
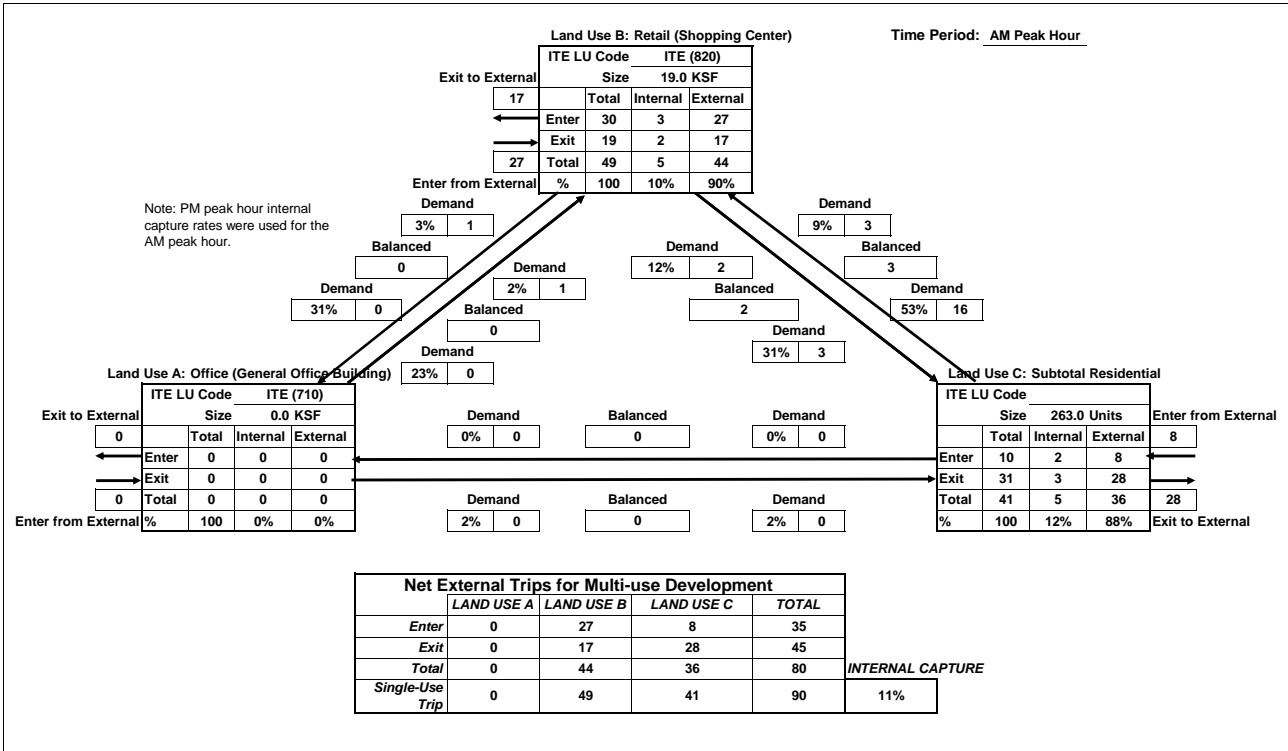


**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions

Date: 12/19/2014



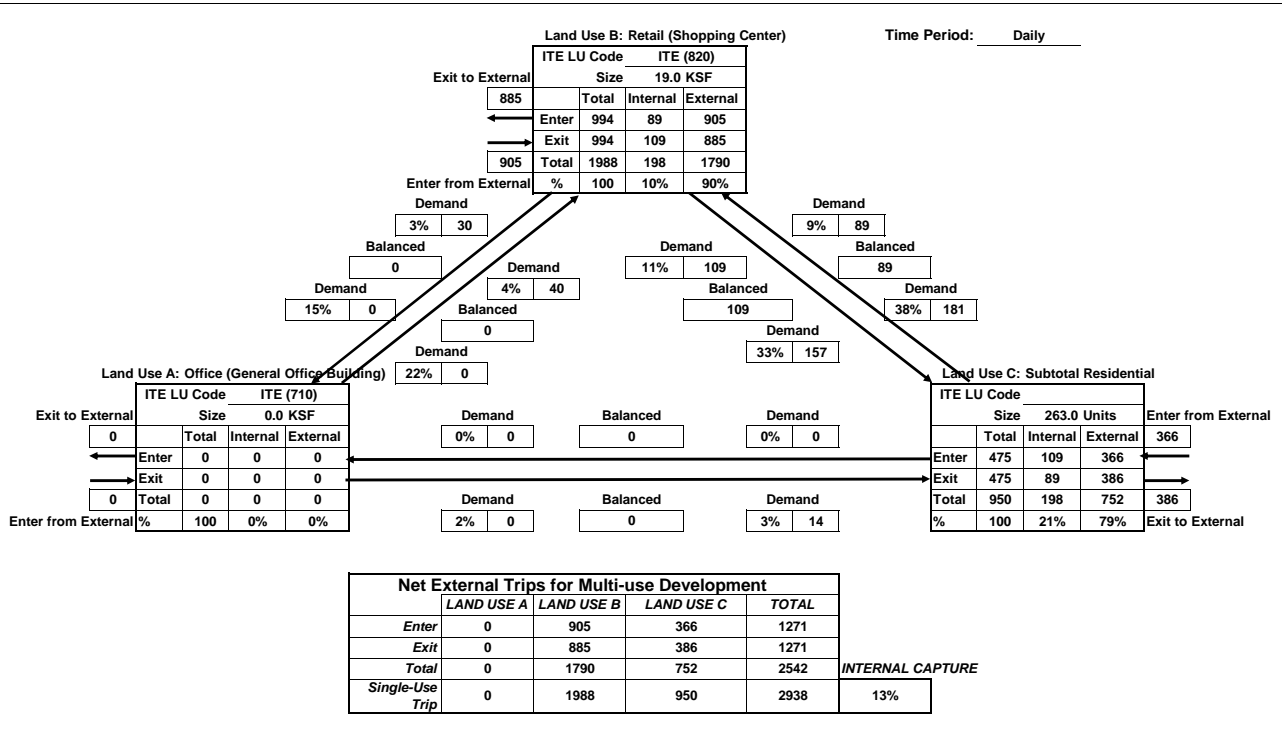
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**
Parcel 3, 4A, and 4B

Analyst: Kittelson & Associates, Inc.

Date: 12/19/2014

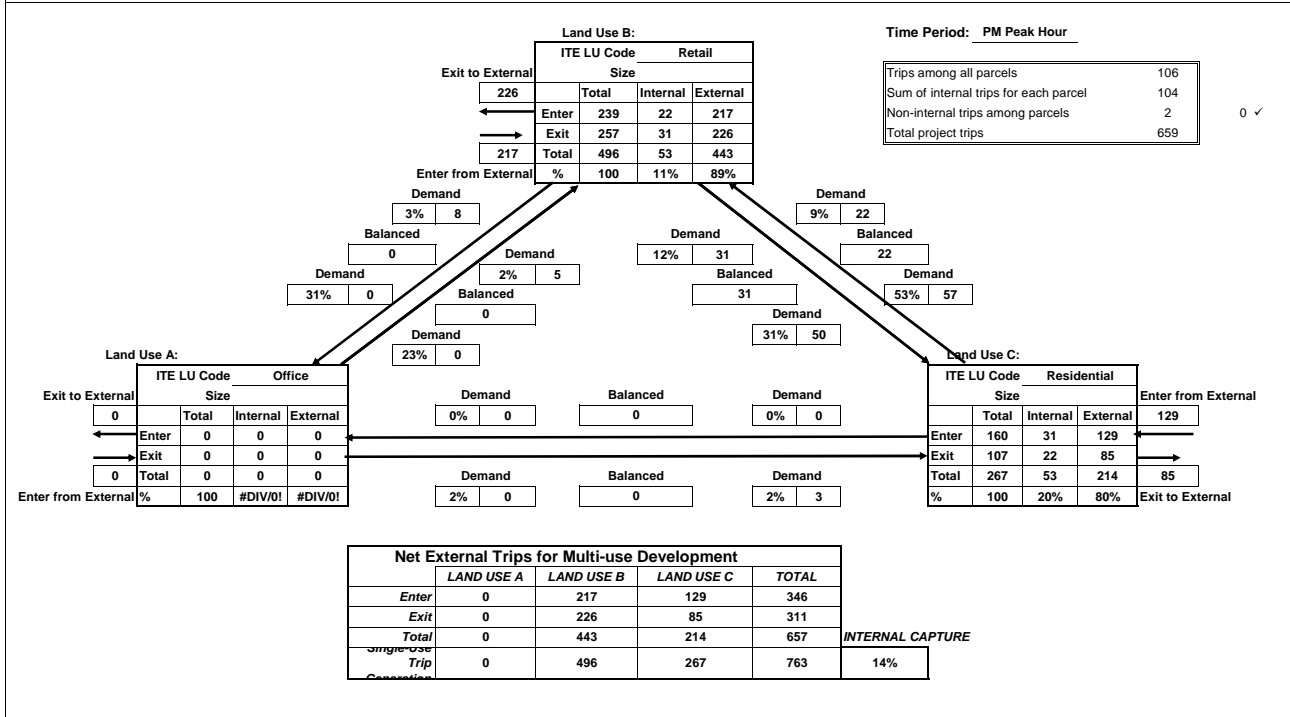
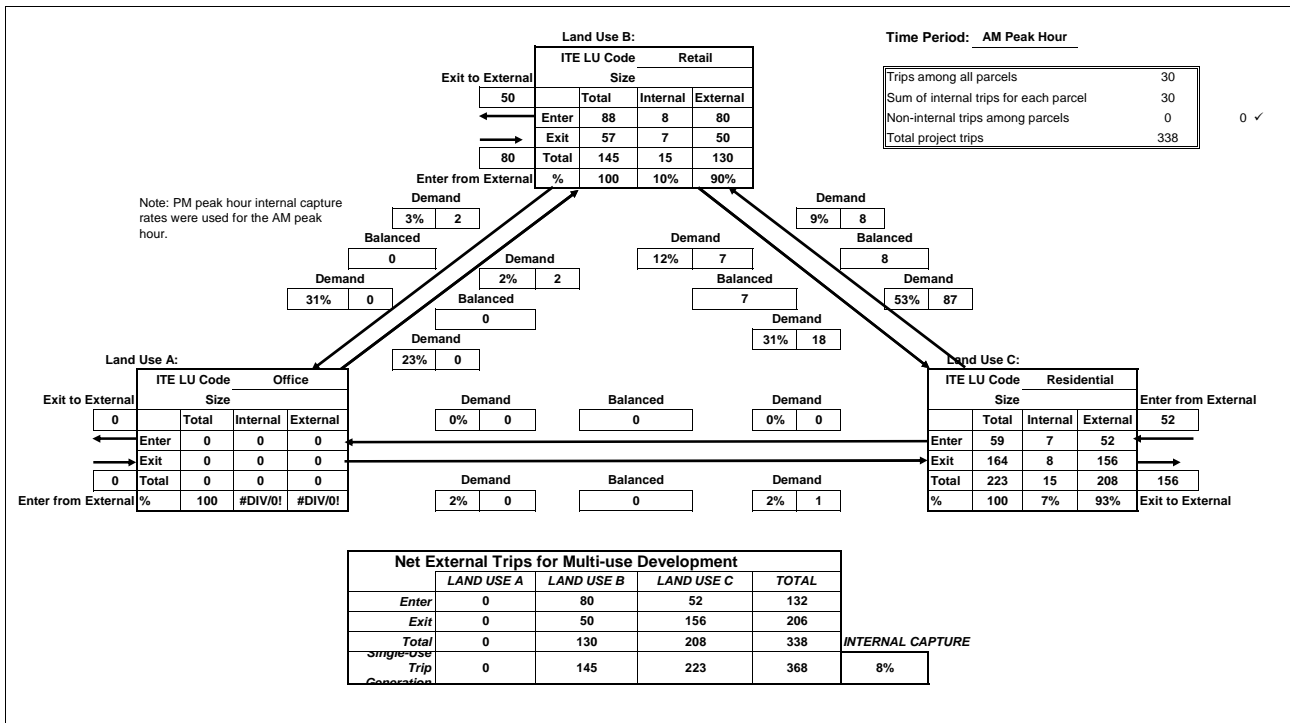
Name of Development: Sacramento Commons
Proposed Project - Option 2 (No Hotel) - October 2014 Land Use Assumptions

Time Period: Daily



**MULTI-USE DEVELOPMENT
TRIP GENERATION
TRIPS AMONG ALL PARCELS**

Date: 12/19/2014



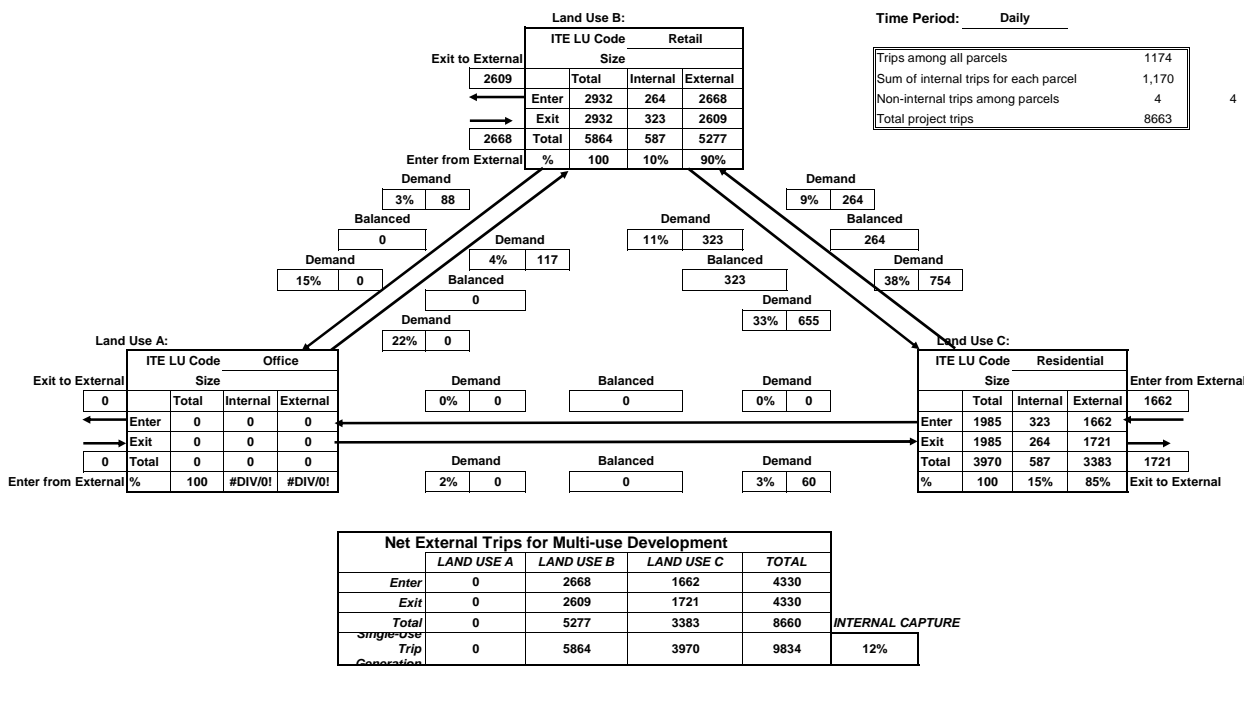
**MULTI-USE DEVELOPMENT
TRIP GENERATION
TRIPS AMONG ALL PARCELS**

Date: 12/19/2014

Time Period: Daily

Trips among all parcels	1174
Sum of internal trips for each parcel	1,170
Non-internal trips among parcels	4
Total project trips	8663

4 ✓



TRAFFIC ANALYSIS FOR SACRAMENTO COMMONS

Sacramento, California
July 2014

Prepared for:
City of Sacramento

Prepared by:
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MOVING **FORWARD** THINKING™

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- Appendix I: Signal Warrant Analysis Worksheets

1 INTRODUCTION

This study assessed the potential transportation and circulation conditions associated with the proposed Sacramento Commons project. Specifically, the transportation and circulation analysis addressed the following impact categories:

- Intersections
- Transit
- Bicycle facilities
- Pedestrian circulation
- Construction-related traffic impacts

Weekday AM and PM peak hour intersection turning movements at thirteen study intersections and seven proposed project driveways were analyzed (See Table 1.) The traffic analysis addressed the change in traffic conditions in the immediate vicinity of the site due to trips generated by the proposed project. An analysis of site access and vehicular circulation was also conducted.

Quantitative transportation analyses were conducted for the following conditions:

- Existing Conditions
- Existing Plus Project (Hotel Scenario)
- Existing Plus Project (No Hotel Scenario)
- Cumulative 2035 No Project Conditions
- Cumulative 2035 Plus Project (Hotel Scenario)
- Cumulative 2035 Plus Project (No Hotel Scenario)

The Existing Conditions scenario represents the year 2014. The Cumulative 2035 No Project Conditions are defined as the future year consistent with the regional forecasts from the SACMET model, which is currently using the year 2035.

Impacts of the proposed project are defined according to City of Sacramento 2030 General Plan thresholds of significance and CEQA standards. Mitigation measures are recommended to address significant impacts to lessen their significance.

1.1 Project Description

The proposed project is located in Downtown Sacramento within the City's Core Area¹ at a site bounded by N Street, P Street, 5th Street, and 7th Street in Sacramento, California. The proposed project is a residential mixed-use project proposed on an approximately 10-acre infill site located within close proximity to a variety of transit services.

¹ The Sacramento Core Area is the area bounded by C Street, the Sacramento River, 30th Street, and X Street.

The site is currently developed with 409 residential units, neighborhood-serving retail and commercial space, recreational amenities (including a swimming pool), laundry facilities, various landscaped areas, and a three-level parking structure with a capacity of up to 200 parking spaces and an additional 190 parking spaces in surface lots. The 409 units consist of 206 two- and three-story garden apartments and 203 units in the 15-story Capitol Towers building. Sharing the four-block project area, but not part of the proposed project site, are the separately-owned 15-story 500 N Street condominium tower and the 12-story Pioneer Towers senior apartments. Therefore, the “project site” nomenclature used hereinafter refers strictly to the proposed project’s boundaries (i.e., exclusive of 500 N Street and Pioneer Towers).

The proposed project has two different development options. The first option (i.e., Hotel Scenario) would remove 206 existing garden apartment units and develop a 320-room hotel and construct up to 1,219 dwelling units including approximately 49 live/work units (residences that provide for offices, artist studios or incubator businesses). This results in a total of up to 1,422 units onsite when including the existing Capitol Towers building (203 units), resulting in an average density across the project site of approximately 140 dwelling units per acre (du/ac). The Hotel Scenario would also include the addition of up to 69,122 square feet of neighborhood-serving retail or support space (including the existing 4,122 square feet of retail uses within Capitol Tower) located at street level.

The second option is similar but replaces the hotel with additional residential units. This option is referred to as the No Hotel Scenario. The No Hotel Scenario would remove the 206 existing garden apartment units and construct up to 1,319 dwelling units including approximately 49 live/work units (residences that provide for offices, artist studios or incubator businesses). This results in a total of up to 1,522 units onsite when including the existing Capitol Towers building (203 units), resulting in an average density across the project site of approximately 150 dwelling units per acre (du/ac). The No Hotel Scenario would also include the addition of up to 65,122 square feet of neighborhood-serving retail or support space (including the existing 4,122 square feet of retail uses within Capitol Towers) located at street level.

A graphic summarizing a description of the proposed project with and without the hotel is shown in Figure 1.

1.2 Study Area

The project site is located in the City of Sacramento’s Central Business District and is generally bounded by 5th, 7th, N, and P Streets. It is located within the boundaries of the *Central City Community Plan Area*². A mix of high-density residential and office complexes are located in the immediate vicinity. Surrounding land uses include federal and state offices to the north, west, and east. Two multi-family properties (Governor’s Square and Pioneer House) are located at the southeast and northwest corners of 5th and P Streets, respectively. In addition, the State of California Central Plant is located on the south side of P Street, across from the project site.

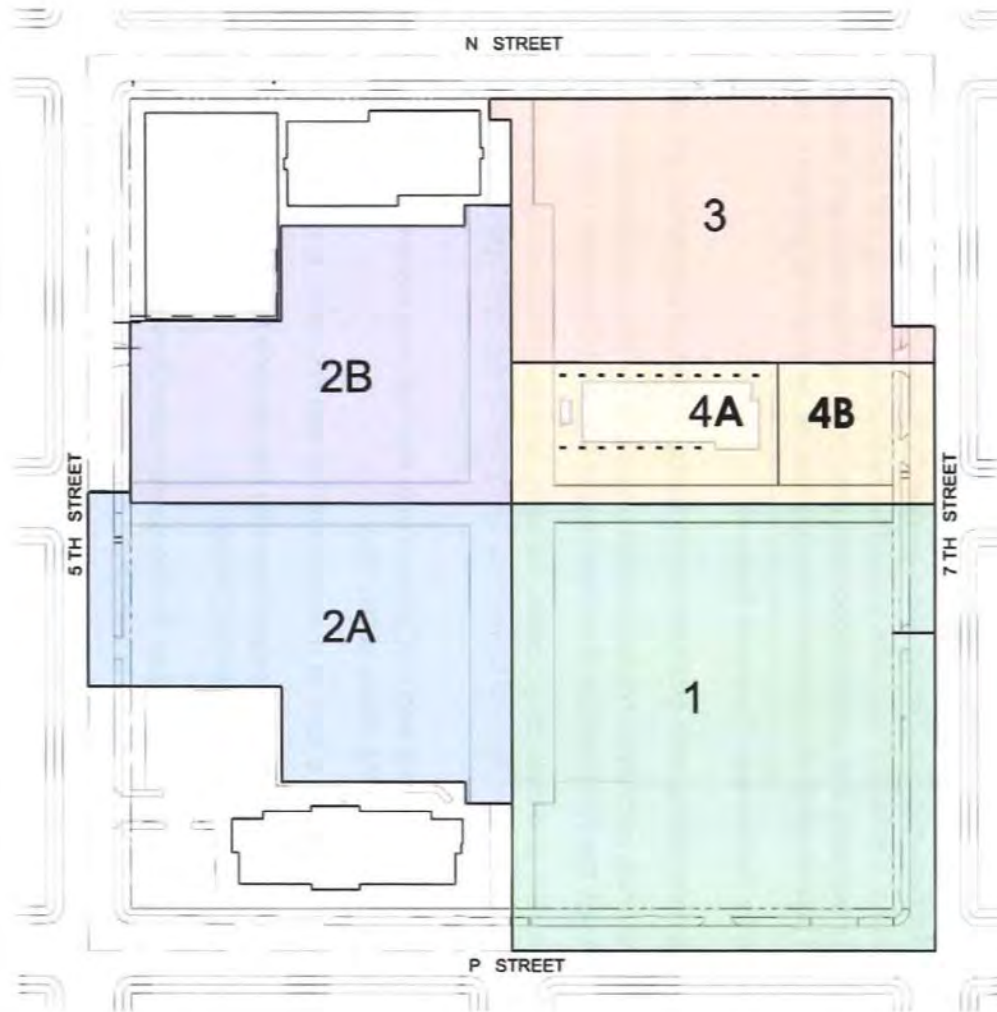
² 2030 General Plan: Part III, City of Sacramento (2009)

Figure 1: Proposed Project Description

PROJECT TOTALS	
PROJECT TOTALS WITH HOTEL OPTION:	
RESIDENTIAL	1422 units
- LIVE/WORK UNITS	49 units
HOTEL ROOM	320 rooms
NEIGHBORHOOD SUPPORT / RETAIL	69,122 sf
PROJECT TOTALS WITHOUT HOTEL OPTION:	
RESIDENTIAL	1,522 units
- LIVE/WORK UNITS	49 units
NEIGHBORHOOD SUPPORT / RETAIL	65,122 sf

PARCEL 2B	
RESIDENTIAL	225 units
NEIGHBORHOOD SUPPORT / RETAIL	4,500 SF
LIVE/WORK UNITS	15 units

PARCEL 2A	
RESIDENTIAL	225 units
NEIGHBORHOOD SUPPORT / RETAIL	4,500 SF
LIVE/WORK UNITS	15 units



PARCEL 3	
OPTION 1:	
HOTEL ROOMS	320 rooms
RESIDENTIAL	120 units
NEIGHBORHOOD SUPPORT / RETAIL	32,000 SF
LIVE/WORK UNITS	4 units
OPTION 2:	
RESIDENTIAL	220 units
NEIGHBORHOOD SUPPORT / RETAIL	28,000 SF
LIVE/WORK UNITS	4 units

PARCEL 4A (INCLUDES EXIST. CAPITOL TOWERS)	
RESIDENTIAL	203 units
NEIGHBORHOOD SUPPORT / RETAIL	4,122 SF

PARCEL 4B	
RESIDENTIAL	50 units
LIVE/WORK UNITS	3 units

PARCEL 1	
RESIDENTIAL	550 units
NEIGHBORHOOD SUPPORT / RETAIL	24,000 SF
LIVE/WORK UNITS	12 units



Source: Van Tilburg, Banvard & Soderbergh, AECOM (2014)

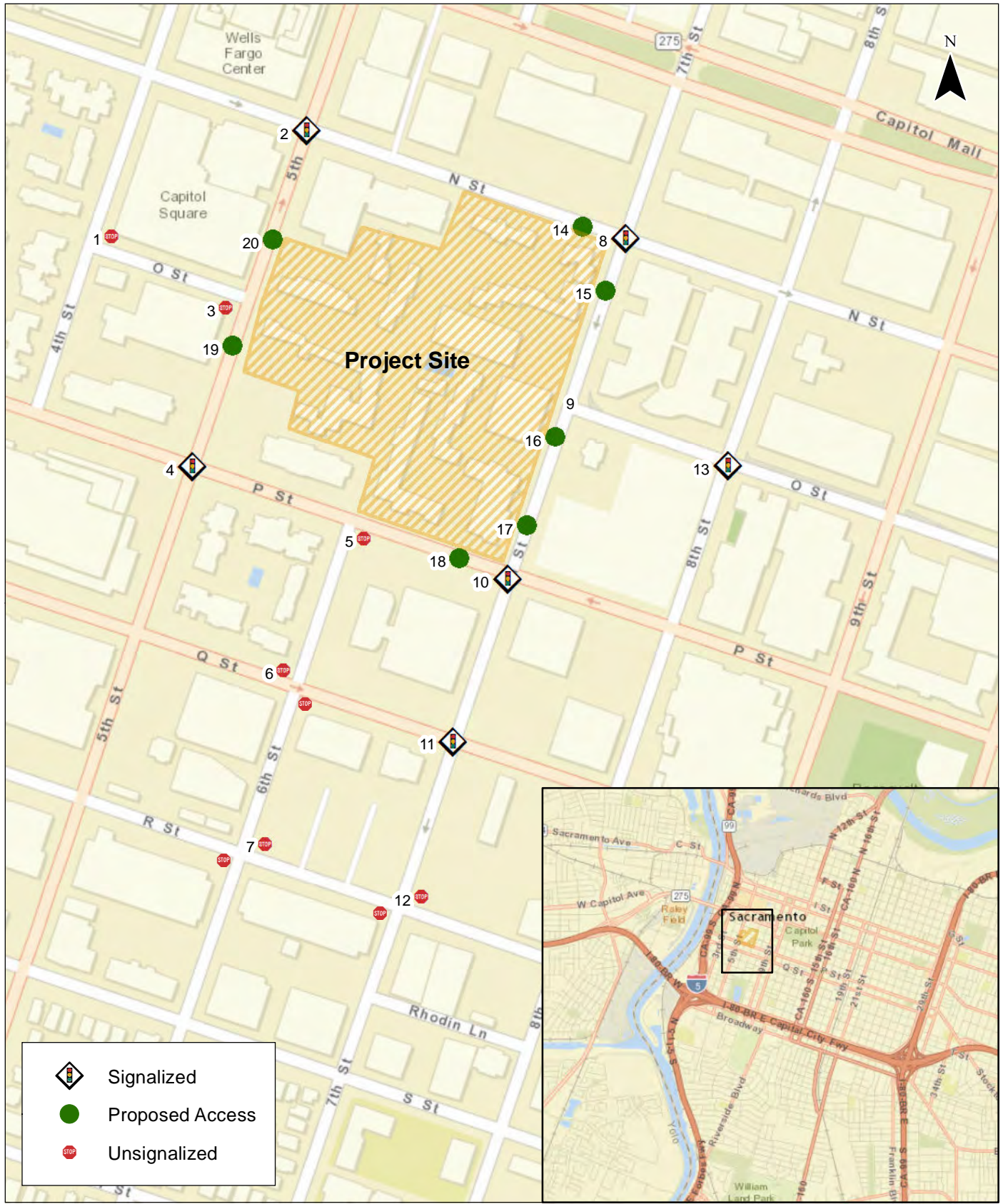
A preliminary assessment of the proposed project’s traffic volume—hereinafter referred to as “project traffic”—was performed to define the scope of the transportation impact study. In summary, study intersections were selected based on anticipated volume of project traffic, the distributional patterns of project traffic, and the facilities susceptible to being impacted by the proposed project. Table 1 provides a list of study intersections and a summary of the type of intersection traffic control present. Figure 2 illustrates the locations of the study intersection relative to the project site.

Table 1: List of Study Intersections

#	Street Name		Control ¹
	North-South	East-West	
1	4th St	O St	TWSC
2	5th St	N St	Signalized
3	5th St	O St	TWSC
4	5th St	P St	Signalized
5	6th St	P St	TWSC
6	6th St	Q St	TWSC
7	6th St	R St	TWSC
8	7th St	N St	Signalized
9	7th St	O St	Uncontrolled
10	7th St	P St	Signalized
11	7th St	Q St	Signalized
12	7th St	R St	TWSC
13	8th St	O St	Signalized
14	Driveway 1	N St	TWSC
15	7th St	Driveway 2	TWSC
16	7th St	Driveway 3	TWSC
17	7th St	Driveway 4	TWSC
18	Driveway 5	P St	TWSC
19	5th St	Driveway 6	TWSC
20	5th St	Driveway 7	TWSC

All study intersections are under the jurisdiction of the City of Sacramento
 Gray-shaded cells indicate intersections that are only present in Plus Project conditions.
¹TWSC = Two-way stop controlled;

Source: Kittelson & Associates, 2014



**Study Intersections and Project Vicinity Map
Sacramento, California**

**Figure
2**

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2 ENVIRONMENTAL SETTING

This section describes the environmental setting, which is the baseline scenario upon which project-specific impacts are evaluated. The Existing Conditions scenario’s roadway, transit, bicycle and pedestrian transportation systems within the study area are described below.

2.1 Roadway Network

Table 2 shows characteristics of the existing roadway network for the primary roads providing access to the proposed project. These roads are all located in the downtown area of Sacramento and primarily provide access to residential and office buildings. They also provide access to nearby freeway facilities including Interstate 5 and State Route 99. The information presented in this table is based on aerial photography, Google Street View, and a field review performed on April 24, 2014.

Table 2: Roadway Network of Major Roads near the Proposed Project

Facility	Functional Classification†	Street Direction	Speed Limit (MPH)	Number of Lanes	
				NB/EB	SB/WB
Capitol Mall	Arterial	EB/WB	30	2	2
N Street	Arterial	EB Only	25	3	0
O Street	Local	EB/WB	25	1	0*
P Street	Arterial	WB Only	25	0	3
Q Street	Arterial	EB Only	25	3	0
R Street	Local	EB/WB	25	1	1
4th Street	Local	NB/SB	25	1	1
5th Street	Arterial	NB Only	30	2	0
6th Street	Local	NB/SB	25	1	1
7th Street	Collector	SB Only	30	0	3
8th Street	Collector	NB Only	25	3	0

†Functional classification is based on the 2030 General Plan’s Mobility Element, Figure M 2B

* O Street is one-way eastbound from 7th Street to 9th Street, a transit-only segment between 9th Street and 10th Street, and a one-way westbound street from 10th Street to 11th Street

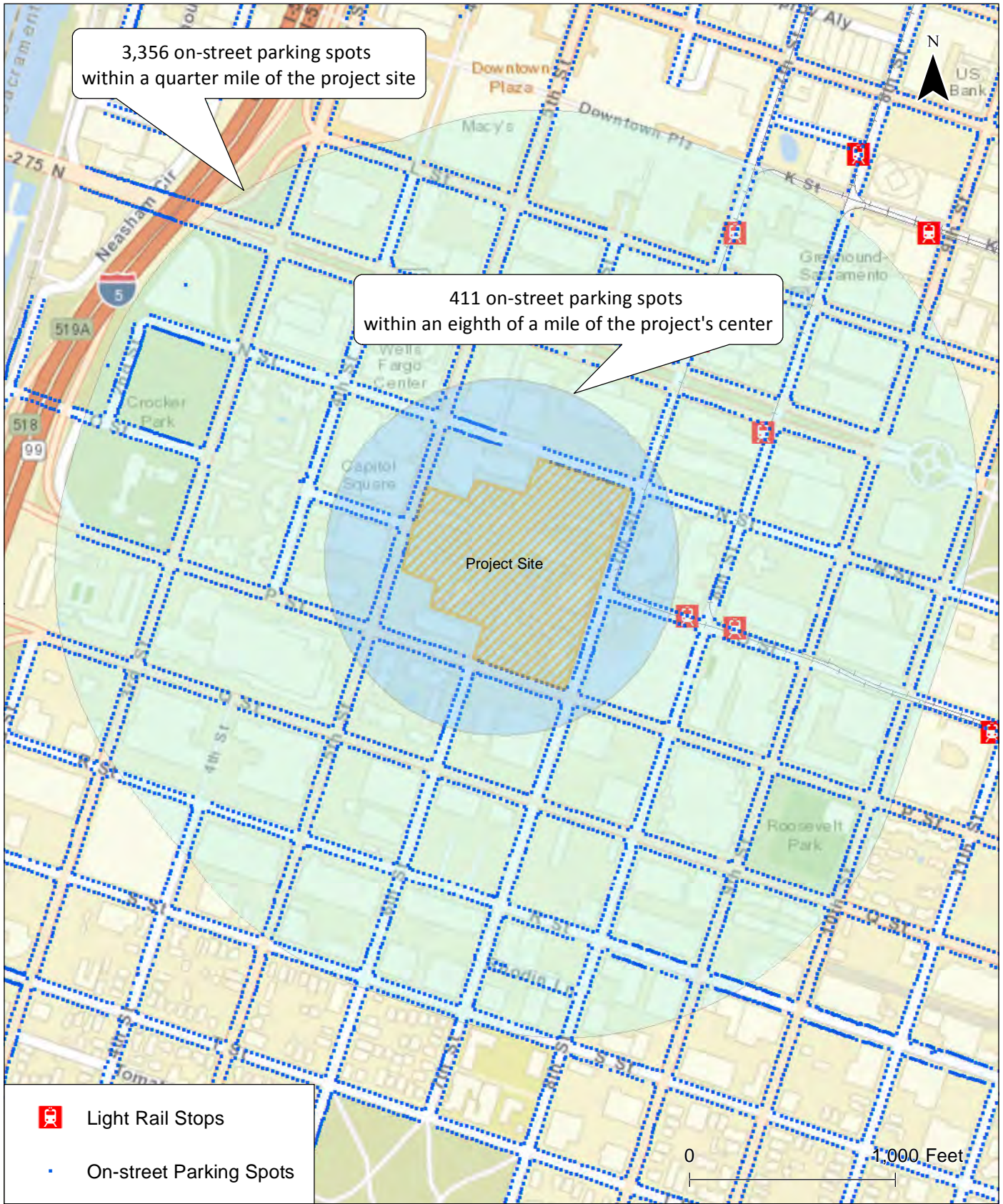
Source: Kittelson & Associates, 2014

On-Street Parking

Most of the neighborhood streets surrounding the project site provide on-street parking. The on-street parking surrounding the site is generally restricted on weekdays to no parking, one hour, or two-hours unless the vehicle has a resident parking permit. Figure 3 shows the parking inventory within the project vicinity prepared by the City of Sacramento³. As shown in this figure, there are approximately 411 on-street parking spaces located within an eighth of a mile of the proposed project’s center and about 3,356 located within a quarter mile.

³ GIS layer downloaded from: <http://www.cityofsacramento.org/gis/data.html>





**Parking Inventory
Sacramento, California**

**Figure
3**

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2.2 Transit Service

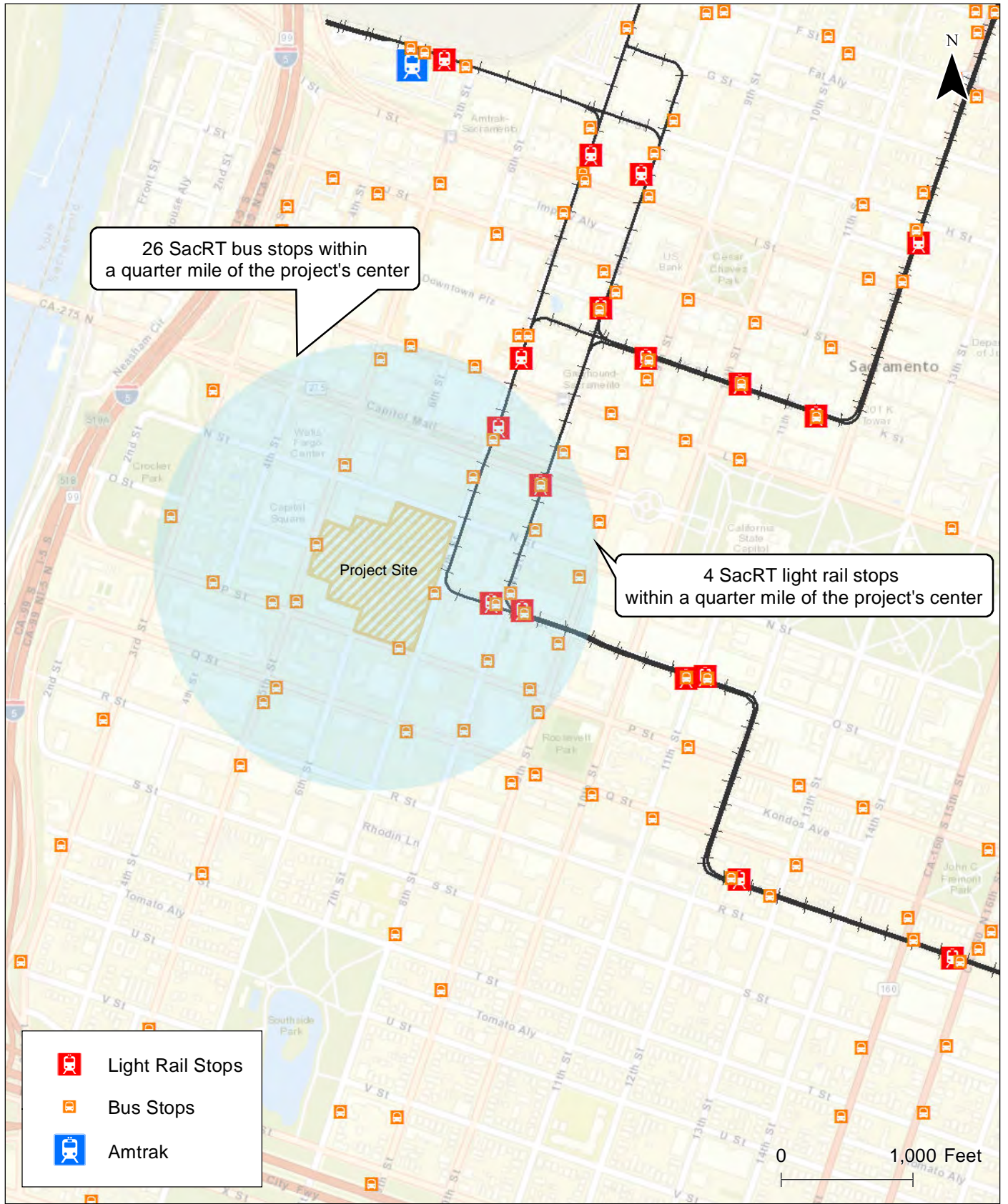
The Sacramento Regional Transit District (RT) provides several routes that run adjacent to the project site including bus and light rail service. The nearest light rail station is located 1 block east of the project site at 8th Street and O Street and is served by all three light rail lines (Blue, Gold, and Green). Located in downtown Sacramento, the site is also served by many of the downtown RT bus routes. Table 3 provides details of the RT Routes near the project site.

Table 3: List of Regional Transit Service Routes near the Proposed Project

Route	Name	Description	Frequency* (transit vehicles/hr)
2	Riverside	Riverside Boulevard - Downtown	1
3	Riverside Express	Picket Area - Downtown	4
6	Land Park	Rush River - S Land Park - Downtown	1
7	Pocket Express	Rush River - Downtown	3
15	Rio Linda Blvd. - O St	Watt/I-80 - Downtown	2
29	Arden - California Ave	Fair Oaks - Arden - Downtown	2
30	J St	C.S.U.S. - Downtown	4
34	McKinley	University/65th - C.S.U.S. - McKinley - Downtown	1
38	P/Q Streets	University/65th - Downtown - River Oaks	1
51	Broadway - Stockton	Florin Mall - Downtown	5
109	Hazel Express	Orangevale - Downtown	2
Blue	Light Rail Blue Line	Watt I-80 - Downtown - Meadowview	4
Gold	Light Rail Gold Line	Downtown - Folsom	4
Green	Light Rail Green Line	13th Street - 7th Street & Richards/Township 9	2
*Frequency represents the number of transit vehicles per hour traveling in one route direction during the peak hour			

Source: Kittelson & Associates, 2014 (using <http://www.sacrt.com/>)

Additionally, the Sacramento Amtrak station located at 5th and I Street, about 6 blocks north of the project site, provides access to longer regional trips. Figure 4 provides a graphical overview of the existing transit facilities located near the project site. A total of 26 bus stops and four light rail stops are located within a quarter mile of the center of the project site.



Existing Transit Service Sacramento, California

Figure 4

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2.3 Pedestrian and Bicycle Infrastructure and Volumes

Table 4 provides an overview of Existing Conditions pedestrian and bicycle activity at the project study intersections. These volumes represent the total number of pedestrians and bicyclists using the intersections during the AM and PM peak hours.

Table 4: Pedestrian and Bicycle Volume at the Study Intersections

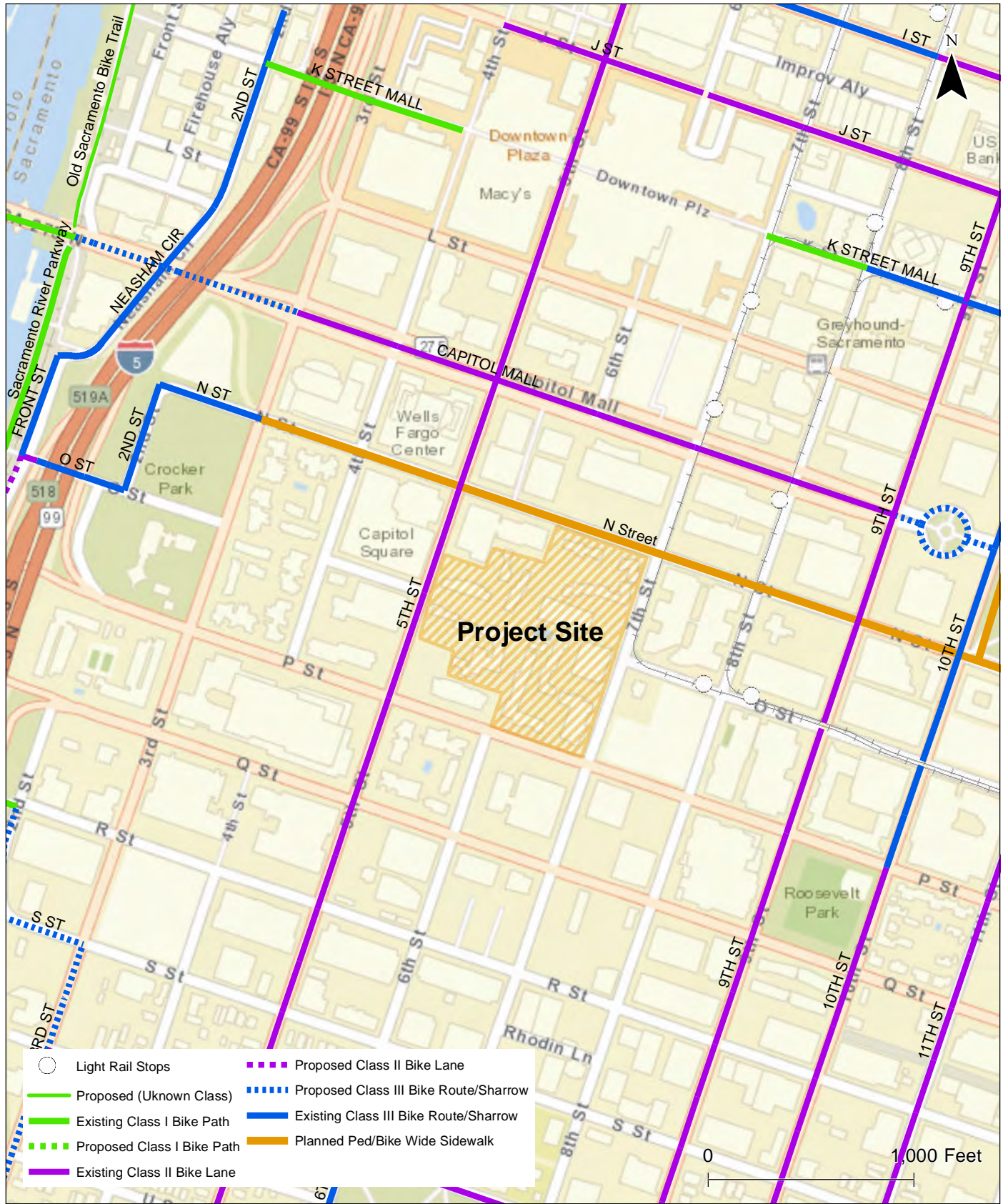
Intersection Numbers	North-South Cross Street	East-West Cross Street	Control	AM Peak Hour		PM Peak Hour	
				Pedestrian Activity*	Bicycle Activity*	Pedestrian Activity*	Bicycle Activity*
1	4th St	O St	TWSC	80	2	86	7
2	5th St	N St	Signalized	302	25	413	23
3	5th St	O St	TWSC	168	21	199	17
4	5th St	P St	Signalized	236	19**	248	17
5	6th St	P St	TWSC	86	16	96	5
6	6th St	Q St	TWSC	61	5	72	12
7	6th St	R St	TWSC	51	31	57	41
8	7th St	N St	Signalized	347	13	360	35
9	7th St	O St	None	260	8	220	20
10	7th St	P St	Signalized	146	26	191	34
11	7th St	Q St	Signalized	136	4	139	27
12	7th St	R St	TWSC	70	21	64	54
13	8th St	O St	Signalized	519	29	537	14

*Pedestrian and bicycle activity represent total number using the intersection during the peak hour
 **Count estimated from nearby intersections
 N/A = Bicycle data are not available
 Intersection turn movement counts collected in May 2013 and April 2014

Source: Kittelson & Associates, 2014 and City of Sacramento

Existing and proposed bicycle and pedestrian facilities within the vicinity of the proposed project, as documented in the 2010 City/County Bikeway Master Plan, are shown in Figure 5. The labels on Figure 5 correspond to the project name associated with each pedestrian or bicycle facility.

According to the 2010 Master Plan, N Street will provide a primary east-west bicycle and pedestrian connection between the Sacramento River and the Capitol with wide sidewalks. Similarly, the Capitol Mall provides an east-west connection for bicycles via a Class II bicycle lane. North-south bicycle access is provided via a Class II bicycle lane on 5th Street (northbound) and 9th Street (southbound).



**Pedestrian and Bicycle Infrastructure
Sacramento, California**

**Figure
5**

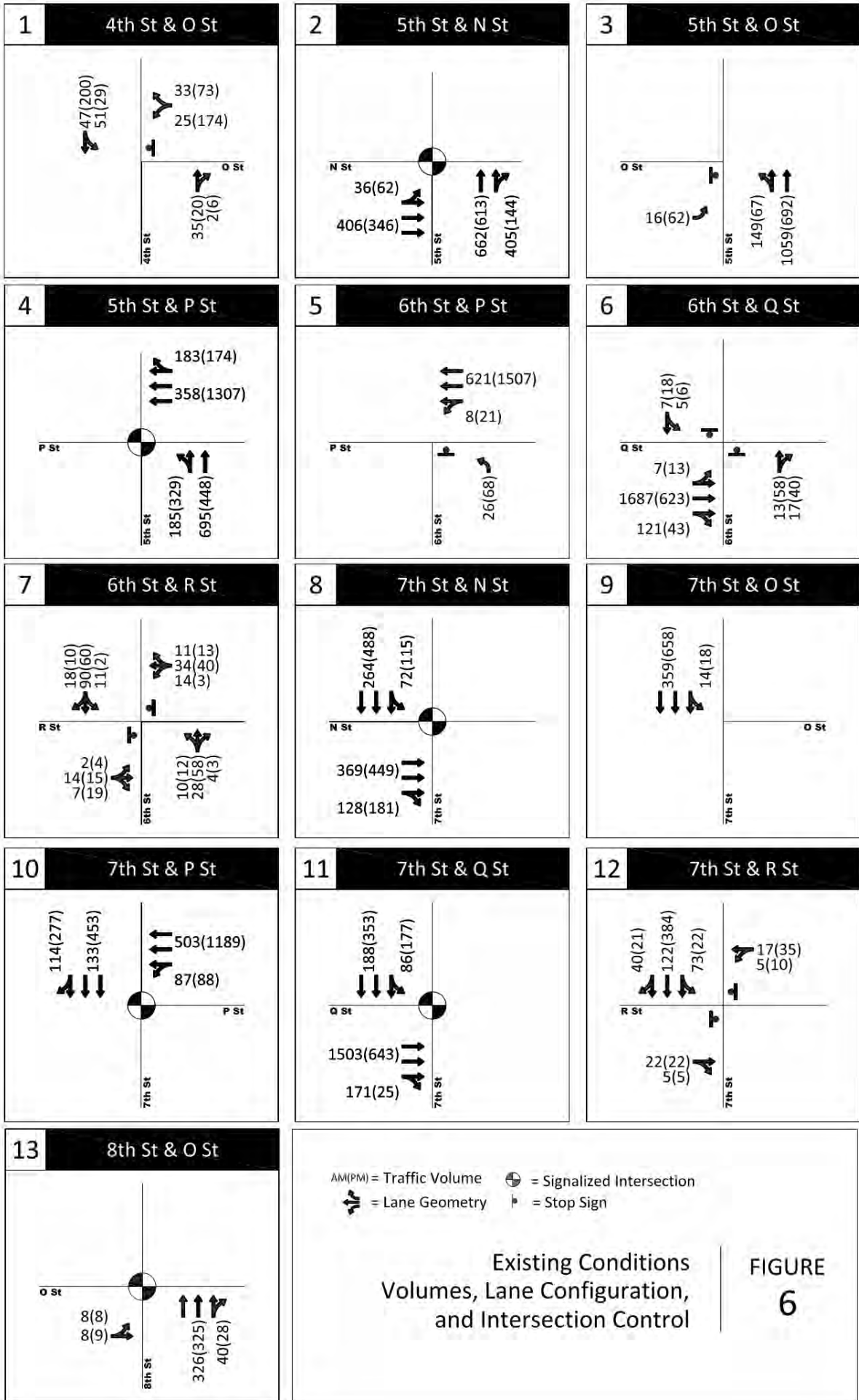
H:\proj\15604 - Master Services TIS City of SacITask 105 Sacramento Commons\GIS\pedBikeInventory_20140417.mxd - jbarrios - 2:07 PM 7/9/2014

2.4 Automobile Volumes

Vehicle volumes at 11 of the 13 study intersections were collected on Tuesday, April 8, 2014. These field-collected counts are included as Appendix A. The P Street intersections with 5th Street and 7th Street were obtained from Sacramento Entertainment and Sports Center & Related Development DEIR.⁴ Most counts for this DEIR were collected in May 2013. The City has determined that there was no traffic growth between May 2013 and April 2014. Therefore, the DEIR turn movement counts are still applicable for this project.

Figure 6 illustrates the vehicle volumes, lane configurations, and intersection control types for 13 study intersections under Existing Conditions. The remaining seven study intersections are project-specific intersections (access driveways) and will be analyzed under the Existing Plus Project scenarios.

⁴ Sacramento Entertainment and Sports Center & Related Development Draft Environmental Impact Report, December 2013. Report states: "traffic counts were collected at the majority of the study intersections in May 2013. At some locations during the AM peak hour, counts taken in 2011 were used."



Based on existing vehicle volumes, lane configurations, and intersection control types, a Highway Capacity Manual (HCM) 2010 analysis was performed. This type of analysis is based on the concept of level of service (LOS) and delay to motorists at intersections. Table 5 shows the intersection LOS criteria for signalized and unsignalized intersection according to the HCM 2010.

Table 5: Intersection LOS Criteria from the Highway Capacity Manual 2010

LOS	Average Delay (sec/veh)		Description
	Signalized	Unsignalized	
A	≤10.0	≤10.0	Very Low Delay: This occurs when progression is extremely favorable and most vehicles arrive during a green phase. Most vehicles do not stop at all.
B	>10.0 & ≤20.0	>10.0 & ≤15.0	Minimal Delays: This generally occurs with good progression, short cycle lengths, or both. More vehicles stop than at LOS A, causing higher levels of average delay.
C	>20.0 & ≤35.0	>15.0 & ≤25.0	Acceptable Delay: Delay increases due to only fair progression, longer cycle lengths, or both. Individual cycle failures (<i>to service all waiting vehicles</i>) may begin to appear at this level of service. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	>35.0 & ≤55.0	>25.0 & ≤35.0	Approaching Unstable/Tolerable Delays: The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	>55.0 & ≤80.0	>35.0 & ≤50.0	Unstable Operation/Significant Delays: These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	>80.0	>50.0	Excessive Delays: This level, considered to be unacceptable to most drivers, often occurs with oversaturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: *Highway Capacity Manual*, Transportation Research Board, Washington D.C, 2010

The results of the Existing Conditions analysis are shown in Table 6. Analysis worksheets are included in Appendix B. As this table shows, each of the study intersections has an overall level-of-service (LOS) of LOS B or better. The LOS for the worst approach was found to be LOS C or better for the unsignalized intersections. For the analysis purposes, the overall LOS determines the project impacts.

Table 6: LOS for Existing Conditions

#	North-South Cross Street	East-West Cross Street	Control	Existing AM		Existing PM	
				Delay	LOS	Delay	LOS
1	4th St	O St	TWSC	4.9 (9.7)	A (A)	6.7 (12.7)	A (B)
2	5th St	N St	Signalized	19.2	B	14.7	B
3	5th St	O St	TWSC	1.9 (24.9)	A (C)	2 (15.2)	A (C)
4	5th St	P St	Signalized	14.7	B	18.7	B
5	6th St	P St	TWSC	0.5 (10.6)	A (B)	1 (16.6)	A (C)
6	6th St	Q St	TWSC	0.4 (22.3)	A (C)	1.6 (13.0)	A (B)
7	6th St	R St	TWSC	4.2 (10.5)	A (B)	4.5 (10.6)	A (B)
8	7th St	N St	Signalized	7.2	A	7.5	A
9	7th St	O St	None	0.0*	A*	0.0*	A*
10	7th St	P St	Signalized	9.7	A	12.3	B
11	7th St	Q St	Signalized	15.9	B	12.3	B
12	7th St	R St	TWSC	0.9 (9.8)	A (A)	0.6 (10.7)	A (B)
13	8th St	O St	Signalized	5.1	A	4.9	A

Highway Capacity Manual 2010 Methodology
Control delays for two-way stop controlled (TWSC) intersections are presented as follows: Average (Worst Approach)
* O Street between 7th and 9th Streets is one-way eastbound, therefore, there is no intersection delay at 7th Street and O Street.
Source: Kittelson & Associates, 2014.

3 REGULATORY SETTING

This traffic impact analysis was conducted in accordance with the following documents:

- The *Interim Traffic Impact Analysis Guidelines* published by the City of Sacramento in February 1996. This document is hereinafter referred to as the “TIA Guidelines”.
- The City of Sacramento’s *2030 General Plan: Mobility Element (2009)*. In addition, the *Central City Community Plan*, a component of the General Plan’s Part III.
- The 2010 Sacramento City/County Bicycle Master Plan (*Amended April 2011*)
- The City of Sacramento’s *Pedestrian Master Plan (2006)*.

3.1 Federal and State

Under California Senate Bill 375, projects that are determined to be consistent with the Sustainable Communities Strategy (SCS) and meet the definition of a Transit Priority Project (TPP) are granted certain CEQA streamlining benefits. The proposed project qualifies as a TPP pursuant to Public

Resource Code section 21155(b)⁵ and, based on the MTP/SCS Consistency Determination Worksheet prepared by City staff, SACOG submitted a letter concluding the proposed project is consistent with the SCS on June 4, 2014. As a TPP consistent with the SCS, the project is not required to discuss growth inducing impacts, or any project-specific or cumulative impacts from cars and light-duty truck trips on global warming, or on the regional transportation network. (Pub. Resources Code, § 21159.28(a).) In this context, the “regional transportation network” means roadways that are of importance at a state level⁶.

3.2 Local

The *Mobility Element* of the City of Sacramento’s 2030 *General Plan* outlines goals and policies that coordinate the transportation and circulation system with planned land uses. The following level of service policy is relevant to this study:

M 1.2.2 The City shall allow for flexible Level of Service (LOS) standards, which will permit increased densities and mix of uses to increase transit ridership, biking, and walking, which decreases auto travel, thereby reducing air pollution, energy consumption, and greenhouse gas emissions.

- a. Core Area Level of Service Exemption—LOS F conditions are acceptable during peak hours in the Core Area bounded by C Street, the Sacramento River, 30th Street, and X Street. If a Traffic Study is prepared and identifies a LOS impact that would otherwise be considered significant to a roadway or intersection that is in the Core Area as described above, the project would not be required in that particular instance to widen roadways in order for the City to find project conformance with the General Plan. Instead, General Plan conformance could still be found if the project provides improvements to other parts of the citywide transportation system in order to improve transportation-system-wide roadway capacity, to make intersection improvements, or to enhance non-auto travel modes in furtherance of the General Plan goals. The improvements would be required within the project site vicinity or within the area affected by the project’s vehicular traffic impacts. With the provision of such other transportation infrastructure improvements, the project would not be required to provide any mitigation for vehicular traffic impacts to road segments in order to

⁵ A TPP is a project that: (1) contains at least 50 percent residential use, based on total building square footage and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provide a minimum net density of at least 20 dwelling units per acre; and (3) is located within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. (Pub. Resources Code, § 21155(b).)

⁶ Specifically, Public Resources Code section 21159.28(c) defines the “regional transportation network” to include “all existing and proposed transportation system improvements, including the state transportation system, that were included in the transportation and air quality conformity modeling, including congestion modeling, for the final regional transportation plan adopted by the metropolitan planning organization, but shall not include local streets and roads.” (See also 2030 General Plan, Figure M 2B [identifying street classifications in Sacramento’s Core Area]; California Dept. of Transportation, California Road System Maps, Maps 6J35, 7J21, and 7J31 [identifying street classifications recognized by the State in the Downtown Sacramento area].)

conform to the General Plan. This exemption does not affect the implementation of previously approved roadway and intersection improvements identified for the Railyards or River District planning areas.

The *Mobility Element of the City of Sacramento's 2030 General Plan* also includes the following policies related to connectivity, walking, biking, transit, and parking that are relevant to this study:

- M 1.3.1 The City shall require all new residential, commercial, or mixed-use development that proposes or is required to construct or extend streets to develop a transportation network that provides for a well-connected, walkable community, preferably in a grid or modified grid.
- M 2.1.1 The City shall maintain and implement a Pedestrian Master Plan that carries out the goals and policies of the General Plan and defines: the type and location of pedestrian-oriented streets and pathways; standards for sidewalk width, improvements, amenities, and street crossings; the schedule for public improvements; and developer responsibilities. All new development shall be consistent with the provisions of the Pedestrian Master Plan.
- M 2.1.5 The City shall provide a continuous pedestrian network in existing and new neighborhoods that facilitates convenient pedestrian travel free of major impediments and obstacles.
- M 3.1.1 The City shall support a well-designed transit system that meets the transportation needs of Sacramento residents and visitors including seniors, the disabled, and transit-dependent persons. The City shall enhance bicycle and pedestrian access to stations.
- M 4.3.1 The City shall continue wherever possible to design streets and improve development applications in such a manner as to reduce high traffic flows and parking problems within residential neighborhoods.
- M 5.1.1 All proposed bikeway facilities shall be consistent with the applicable provisions of the Bikeway Master Plan.
- M 5.1.2 All proposed bikeway facilities are appropriate to the street classifications and types, traffic volume, and speed on applicable rights-of-way.
- M 5.1.4 The proposed project shall not result in conflicts between bicyclists and motor vehicles on streets, and bicyclists and pedestrians on multi-use trails and sidewalks.
- M 6.1.1 The City shall ensure that appropriate parking is provided, considering access to existing and funded transit, shared parking opportunities for mixed-use development, and implementation of Transportation Demand Management plans.

The City of Sacramento Pedestrian Master Plan (2006) provides a comprehensive vision for improving pedestrian conditions. The purpose is to make Sacramento a model pedestrian-friendly city – the “Walking Capital.” The goals of the plan fall into the following three categories:

- Create a walkable pedestrian environment throughout the city;
- Improve awareness of the pedestrian mode through education; and
- Increase pedestrian safety.

The 2010 Sacramento City/County Bicycle Master Plan (Amended 2011) is a joint document between Sacramento County and the City of Sacramento. It identifies existing and proposed bicycle facilities and improvements as well as goals and policies related to bicycling. The overarching purpose of the improvements, policies and programs identified in the document is to enhance the safety, comfort, convenience and experience of bicycling for the full range of potential bicyclists. The goals and supporting policies are organized into the following categories:

- Increase bicycle use;
- Reduce bicycle collisions and injuries;
- Increase total number of bicycle facilities; and
- Ensure proportionate funding for bicycle facilities and improvements.

4 TRANSPORTATION IMPACT ANALYSIS

The potential transportation-related impacts of the proposed project are based on applicable significance criteria. Mitigation measures necessary to reduce the significant impacts are also identified. Impact analysis was performed for the Existing Plus Project conditions for the Hotel Scenario and No Hotel Scenario and compared to Existing Conditions. Similarly, an impact analysis was performed for the Cumulative Plus Project for the Hotel Scenario and No Hotel Scenario by comparing the results from those scenarios to the Cumulative 2035 No Project Conditions analysis results.

4.1 Significance Criteria

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. For the purposes of this analysis, an impact is considered significant if the proposed project would have the effects described below. The standards of significance in this analysis are based upon the current practice of the City of Sacramento which reflects the adopted LOS policies of the 2030 General Plan and the 1996 TIA Guidelines.

Intersections

General Plan Mobility Element Policy M 1.2.2 sets the definitions for what is considered an acceptable level of service. The Core Area LOS Exemption is appropriate for the proposed project since it is located within the core area as defined in the 2030 General Plan M 1.2.2 section. Therefore, LOS F is acceptable during the peak hours, provided that the project provides improvements to other citywide transportation systems within the project vicinity. Thus, if the project was to worsen operations at an intersection operating at LOS F or worsens an intersection to LOS F, this conclusion is noted and then a supplemental evaluation of whether the project provides improvements to other parts of the citywide transportation system is initiated.

As reference, the criteria used to determine impacts outside of the core area are as follows:

- The traffic generated by the project degrades peak hour level of service (LOS) from an acceptable LOS without the project to an unacceptable LOS with the project, or
- The LOS (without project) is unacceptable and project generated traffic increases the peak hour vehicle delay by five (5) seconds or more.

The overall intersection LOS is based on the average intersection delay for signalized and all-way stop controlled intersections and for side-street stop-controlled intersections per the City of Sacramento TIA Guidelines.

Transit Service

Impacts to the transit system are considered significant if the project would:

- Fail to adequately provide access to transit; or
- Adversely affect public transit operations.

Bicycle Facilities

Impacts to bicycle facilities are considered significant if the project would:

- Adversely affect existing or planned bicycle facilities; or
- Fail to adequately provide for access by bicycle.

Pedestrian Circulation

Impacts to pedestrian circulation are considered significant if the project would:

- Adversely affect existing or planned pedestrian facilities; or
- Fail to adequately provide for access by pedestrians.

Construction-Related Impacts

The project would have a temporarily significant impact during construction if it would:

- Degrade an intersection or roadway to an unacceptable level;
- Cause inconveniences to motorists due to prolonged road closures; or
- Result in increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists.

4.2 Analysis Methodology

Intersections

The most recent version of the Highway Capacity Manual (2010), as implemented by the Synchro 8 traffic analysis software, was used to determine automobile delay and level of service (LOS) at the study intersections. For unsignalized intersections both the average and worst approach delay and LOS are reported.

For Existing Conditions (2014) analyses, current signal timings are used in conjunction with field-collected pedestrian volumes, and bicycle volumes. For Cumulative 2035 No Project Conditions and Cumulative 2035 Plus Project analyses, current signal timings are assumed to still be in use.

The most recent California version of the Manual for Uniform Traffic Control Devices (CA MUTCD 2012) was used to determine whether unsignalized intersections meet the peak hour signal warrant. Non-signalized intersections shown to trigger the peak hour (Warrant 3) MUTCD signal warrant are highlighted in this analysis for discussion purposes. However, the decision to install a traffic signal should not be based solely upon a single warrant. Delay, congestion, driver confusion, future land use or other evidence for right of way assignment beyond that provided by stop controls must be demonstrated.

Warrant 3 addresses peak hour traffic volume levels above which a traffic signal may be warranted. The satisfaction of a traffic signal warrant shall not in itself require the installation of a traffic control signal according to the California MUTCD. If installed, traffic signals tend to reduce the potential for right-angle type collisions but also tend to increase the potential for less severe rear-end collisions. Signal warrant peak hour volumes represent the threshold point at which the potential for more rear-end collisions is offset by the potential for fewer more severe right-angle collisions. The data needed to perform these warrant analyses were the peak hour traffic counts described in Section 2.4.

4.3 Trip Generation

Trip generation for Sacramento Commons is based on information compiled by the Institute of Transportation Engineers (*Trip Generation Manual, 9th Edition, 2012* and *Trip Generation Manual User's Guide and Handbook, 9th Edition, 2012*), the travel mode shares from the travel survey at the existing Capitol Towers apartment building (conducted in February 2008 and March 2008 at the site), and the *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG House Travel Survey* (DKS, 2001).

Travel Behavior at Existing Capitol Towers Apartments

The February/March 2008 Capitol Towers Travel Survey was a voluntary survey that residents of Capitol Towers participated in. The survey had participants record all trips they took on the most recent weekday between 6:00 to 9:00 AM and 4:00 to 6:00 PM. Forms were filled out for each member of the household. Trip characteristics that were recorded include information such as departure and

arrival times, mode of transportation (e.g., walk, walk to transit, car, bike), trip purpose, destination, and number of times the trip is typically made during the work week (i.e., Monday through Friday). From this information, the transit and walk shares for the Capitol Towers were calculated for the weekday a.m. and p.m. peak periods. This travel survey is still valid today because the downtown area still has a similar set of land uses and the transit options remain unchanged. Appendix C contains a summary of the travel survey.

2000 SACOG Household Travel Survey

The 2000 SACOG Household Survey was a detailed survey conducted in Spring 2000 of the entire Sacramento region. The trip generation memorandum submitted by Kittelson & Associates, Inc. to the City of Sacramento as part of this study details how the SACOG Household Travel Survey was used to calculate adjustments for non-auto mode choice to the trip generation. The trip generation memorandum is included as Appendix D.

ITE Trip Generation and Land Use Assumptions

Kittelson & Associates calculated trip generation estimates for two proposed land use scenarios. As noted above, the Hotel Scenario includes a 320-room hotel, 100 fewer residential units (1,422 compared to 1,522), and an additional 4,000 square feet of retail compared to the No Hotel Scenario (69,122 square feet compared to 65,122 square feet). Both scenarios include replacing the 206 low-rise garden apartments while maintaining the existing Capitol Towers building that consists of 203 high-rise apartments and 4,122 square feet of retail space. The following summarizes the land uses used from the ITE Trip Generation Manual to estimate the initial automobile trips for the proposed project.

- **Neighborhood Support/Retail (Parcel 1, 2A, 2B, 3 and 4A in Figure 1):** ITE Trip Generation Land Use 820 for a shopping center; it is a conservative estimate given that specific types of retail is not known at this time.
- **High-Rise Apartments (Parcel 1 and Parcel 3 in Figure 1):** ITE Trip Generation Land Use 222, which is applicable to apartments in buildings with more than ten levels.
- **Mid-Rise Apartments (Parcel 2A, 2B and 4B in Figure 1):** ITE Trip Generation Land Use 223, which is applicable to apartments in buildings that have between three and ten levels. The ITE Trip Generation Manual does not include a weekday daily trip estimate for mid-rise apartments; therefore, to estimate the daily trips for the mid-rise apartments, ITE Trip Generation Land Use 221 for low-rise apartments was used. The low-rise apartment land use provides a more conservative estimate for daily trips than the high-rise apartment land use.
- **Live-Work Units (Parcel 1, 2A, 2B, 3, and 4B in Figure 1):** Live-work units were included as part of the residential trip generation numbers. These units are expected to house artists or incubator businesses where the decrease in trips due to residents working at home is expected to be similar to the number of clients visiting the unit. Therefore, trip generation for these units can be accounted for using the residential land use category.

- **Hotel (Parcel 3 in Figure 1 for the Hotel Scenario):** ITE Trip Generation Land Use 310 directly applicable to hotels providing sleeping accommodations and supporting facilities (e.g., restaurants, retail, service shops).

The total automobile trip generation estimates for the proposed project were calculated as the automobile trips generated by the proposed project minus the existing trips generated by the existing land uses to be replaced at the project site. The following section discusses the trip generation adjustments made to account for transit use, walking, biking and internal trips.

Trip Generation Adjustments

Adjustments were applied to the ITE trip generation rates to account for:

- High transit ridership;
- High levels of walking and bicycle use within the highly urbanized project setting; and
- The interaction of travel among the mixture of land uses within the proposed project.

Details on these adjustments can be found in the Capitol Towers survey data included as Appendix C and the trip generation memorandum included as Appendix D. The rest of this section provides only an overview of the adjustment process.

Adjustments for Transit Trips

The transit trip reduction for the retail component of the proposed project was assumed to be 2.2 percent of the total number of trips based on transit shares from the *Pre-Census Travel Behavior Report* for Downtown and Sacramento for work-trips and non-work trips, assuming seven percent of retail trips would be employees making work trips.

The transit trip reduction for the residential component of the proposed project was assumed to be 4.9 percent of the total number of daily trips, 4.2% for a.m. peak hour, and 5.3% for the p.m. peak hour. As described in the section above, these are based on the transit shares from the Capitol Towers Travel Survey (see Appendix C).

Trip Adjustments for Walk, Bike, and Other Non-Auto Travel

A similar process was used to develop adjustments for higher use of walk, bike, and other non-auto travel (hereinafter referred to as “walk trips”). The walk trip reduction for the retail component of the proposed project was assumed to be 11.6 percent of the total number of trips, based on data from the *Pre-Census Travel Behavior Report*.

The walk trip reduction for the residential component of the proposed project was assumed to be 38.9 percent of the total number of daily trips (the walk trip reduction was 40 percent during the a.m. peak hour and 38.8 percent during the p.m. peak hour). These adjustments to residential trips were based on the differences between walk shares from the survey of Capitol Towers residents and the walk shares

from the *Pre-Census Travel Behavior Report*. The walk share of total daily trips from the Capitol Towers Travel Survey was assumed to be 44.5 percent (the average of the 45 percent AM walk share and the 44 percent PM peak hour walk share).

Internal Trip Adjustments

After the adjustments were made for transit, walk, bike, and other non-auto travel, an adjustment was made to account for internal trips between different types of land uses within each parcel within the proposed project. The internal trip adjustments were performed using procedures recommended by the Institute of Transportation Engineers for multi-use developments (*Trip Generation Handbook*, 2012). Internal trips are trips that would occur between different land uses within the same site without accessing the street system. The worksheets in Appendix C titled “*Trips Among All Parcels*” summarize these trip calculations.

The project is expected to have a minimal amount of vehicle pass-by trips⁷. Given the small number of these trip types, no pass-by trips were assumed for retail uses in the analysis in order to provide a more conservative analysis.

Table 7 and Table 8 summarize the automobile trip generation results for the Hotel Scenario and No Hotel Scenario, respectively. Detailed, parcel-by-parcel summary and worksheet calculations are contained in Appendix C.

Table 9 and Table 10 present the net new transit trip generation for the Hotel Scenario and No Hotel Scenario, respectively. See Appendix C.

⁷ A pass-by trip is a project trip that is already on the streets adjacent to the project prior to construction. These trips will visit the project site but will only impact project driveways and not nearby intersections since they are already accounted for in traffic data collected for existing conditions.

Table 7: Trip Generation Summary for Proposed Project, Hotel Scenario

Land Use	Size	Units	Week-day	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Retail (Shopping Center, ITE 820)	65.0	KSF	7,734	118	73	191	316	343	659
Hotel (ITE 310)	320	Rooms	2,491	100	70	170	98	94	192
Mid-rise Apartment (Includes Live/Work, ITE 223 and 221)	533	Units	3,891	55	124	179	128	94	222
High-rise Apartment (Includes Live/Work, ITE 222)	686	Units	3,000	52	155	207	149	95	244
<i>Total Project Trips</i>			<i>17,116</i>	<i>325</i>	<i>422</i>	<i>747</i>	<i>691</i>	<i>626</i>	<i>1317</i>
Transit Adjustments (-3.7%) ^A			-629	-13	-16	-29	-26	-25	-51
Walk, Bike & Other Non-Auto Travel Adjustments (-26.6%) ^A			-4,548	-97	-149	-246	-180	-151	-331
Internal Trips Within This Site (-7.8%) ^A			-1,334	-17	-17	-34	-60	-60	-120
<i>Total External Automobile Trips for New Project</i>			<i>10,605</i>	<i>198</i>	<i>240</i>	<i>438</i>	<i>425</i>	<i>390</i>	<i>815</i>
<i>External Automobile Trips for Existing Land Uses</i>			<i>-1,358</i>	<i>-28</i>	<i>-100</i>	<i>-128</i>	<i>-98</i>	<i>-52</i>	<i>-150</i>
Net New External Automobile Trips^B			9,247	170	140	310	327	338	665

Source: Kittelson & Associates, Inc., 2014.

^A The percentages shown are calculated as the sum of the transit, walk or internal trips per parcel divided by the total project trips for the parcels.

^B Net New External Automobile Trips is the Total External Automobile Trips for the New Project minus (or plus the negative value of) the External Automobile for the Existing Land Uses to be replaced by the Proposed Project.

Table 8: Trip Generation Summary for Proposed Project, No Hotel Scenario

Land Use	Size	Units	Week-day	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Retail (Shopping Center, ITE 820)	61.0	KSF	7,465	115	70	185	304	331	635
Mid-rise Apartment (Includes Live/Work, ITE 223 and 221)	533	Units	3,891	55	124	179	128	94	222
High-rise Apartment (Includes Live/Work, ITE 222)	786	Units	3,422	59	178	237	168	108	276
<i>Total Project Trips</i>			<i>14,778</i>	<i>229</i>	<i>372</i>	<i>601</i>	<i>600</i>	<i>533</i>	<i>1,133</i>
Transit Adjustments (-3.6%) ^A			-522	-9	-14	-23	-22	-20	-42
Walk, Bike & Other Non-Auto Travel Adjustments (-25.9%) ^A			-3,712	-59	-130	-189	-149	-118	-267
Internal Trips Within This Site (-8.2%) ^A			-1,286	-17	-17	-34	-54	-54	-108
<i>Total External Automobile Trips for New Project</i>			<i>9,258</i>	<i>144</i>	<i>211</i>	<i>355</i>	<i>371</i>	<i>337</i>	<i>708</i>
<i>External Automobile Trips for Existing Land Uses</i>			<i>-1,358</i>	<i>-28</i>	<i>-100</i>	<i>-128</i>	<i>-98</i>	<i>-52</i>	<i>-150</i>
Net New External Automobile Trips^B			7,900	116	111	227	273	285	558

Source: Kittelson & Associates, Inc., 2014.

^A The percentages shown are calculated as the sum of the transit, walk or internal trips per parcel divided by the total project trips for the parcels.

^B Net New External Automobile Trips is a sum of the Total External Automobile Trips for the New Project and the External Automobile for the Existing Land Uses to be replaced by the Proposed Project.

Table 9: Net New Transit Trip Generation Summary for Proposed Project, Hotel Scenario

City Block	New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	198	3	7	10	10	8	18
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 1	173	3	5	8	9	7	16
Parcel 2A							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	113	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2A	101	2	2	4	3	4	7
Parcel 2B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	113	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2B	101	2	2	4	3	4	7
Parcel 3, 4A, and 4B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	294	7	6	13	11	11	22
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 3, 4A, and 4B	269	7	4	11	10	10	20
Entire Site Net New Transit Trips	644	14	13	27	25	25	50
Source: Kittelson & Associates, Inc., 2014 See Appendix C & D for the transit trip calculations methodology.							

Table 10: Net New Transit Trip Generation Summary for Proposed Project, No Hotel Scenario

City Block	New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	198	3	7	10	10	8	18
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 1	173	3	5	8	9	7	16
Parcel 2A							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	113	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2A	101	2	2	4	3	4	7
Parcel 2B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	113	2	3	5	4	4	8
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2B	101	2	2	4	3	4	7
Parcel 3, 4A, and 4B							
<i>Proposed Project Transit Trips – Accounts for base increase and downtown location increase</i>	173	2	4	6	7	6	13
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 3, 4A, and 4B	148	2	2	4	6	5	11
Entire Site Net New Transit Trips	523	9	11	20	21	20	41
Source: Kittelson & Associates, Inc., 2014 See Appendix C & D for the transit trip calculations methodology.							

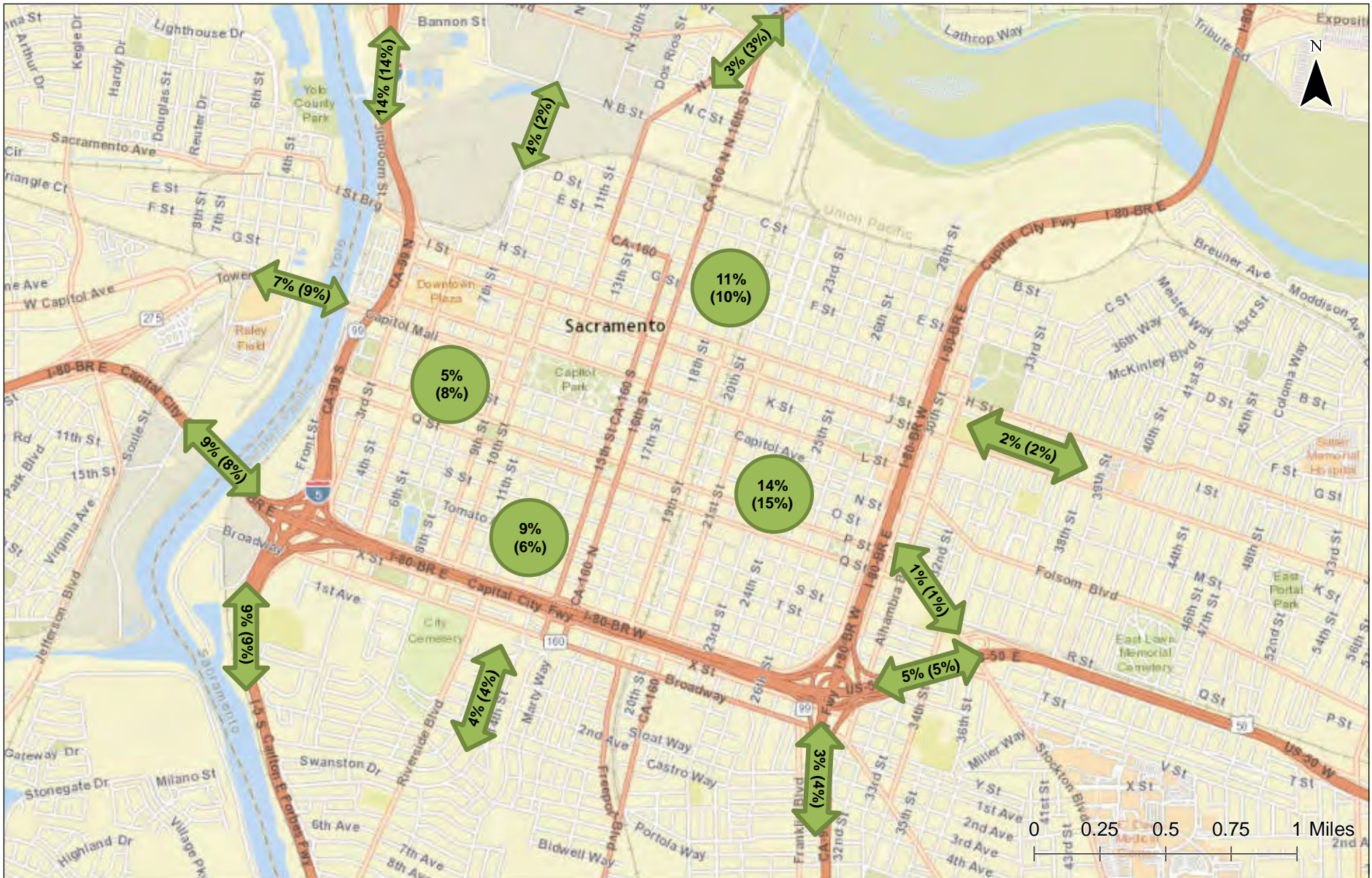
4.4 Trip Distribution and Assignment

The expected distribution of vehicle trips associated with the proposed project in the study area was derived from the SACMET travel demand model, the layout of the proposed site, and the proposed driveway access locations. The land use for the traffic model zones, within which the proposed project is located, was altered to better define the proposed project's land use. Figure 8 and Figure 9 show the Project Only volumes at the study intersections for the Hotel Scenario and No Hotel Scenario, respectively.

Figure 7 shows the AM and PM peak hour trip distribution percentages for project trips within the City of Sacramento. Trip distribution percentages for both the hotel option and no hotel option were found to be similar. This is due to the one-way street network in Downtown Sacramento that limits the number of different routes motorists can choose from. Therefore, Figure 7 is representative of both scenarios.

The plus project volumes (shown in Figure 10, Figure 11, Figure 13, and Figure 14) do consider changes in background traffic as well as the project trips obtained from the distribution of the trip generation results.

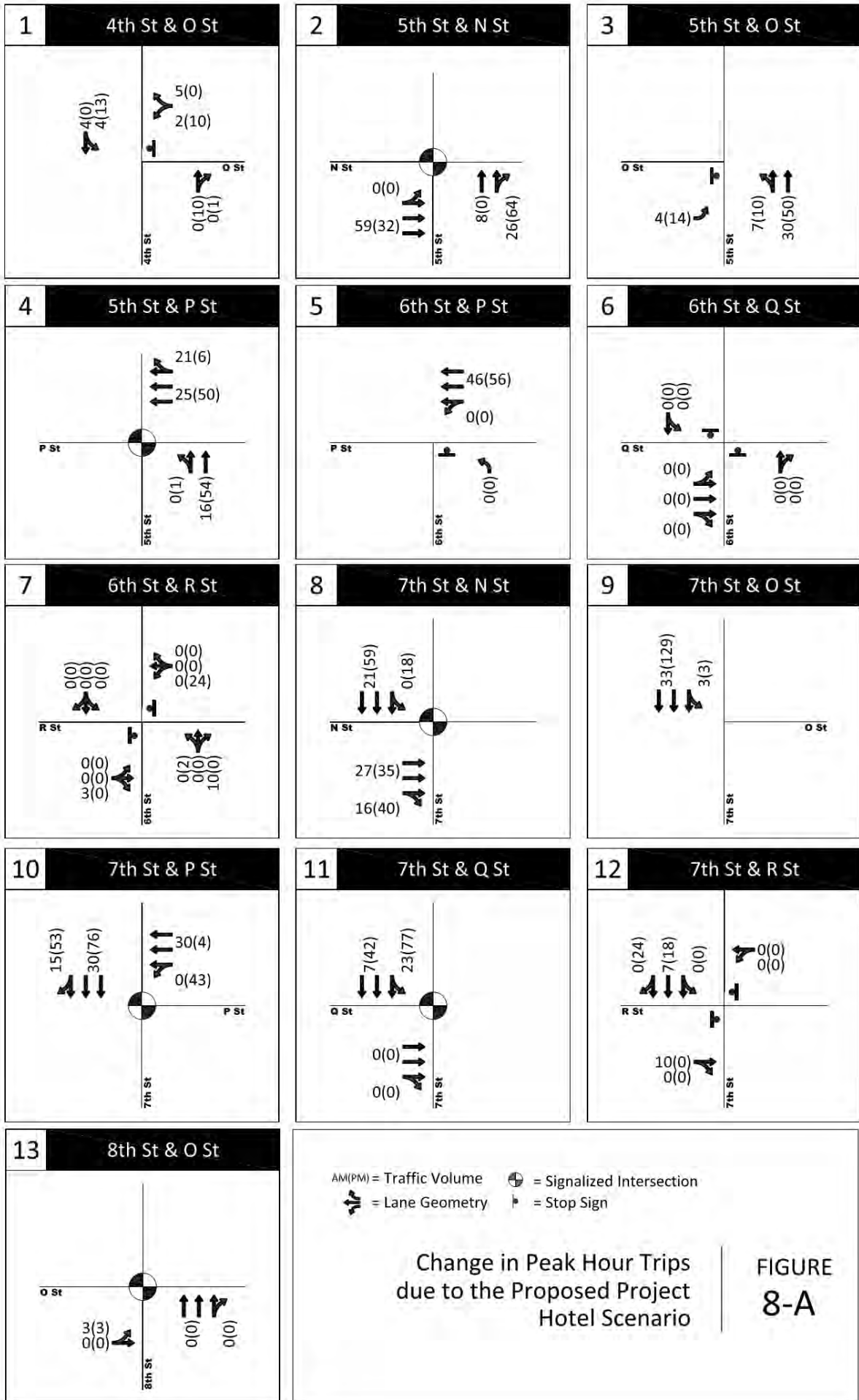
Raw model plots for trip distribution/assignment are contained in Appendix E.

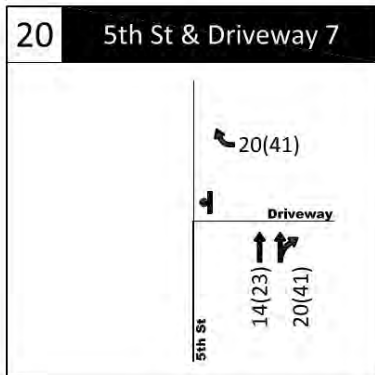
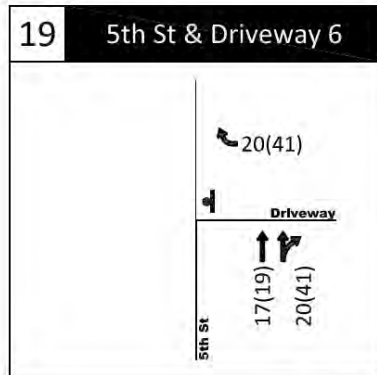
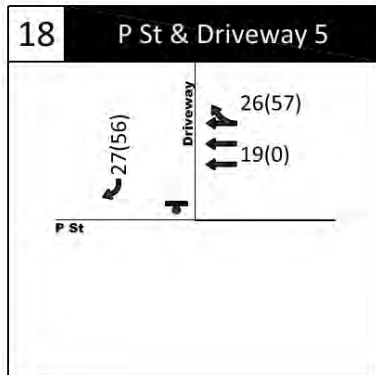
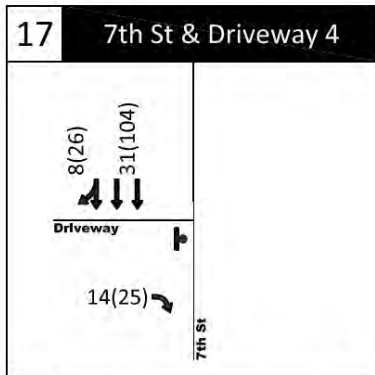
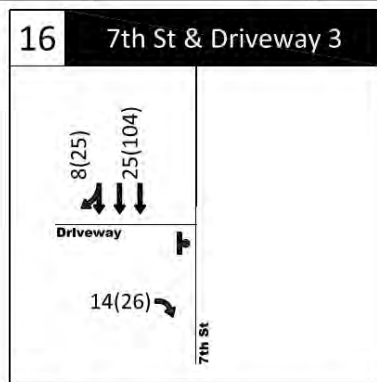
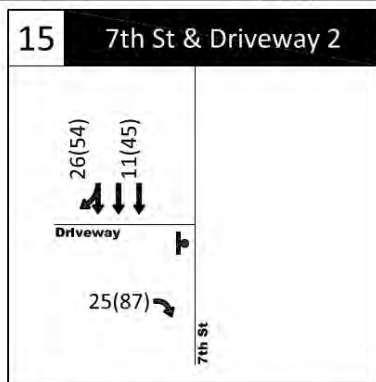
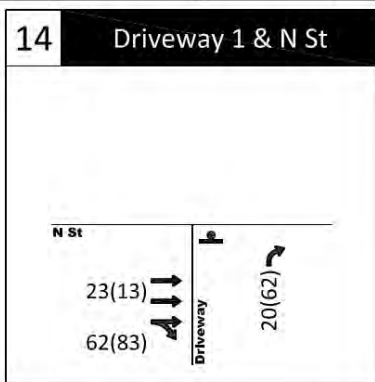
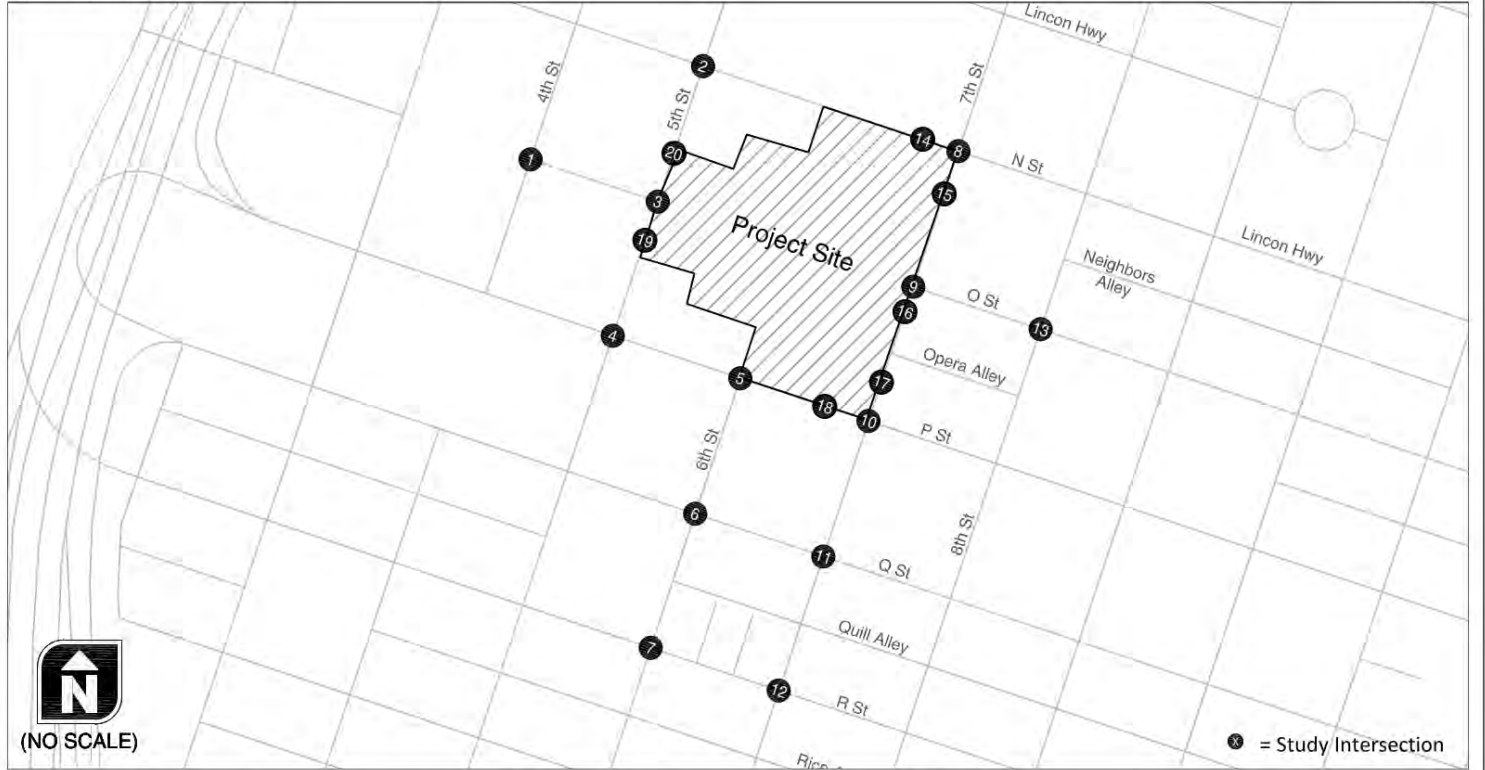


**Project Trip Distribution
AM and (PM) Peak Hours
Sacramento, CA**

**Figure
7**

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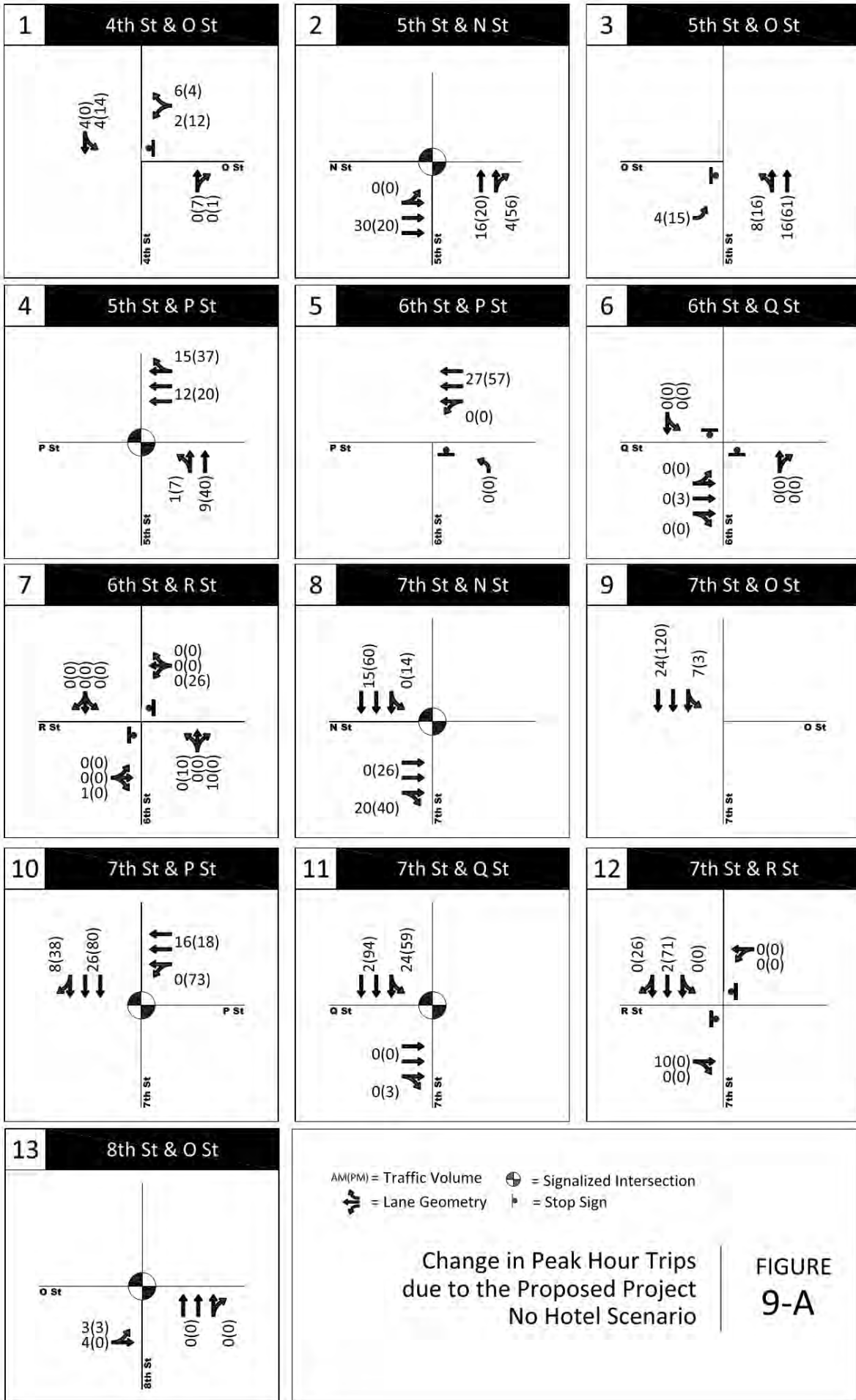
AM(PM) = Traffic Volume ⊕ = Signalized Intersection
 ↕ = Lane Geometry ▮ = Stop Sign

**Change in Peak Hour Trips
 due to the Proposed Project
 Hotel Scenario**

**FIGURE
 8-B**

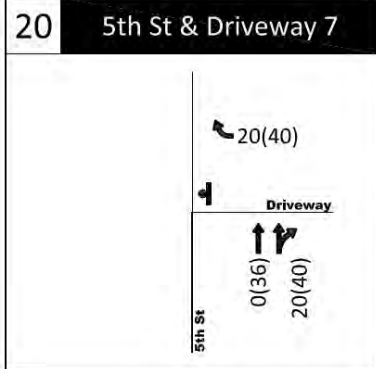
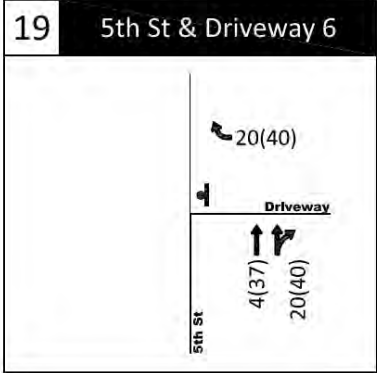
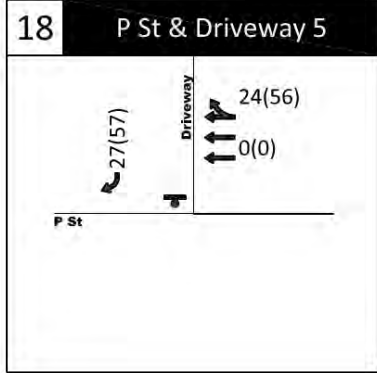
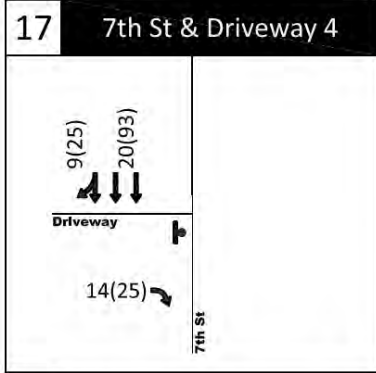
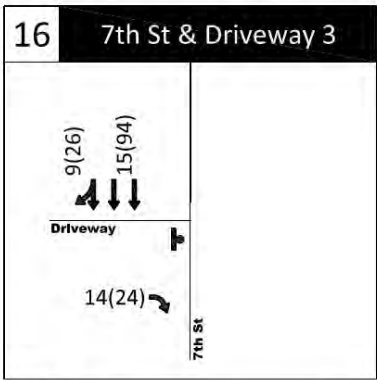
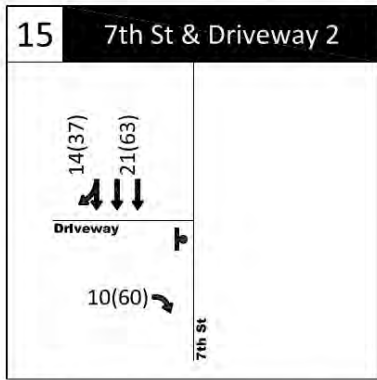
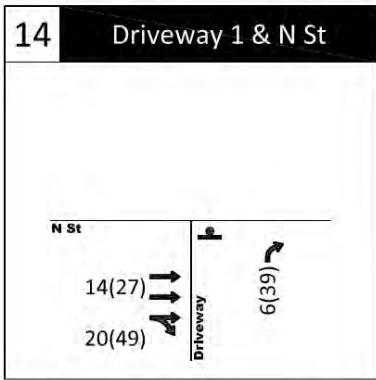
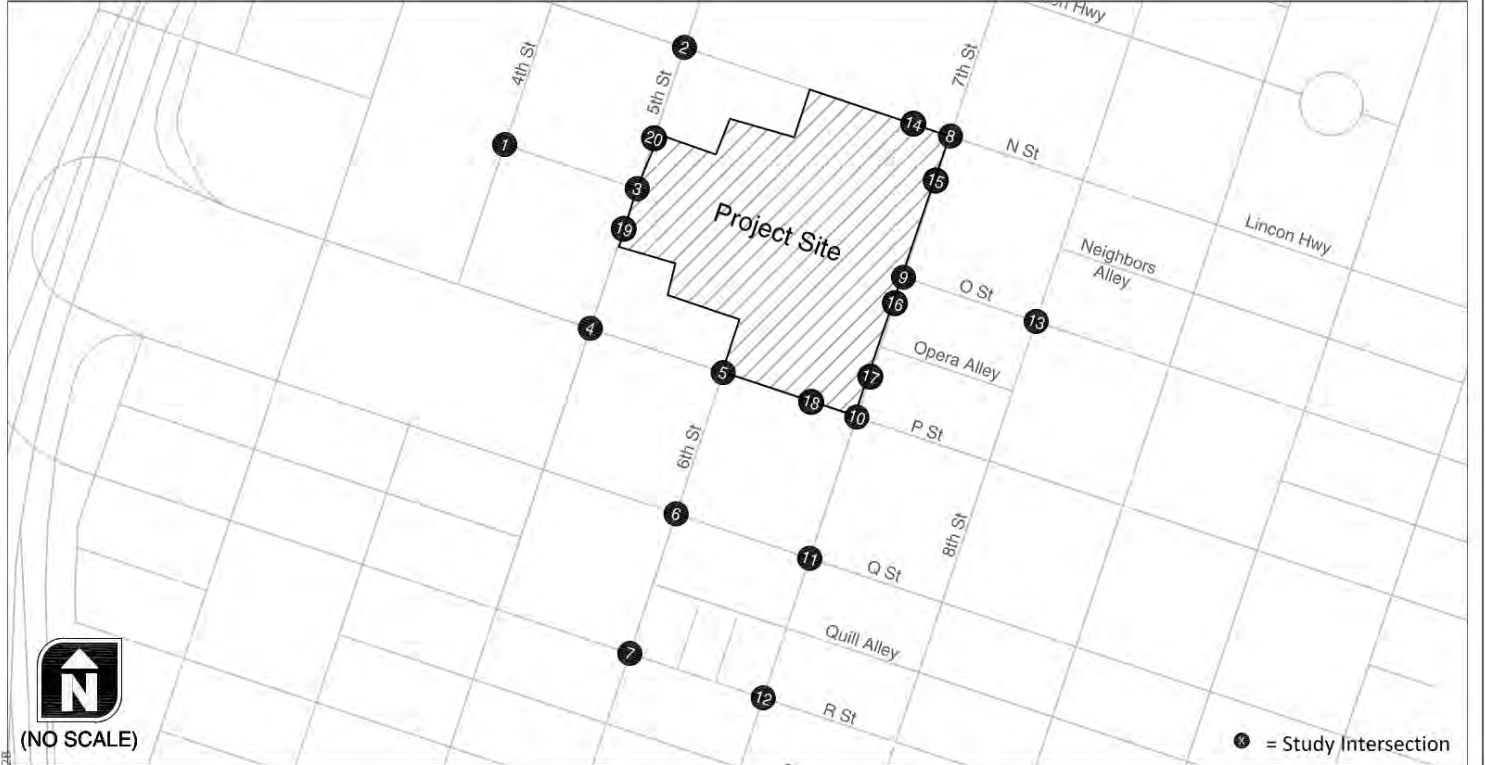
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AM(PM) = Traffic Volume ⊕ = Signalized Intersection
 ↕ = Lane Geometry ▮ = Stop Sign

**Change in Peak Hour Trips
 due to the Proposed Project
 No Hotel Scenario**

**FIGURE
 9-B**

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4.5 Existing Plus Project

The Existing Plus Project condition analyzes the impact of adding project traffic to the Existing Conditions. The traffic analysis results for the Existing Plus Project condition are compared with the Existing Conditions to determine if the proposed project has no impact, less than significant impact, significant but avoidable impact with mitigation, or significant and unavoidable proposed project impacts.

Intersections

The Existing Plus Project traffic analysis indicates how the study area's transportation system will operate with the traffic generated by the proposed project. The AM and PM project trips (shown in Figure 8 and Figure 9 for the Hotel Scenario and No Hotel Scenario, respectively) were added to the Existing Conditions volumes. The total traffic volumes for the Existing Plus Project condition are shown in Figure 10 and Figure 11 for the Hotel Scenario and No Hotel Scenario, respectively.

Level-of-service results for Existing Plus Project scenarios are shown in Table 11 and Table 12 for the AM and PM peak hours, respectively. As shown in these tables, each study intersection would continue to operate at overall LOS C or better with the addition of project traffic to the study intersections. Analysis worksheets for these scenarios are included in Appendix F.

Table 11: LOS for Existing Conditions and Existing Plus Project in the AM Peak Hour

#	North-South Cross Street	East-West Cross Street	Control	Existing Conditions		Existing Plus Project (Hotel Scenario)		Existing Plus Project (No Hotel Scenario)	
				Delay	LOS	Delay	LOS	Delay	LOS
1	4th St	O St	TWSC	4.9 (9.7)	A (A)	5.1 (9.8)	A (A)	5.1 (9.8)	A (A)
2	5th St	N St	Signalized	19.2	B	19.8	B	19.5	B
3	5th St	O St	TWSC	1.9 (24.9)	A (C)	2.1 (27.1)	A (D)	2.1 (26.8)	A (D)
4	5th St	P St	Signalized	14.7	B	15.0	B	14.9	B
5	6th St	P St	TWSC	0.5 (10.6)	A (B)	0.5 (10.8)	A (B)	0.5 (10.7)	A (B)
6	6th St	Q St	TWSC	0.4 (22.3)	A (C)	0.4 (22.3)	A (C)	0.4 (22.3)	A (C)
7	6th St	R St	TWSC	4.2 (10.5)	A (B)	4.1 (10.6)	A (B)	4 (10.5)	A (B)
8	7th St	N St	Signalized	7.2	A	7.3	A	7.2	A
9	7th St	O St	None	0.0*	A*	0.0*	A*	0.0*	A*
10	7th St	P St	Signalized	9.7	A	9.8	A	9.7	A
11	7th St	Q St	Signalized	15.9	B	15.8	B	15.8	B
12	7th St	R St	TWSC	0.9 (9.8)	A (A)	1.2 (9.9)	A (A)	1.2 (9.8)	A (A)
13	8th St	O St	Signalized	5.1	A	5.1	A	5.2	A
14	Driveway 1	N St	TWSC	N/A	N/A	0.4 (11.1)	A (B)	0.1 (10.8)	A (B)
15	7th St	Driveway 2	TWSC	N/A	N/A	0.6 (10.4)	A (B)	0.2 (10.3)	A (B)
16	7th St	Driveway 3	TWSC	N/A	N/A	0.4 (10.3)	A (B)	0.4 (10.2)	A (B)
17	7th St	Driveway 4	TWSC	N/A	N/A	0.5 (9.9)	A (A)	0.5 (9.8)	A (A)
18	Driveway 5	P St	TWSC	N/A	N/A	0.5 (11.7)	A (B)	0.5 (11.6)	A (B)
19	5th St	Driveway 6	TWSC	N/A	N/A	0.2 (13.7)	A (B)	0.2 (13.6)	A (B)
20	5th St	Driveway 7	TWSC	N/A	N/A	0.2 (12.8)	A (B)	0.2 (12.7)	A (B)

Highway Capacity Manual 2010 Methodology

Control delays for unsignalized (TWSC) intersections are presented as follows: Average (Worst Approach)

Gray-shaded cells indicate intersections that are only present in Plus Project conditions.

* O Street between 7th and 9th Streets is one-way eastbound, therefore, there is no intersection delay at 7th Street and O Street.

Source: Kittelson & Associates, 2014.

Table 12: LOS for Existing Conditions and Existing Plus Project in the PM Peak Hour

#	North-South Cross Street	East-West Cross Street	Control	Existing Conditions		Existing Plus Project (Hotel Scenario)		Existing Plus Project (No Hotel Scenario)	
				Delay	LOS	Delay	LOS	Delay	LOS
1	4th St	O St	TWSC	6.7 (12.7)	A (B)	7.1 (13.6)	A (B)	7.2 (13.6)	A (B)
2	5th St	N St	Signalized	14.7	B	15.4	B	15.5	B
3	5th St	O St	TWSC	2 (15.2)	A (C)	2.3 (16.7)	A (C)	2.4 (17.3)	A (C)
4	5th St	P St	Signalized	18.7	B	19.3	B	19.4	B
5	6th St	P St	TWSC	1 (16.6)	A (C)	1 (17.3)	A (C)	1 (17.3)	A (C)
6	6th St	Q St	TWSC	1.6 (13.0)	A (B)	1.6 (13.0)	A (B)	1.6 (13.0)	A (B)
7	6th St	R St	TWSC	4.5 (10.6)	A (B)	5.2 (10.9)	A (B)	5.3 (11.1)	A (B)
8	7th St	N St	Signalized	7.5	A	7.7	A	7.7	A
9	7th St	O St	None	0.0*	A*	0.0*	A*	0.0*	A*
10	7th St	P St	Signalized	12.3	B	12.8	B	13.0	B
11	7th St	Q St	Signalized	12.3	B	13.0	B	13.2	B
12	7th St	R St	TWSC	0.6 (10.7)	A (B)	0.5 (10.8)	A (B)	0.5 (11.1)	A (B)
13	8th St	O St	Signalized	4.9	A	5.0	A	5.0	A
14	Driveway 1	N St	TWSC	N/A	N/A	1 (12.4)	A (B)	0.6 (12.0)	A (B)
15	7th St	Driveway 2	TWSC	N/A	N/A	1.3 (13.2)	A (B)	0.9 (12.7)	A (B)
16	7th St	Driveway 3	TWSC	N/A	N/A	0.4 (12.3)	A (B)	0.4 (12.2)	A (B)
17	7th St	Driveway 4	TWSC	N/A	N/A	0.4 (12.7)	A (B)	0.4 (12.6)	A (B)
18	Driveway 5	P St	TWSC	N/A	N/A	0.7 (20.5)	A (C)	0.7 (20.6)	A (C)
19	5th St	Driveway 6	TWSC	N/A	N/A	0.5 (11.5)	A (B)	0.5 (11.5)	A (B)
20	5th St	Driveway 7	TWSC	N/A	N/A	0.5 (11.5)	A (B)	0.5 (11.5)	A (B)

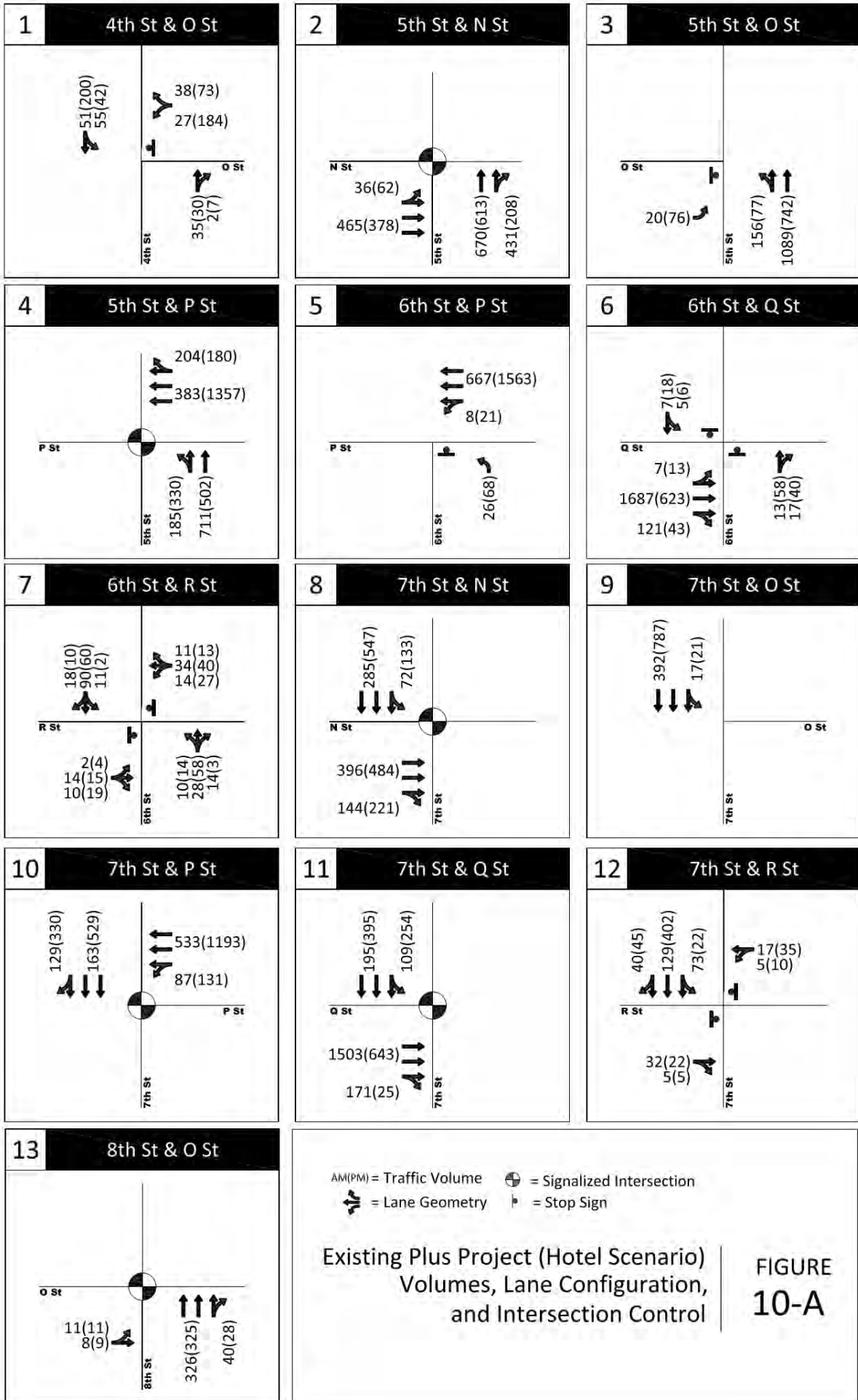
Highway Capacity Manual 2010 Methodology

Control delays for unsignalized (TWSC) intersections are presented as follows: Average (Worst Approach)

Gray-shaded cells indicate intersections that are only present in Plus Project conditions.

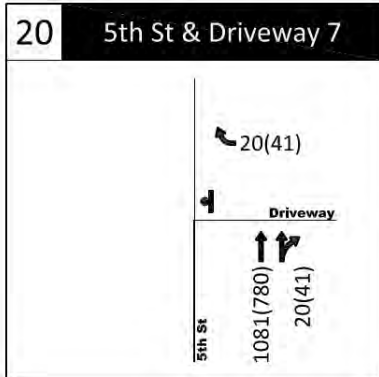
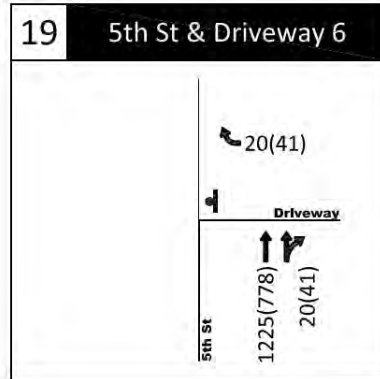
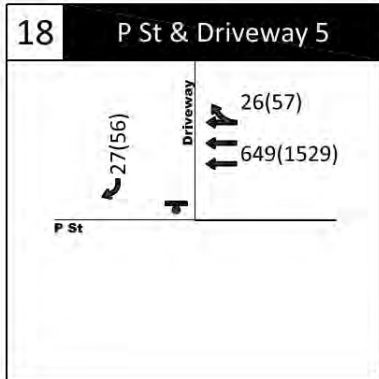
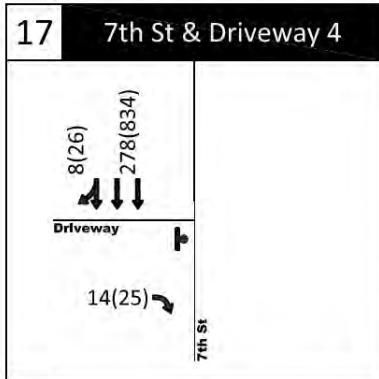
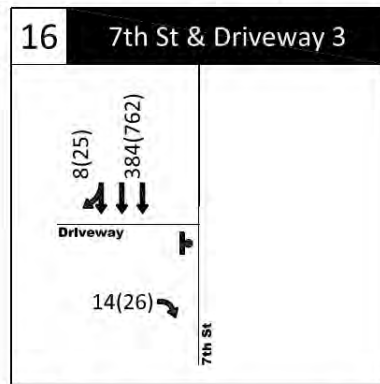
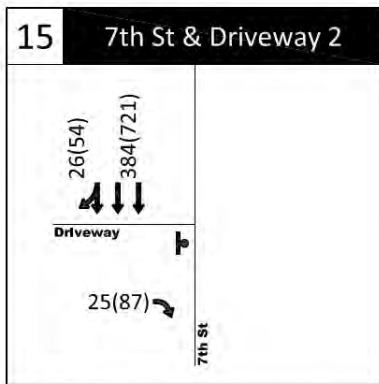
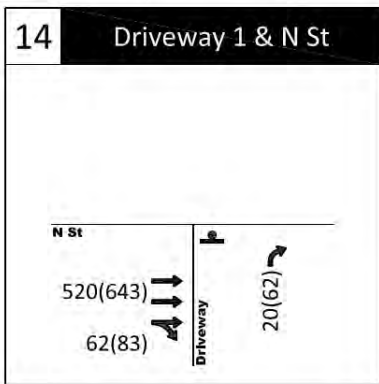
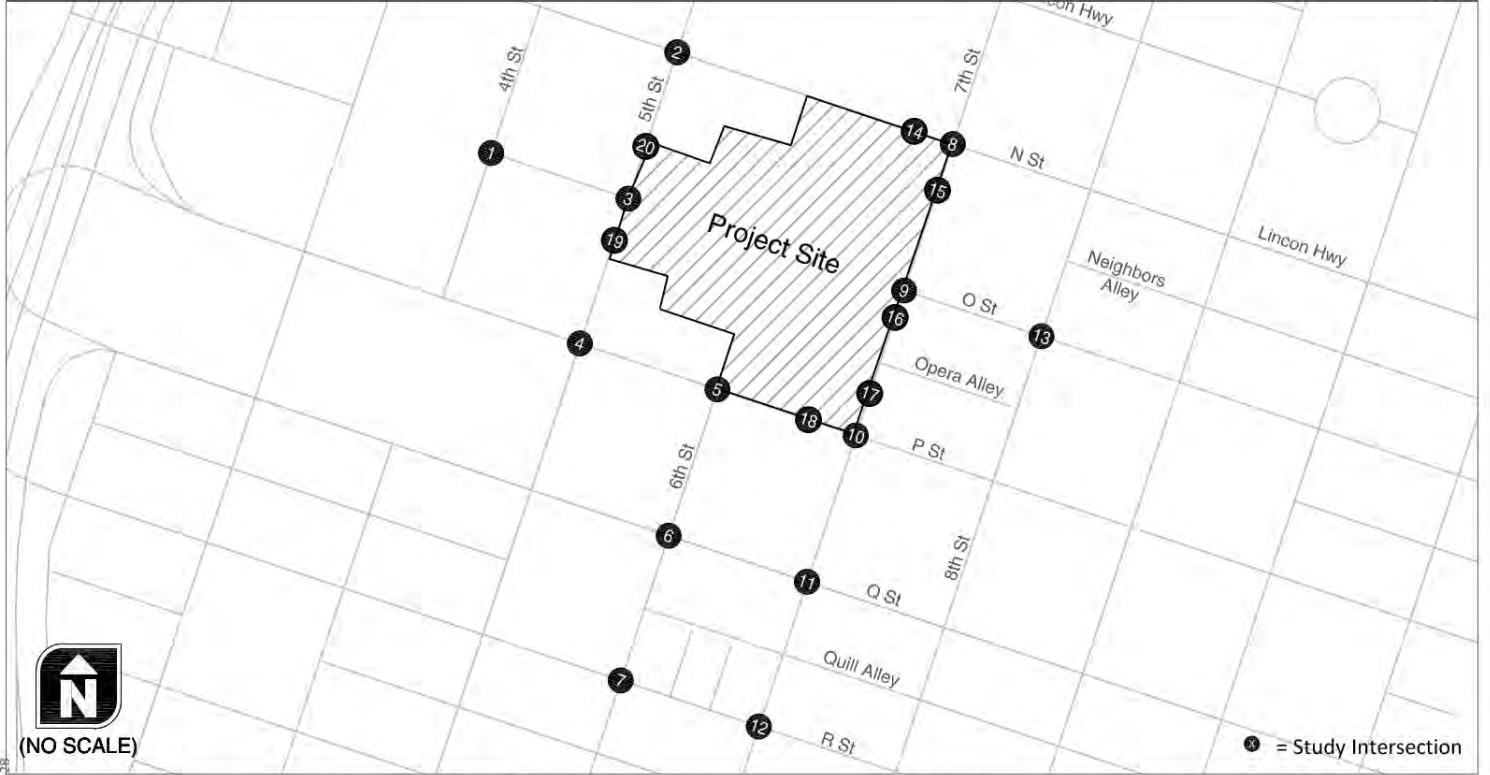
* O Street between 7th and 9th Streets is one-way eastbound, therefore, there is no intersection delay at 7th Street and O Street.

Source: Kittelson & Associates, 2014.



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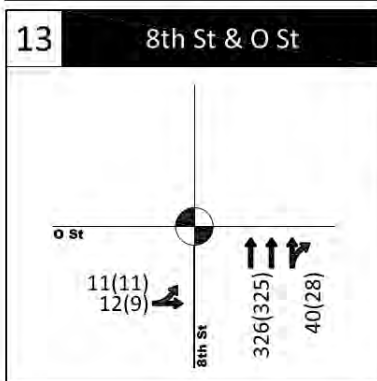
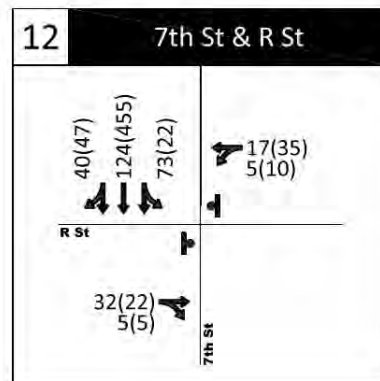
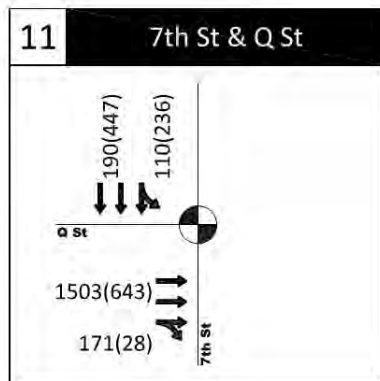
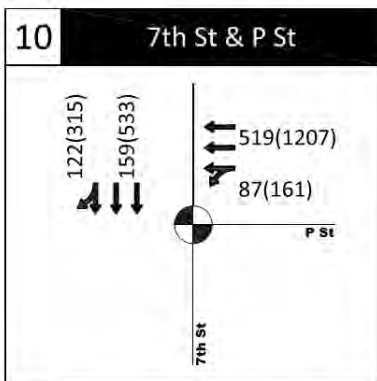
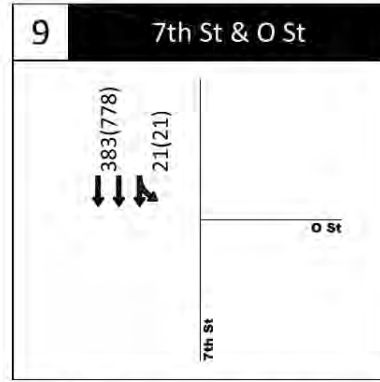
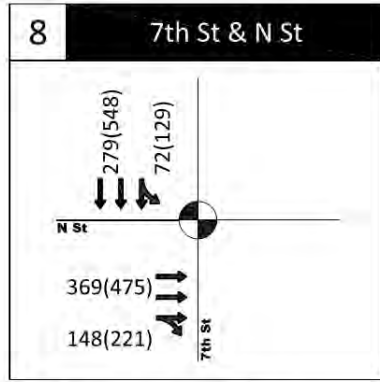
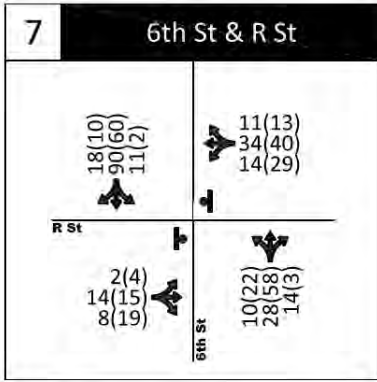
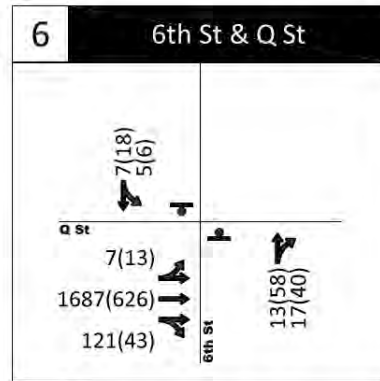
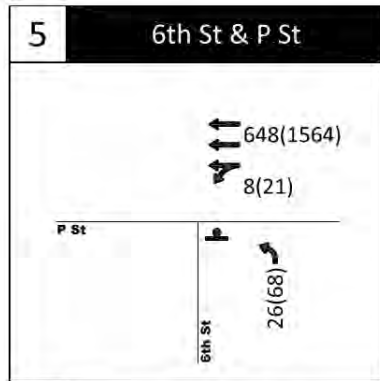
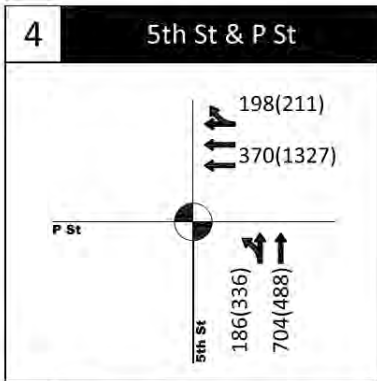
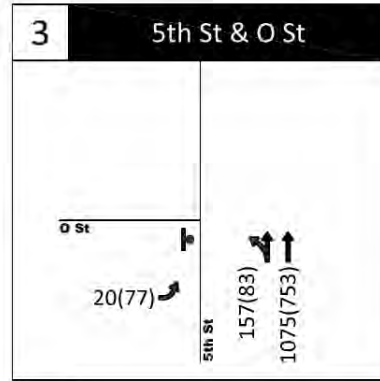
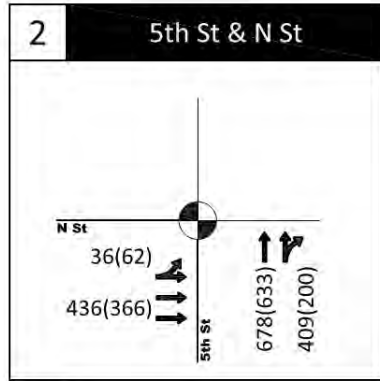
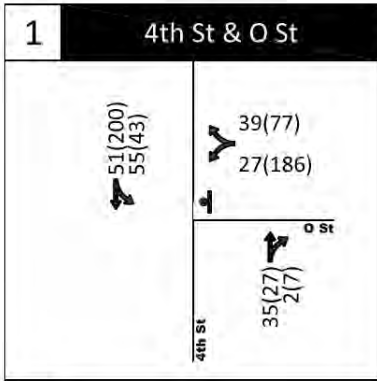
AM(PM) = Traffic Volume ⊕ = Signalized Intersection
 ↕ = Lane Geometry ▮ = Stop Sign

**Existing Plus Project (Hotel Scenario)
 Volumes, Lane Configuration,
 and Intersection Control**

FIGURE 10-B

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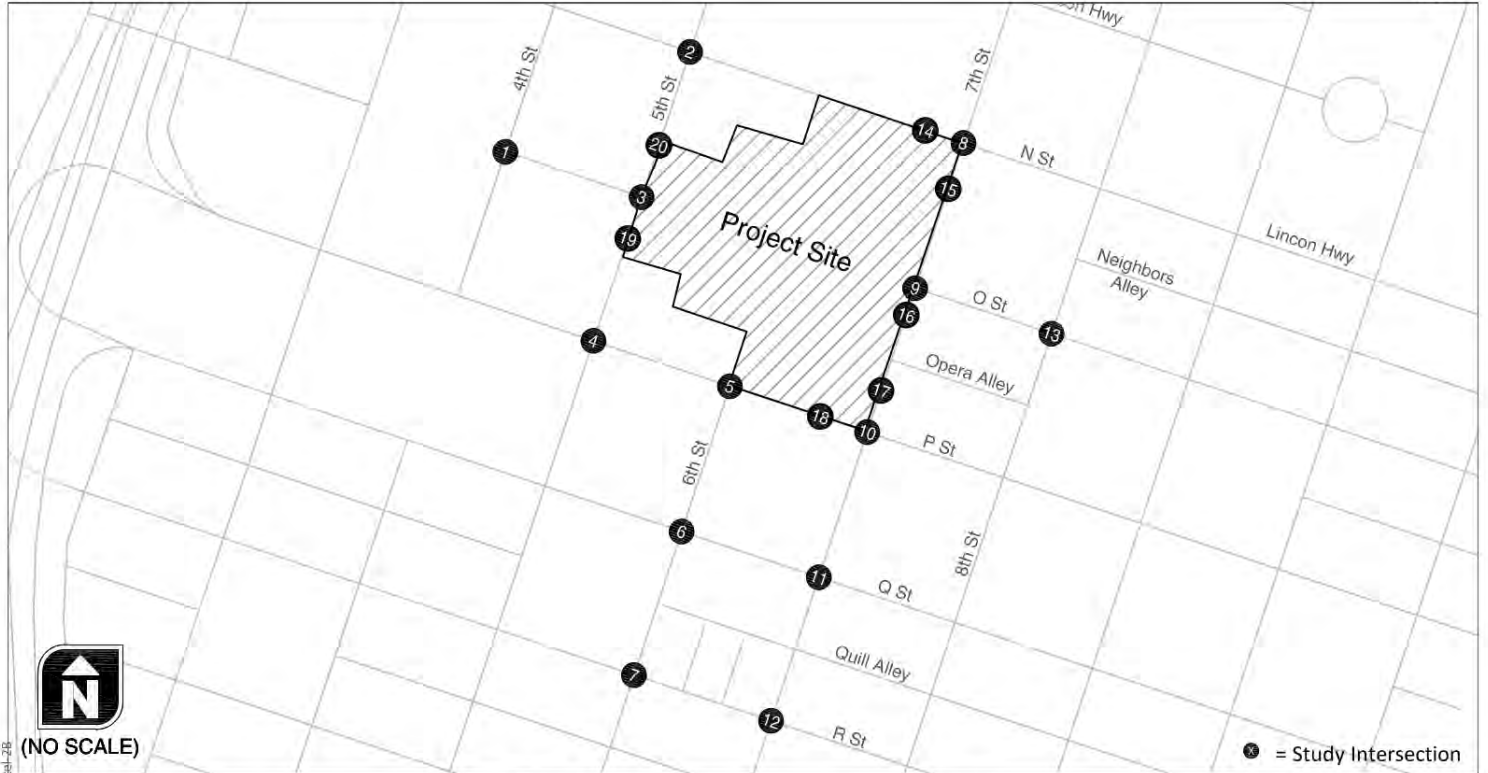


AM(PM) = Traffic Volume ⊕ = Signalized Intersection
 ↕ = Lane Geometry ▮ = Stop Sign

Existing Plus Project (No Hotel Scenario)
Volumes, Lane Configuration,
and Intersection Control

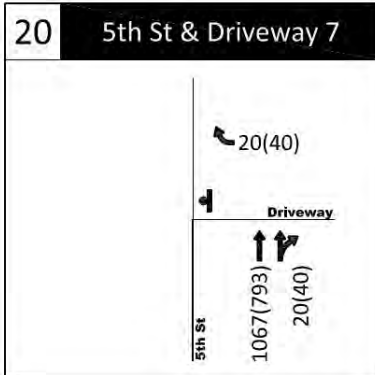
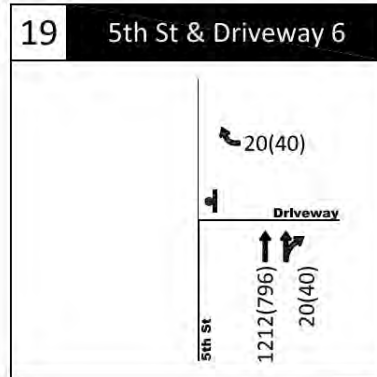
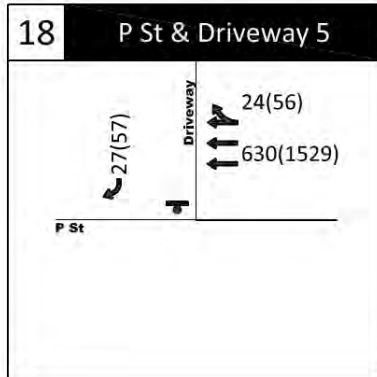
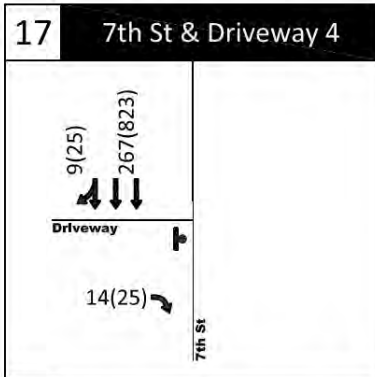
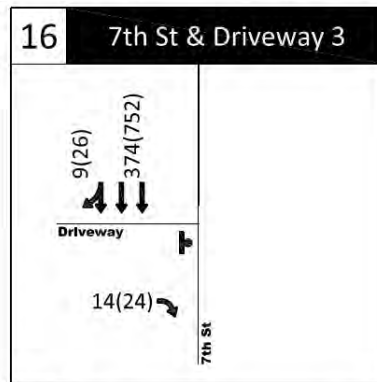
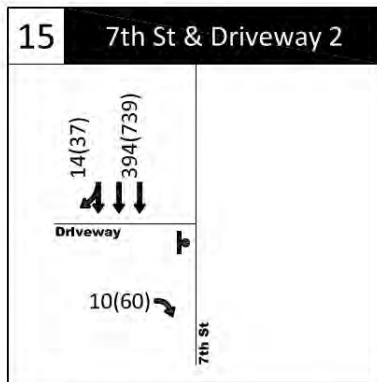
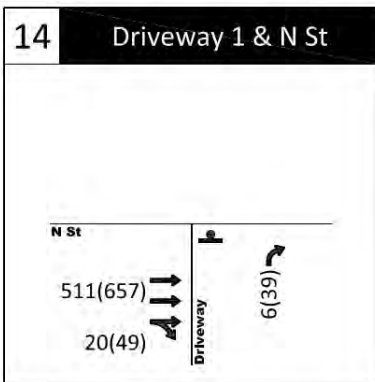
FIGURE 11-A





(NO SCALE)

● = Study Intersection



AM(PM) = Traffic Volume ● = Signalized Intersection
 ↕ = Lane Geometry ▮ = Stop Sign

Existing Plus Project (No Hotel Scenario)
Volumes, Lane Configuration,
and Intersection Control

FIGURE 11-B

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In addition to an LOS analysis, each unsignalized study intersection were assessed in the Existing Conditions and Existing Plus Project conditions to determine if they met the peak hour signal warrant as described in the 2012 California MUTCD. None of the unsignalized study intersections meet the peak hour signal warrant under Existing Conditions or the Existing Plus Project scenarios in the AM or PM peak hour as shown in Table 13. Full documentation of these findings is provided in Appendix I.

Table 13: Existing Signal Warrant Analysis Summary

#	Intersection	AM			PM		
		Existing Conditions	Existing Plus Project (Hotel Scenario)	Existing Plus Project (No Hotel Scenario)	Existing Conditions	Existing Plus Project (Hotel Scenario)	Existing Plus Project (No Hotel Scenario)
1	4th St & O St	No	No	No	No	No	No
3	5th St & O St	No	No	No	No	No	No
5	6th St & P St	No	No	No	No	No	No
6	6th St & Q St	No	No	No	No	No	No
7	6th St & R St	No	No	No	No	No	No
12	7th St & R St	No	No	No	No	No	No
14	Driveway 1 & N St	No	No	No	No	No	No
15	7th St & Driveway 2	No	No	No	No	No	No
16	7th St & Driveway 3	No	No	No	No	No	No
17	7th St & Driveway 4	No	No	No	No	No	No
18	Driveway 5 & P St	No	No	No	No	No	No
19	5th St & Driveway 6	No	No	No	No	No	No
20	5th St & Driveway 7	No	No	No	No	No	No

Source: Kittelson & Associates, 2014

Transit Operations

The anticipated transit trips that the proposed project will generate for the Hotel Scenario and No Hotel Scenario are shown in Table 9 and Table 10, respectively. As these tables show, the proposed project will generate between 20 and 30 transit trips in the AM peak hour and 40 to 50 transit trips in the PM peak hour. With 14 transit lines near the project site, each running multiple transit vehicles in the peak hours, the proposed project adequately provides access to transit. A total of 26 bus stops and four light rail stops are located within a quarter mile of the center of the project site.

Bicycle and Pedestrians

The proposed project is expected to generate more than 8,000 vehicle trips and 4,000 walk, bike, and other non-vehicle trips during a typical weekday as shown in the trip generation tables (Table 7 and Table 8). This increase in trips has the potential to increase the number of pedestrian/bicycle, pedestrian/motor vehicle, and bicycle/motor vehicle conflicts.



The site plan design and overall proposed project is intended to be pedestrian friendly and oriented. As such, it is supportive of the policies and goals in the 2006 Pedestrian Master Plan that identifies this area as a pedestrian street corridor with a wide sidewalk/bike lane present on N Street adjacent to the project site.

4.6 Cumulative 2035 No Project Conditions

Traffic volumes for the Cumulative 2035 No Project Conditions scenario were developed to reflect changes in the regional transportation network and socio-demographic land use data between the Existing Conditions year (2014) and the Cumulative 2035 No Project Conditions year (2035), as presented below. Figure 12 shows the Cumulative 2035 No Project Conditions AM and PM peak hour vehicle trips developed by the model.

Land Use and Transportation System Assumptions

The cumulative version of the SACMET model accounts for planned land use growth within the City of Sacramento according to the City’s General Plan, as well as growth in the surrounding region.

The SACMET model also accounts for planned improvements to the surrounding transportation system, and incorporates the current Sustainable Communities Strategy (SCS) and Metropolitan Transportation Plan (MTP) for the Sacramento region. The version of the model used to develop the Cumulative 2035 No Project Conditions scenario was modified by Fehr & Peers in 2013 to include the most recent planned land uses and transportation projects within the City of Sacramento, including the Entertainment and Sports Center (ESC). Table 14 presents a summary of the ESC increase in land uses (by type) over the SACMET base year land uses.

Table 14: SACMET Base Year and ESC Land Uses

Land Use Type	Units	2012-2013 Occupied Land Uses ¹	ESC Land Uses ²	Net Increase
Office	sq. ft.	103,751	475,000	371,249
Inline Retail	sq. ft.	141,998	150,000	8,002
Restaurant	sq. ft.	19,155	100,000	80,845
Macys East J	sq. ft.	114,000	0	-114,000
Macys West	sq. ft.	332,500	332,500	0
Fitness Center	sq. ft.	50,848	50,000	-848
Cinema	sq. ft.	42,370	50,000	7,630
Residential	units	0	550	550
Hotel	rooms	0	250	250
Total		804,622 sq. ft.	1,157,500 sq. ft. 550 resid.units 250 hotel rooms	352,878 sq. ft. 550 resid. units

1. Based on data provided by JMA Ventures
2. Based on ESC project description
3. Third floor unoccupied

Source: Fehr & Peers, 2013



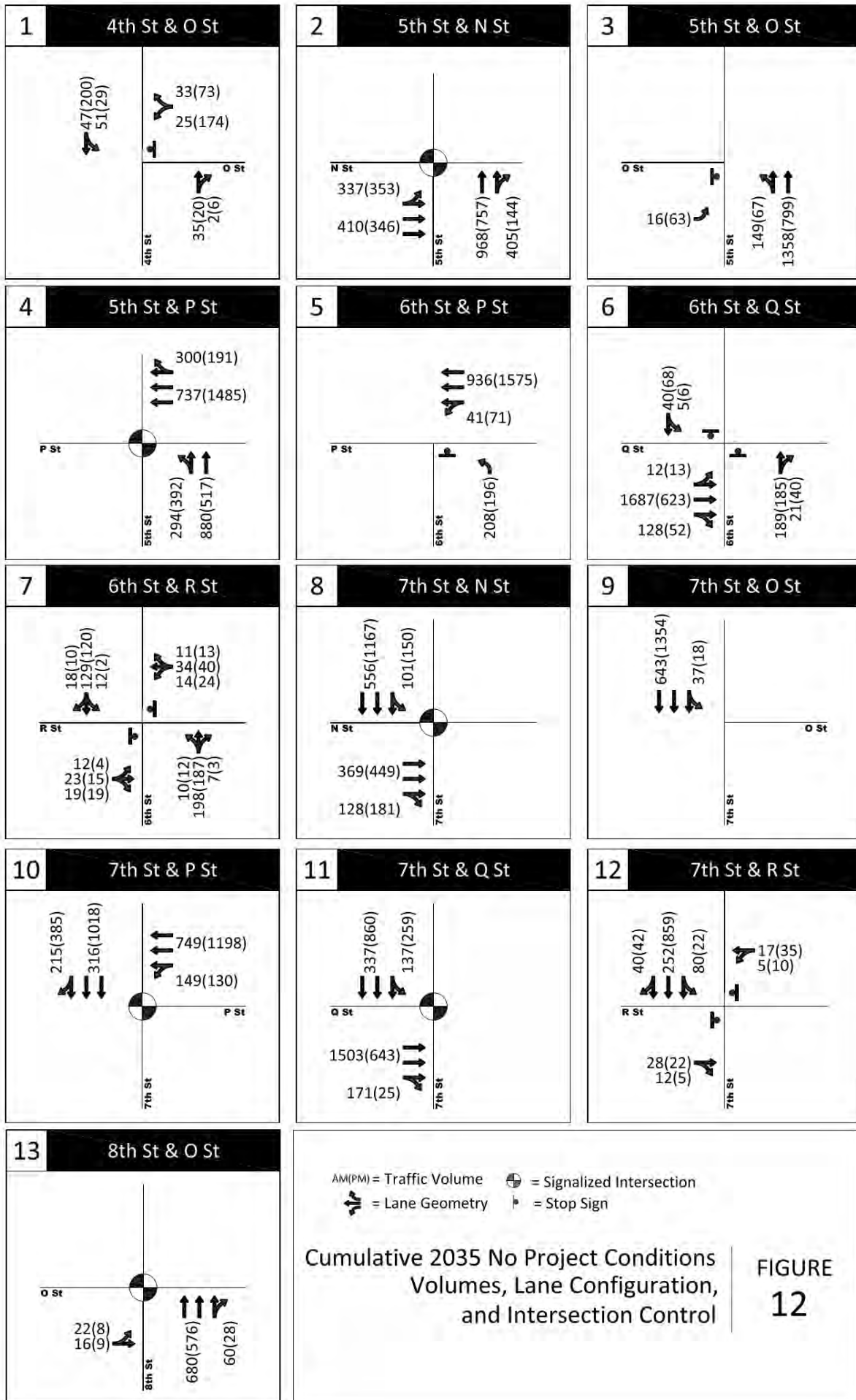
The cumulative analysis also assumes a variety of reasonably foreseeable planned roadway improvements included in the MTP in the proposed project's vicinity including:

- The reduction of the Tower Bridge from four to two lanes to accommodate a streetcar;
- I Street Bridge Replacement over the Sacramento River to new location slightly to the north;
- South Market Crossing Bridge (south of Pioneer Bridge) over the Sacramento River;
- Truxel Road Bridge over the American River;
- Carpool high occupancy vehicle (HOV) lanes on I-5 from the US 50/Capital City Freeway to I-80;
- 3rd Street Conversion Project - converts 3rd Street to two-way operations between Capitol Mall and L Street;
- I-5 Riverfront Reconnection Project (consisting of removal of the slip ramp from L Street/3rd Street to westbound Capitol Mall/Tower Bridge, and a new at-grade signalized intersection on Capitol Mall at Front Street/2nd Street);
- Extensions of 5th Street and 6th Street, Railyards Boulevard, and Bercut Drive into the Railyards Specific Plan area; and
- Sutter's Land Parkway interchange on the Capital City Freeway, including its extension to SR 160/Richards Boulevard/16th Street.

Various off-model adjustments were performed to modify the City's travel model output to be suitable for operational analysis.

The City's General Plan calls for an increase in residential housing density from approximately 40 units per acre to at least 61 units per acre in the vicinity of the Project by 2035. This growth is accounted for in the Cumulative 2035 SACMET model but the exact location of where the growth will occur is unknown. Therefore, the Cumulative Plus Project scenario assumed all growth would occur outside of the project site. This is a more conservative analysis since it is likely some of project growth was already accounted for in the City's General Plan.

Traffic volumes for the Plus Project scenarios were obtained by using five new traffic analysis zones (TAZs) to reflect the Project's parcels. The peak hour trips exiting and entering these TAZs were factored to match the adjusted ITE trip rates presented in Table 7 and Table 8. Finally, the project-only turning movements at the study intersections were added to the Existing Conditions and Cumulative 2035 No Project Conditions volumes to produce Existing Plus Project and Cumulative 2035 Plus Project scenarios, respectively. The process described above was performed separately for the Hotel and No Hotel scenarios.



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The Cumulative 2035 No Project Conditions volumes were analyzed using the Synchro traffic analysis program to determine LOS in the AM and PM peak hours. The results of the Cumulative 2035 No Project Conditions LOS analysis are documented in Table 15. Analysis worksheets are presented in Appendix G.

As Table 15 shows, all intersections would operate at overall LOS C or better in the Cumulative 2035 No Project Conditions scenario. Two intersections, 6th Street/P Street & 6th Street/Q Street, meet the peak hour signal warrant in the Cumulative 2035 No Project Conditions scenario (this is shown further below in Table 18).

Table 15: LOS for Cumulative 2035 No Project Conditions

#	North-South Cross Street	East-West Cross Street	Control	AM		PM	
				Delay	LOS	Delay	LOS
1	4th St	O St	TWSC	4.9 (9.7)	A (A)	6.7 (12.7)	A (B)
2	5th St	N St	Signalized	30.6	C	16.4	B
3	5th St	O St	TWSC	2.4 (36.8)	A (E)	1.9 (16.3)	A (C)
4	5th St	P St	Signalized	20.0	C	20.9	C
5	6th St	P St	TWSC	3.4 (17.6)	A (C)	9.2 (77.3)	A (F)
6	6th St	Q St	TWSC	8.2 (81.5)	A (F)	3.7 (16.2)	A (C)
7	6th St	R St	TWSC	3.3 (13.1)	A (B)	3.3 (12.8)	A (B)
8	7th St	N St	Signalized	7.4	A	9.2	A
9	7th St	O St	None	0.0*	A*	0.0*	A*
10	7th St	P St	Signalized	10.8	B	14.2	B
11	7th St	Q St	Signalized	16.6	B	15.7	B
12	7th St	R St	TWSC	0.9 (10.3)	A (B)	0.4 (13.3)	A (B)
13	8th St	O St	Signalized	6.1	A	5.4	A

Highway Capacity Manual 2010 Methodology

Control delays for unsignalized (TWSC) intersections are presented as follows: Average (Worst Approach)

* O Street between 7th and 9th Streets is one-way eastbound, therefore, there is no intersection delay at 7th Street and O Street.

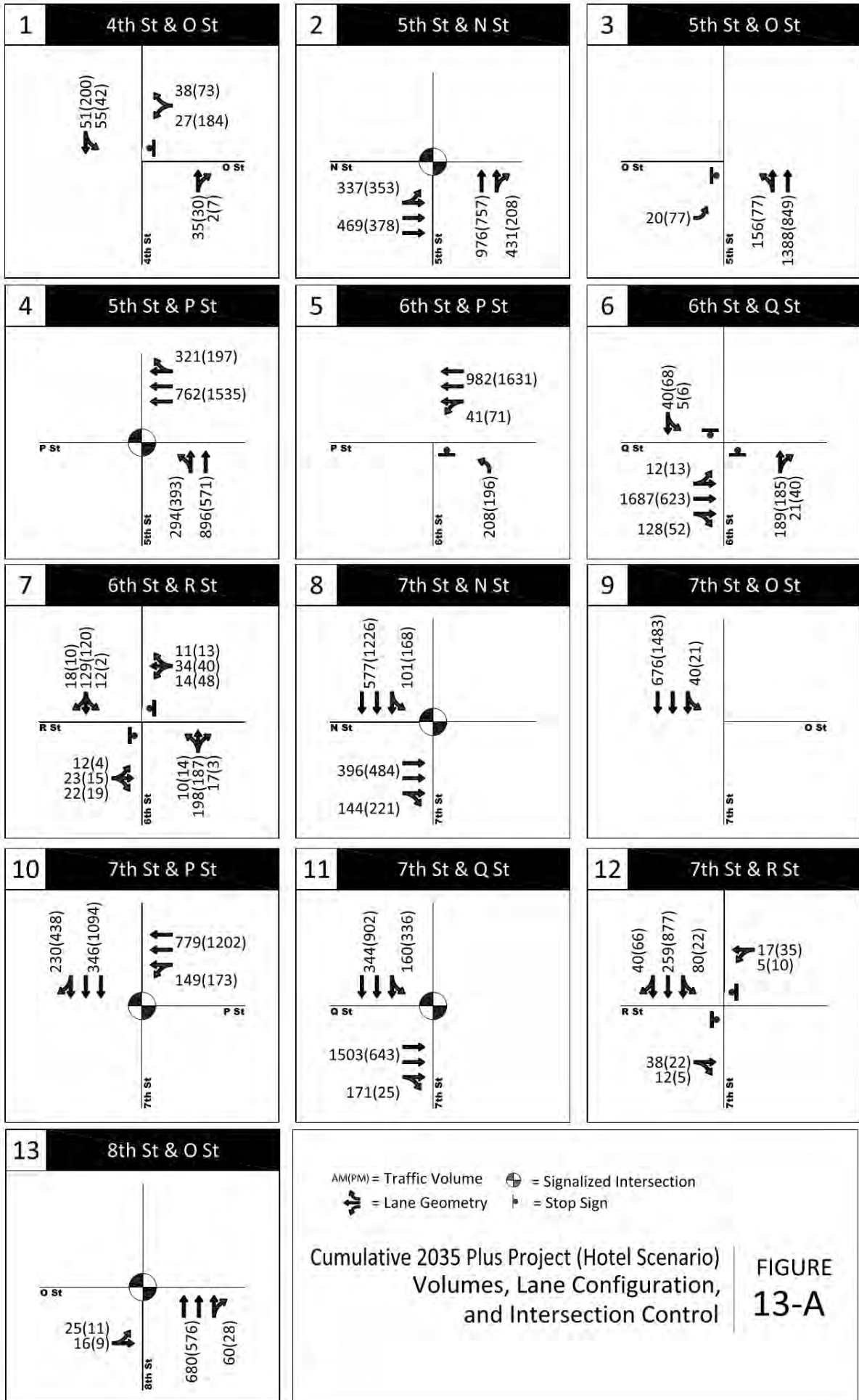
Source: Kittelson & Associates, 2014.

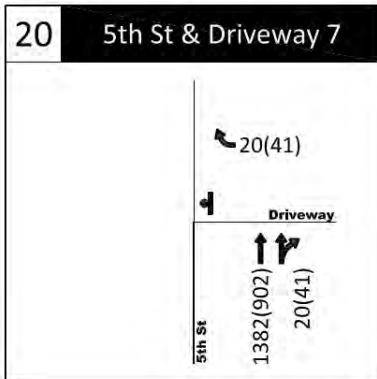
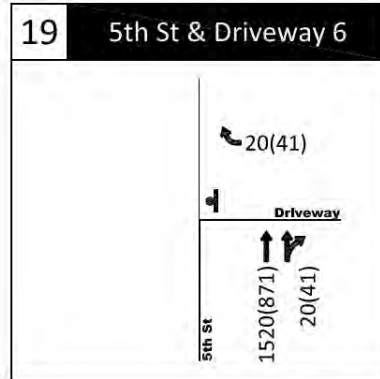
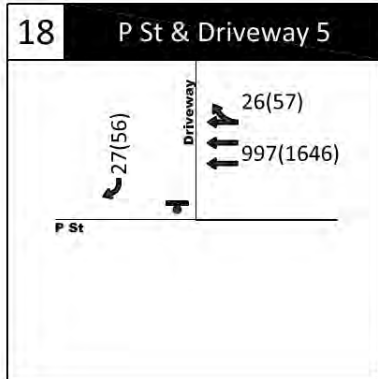
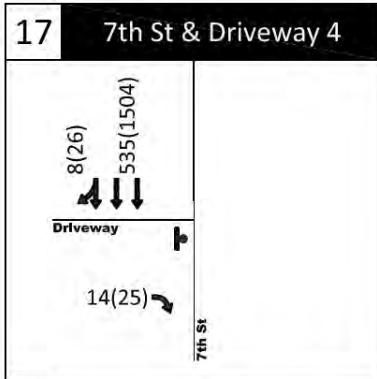
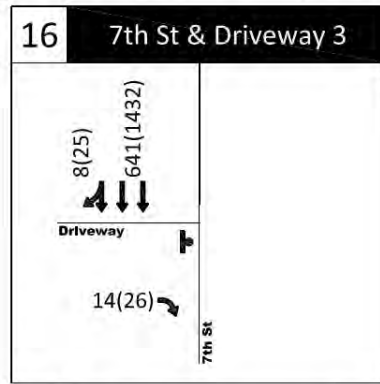
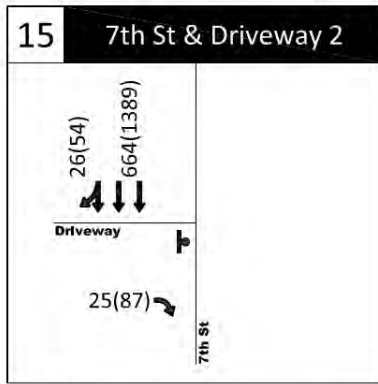
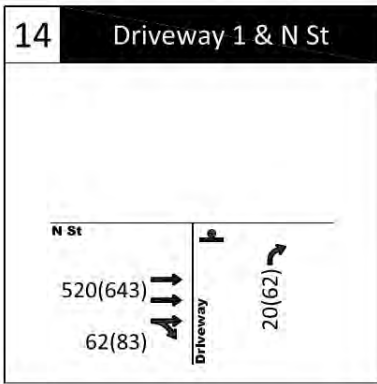
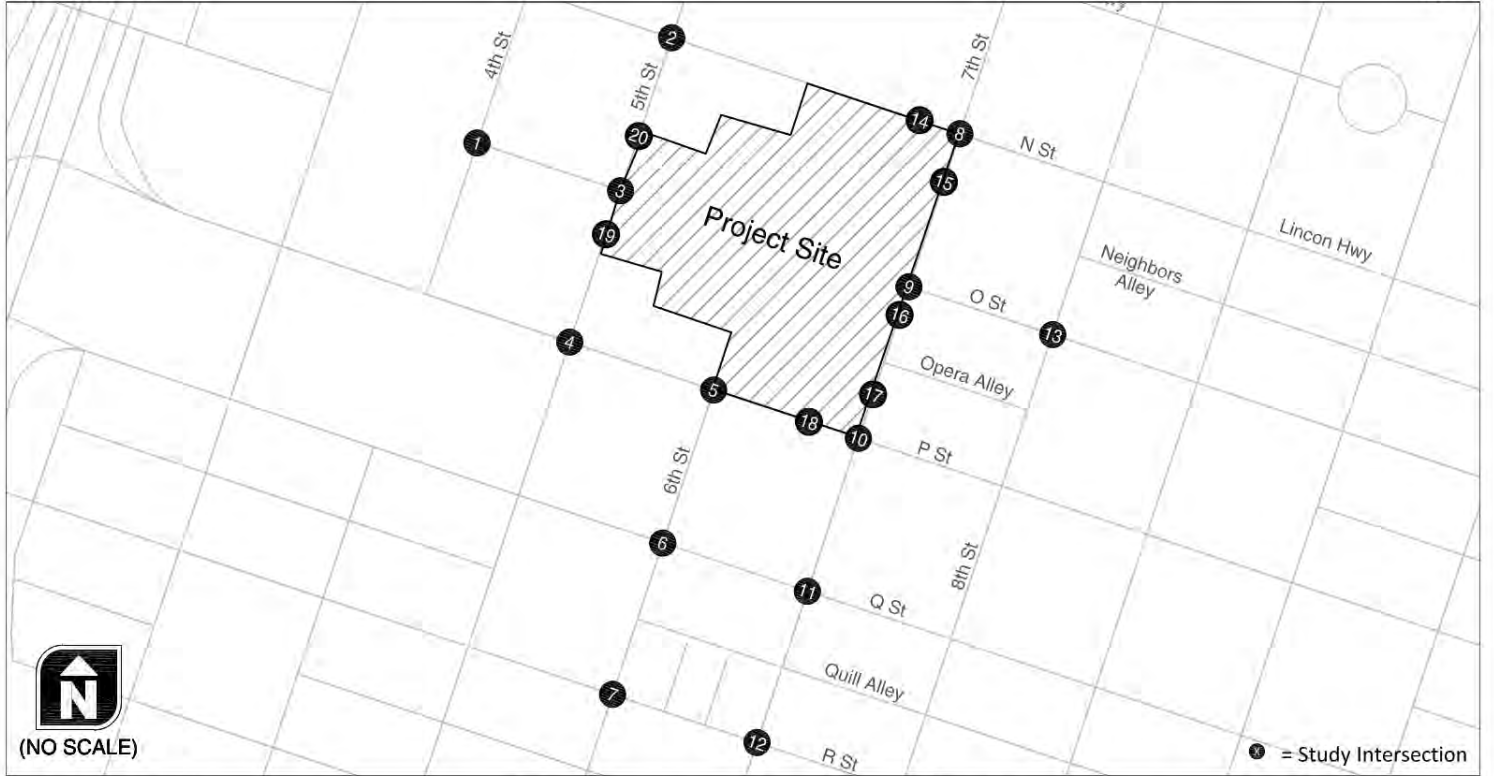
4.7 Cumulative 2035 Plus Project Scenarios

Under Cumulative 2035 Plus Project scenarios, the SACMET model land use at the project site was replaced with the Project's land use to analyze the impact of project traffic on Cumulative 2035 No Project Conditions. The traffic analysis results for the Cumulative 2035 Plus Project scenarios are compared with the Cumulative 2035 No Project Conditions to determine if the proposed project results in any significant impacts.

Intersections

The Cumulative 2035 Plus Project scenarios analysis allows a determination of how the study area's transportation system will operate with the traffic generated by the proposed project. The AM and PM project trips (shown in Figure 8 and Figure 9 for the Hotel Scenario and No Hotel Scenario, respectively) were added to the Cumulative 2035 No Project Conditions volumes to arrive at the total traffic volumes. The total traffic volumes for the Cumulative 2035 Plus Project condition are shown in Figure 13 and Figure 14 for the Hotel Scenario and No Hotel Scenario, respectively.





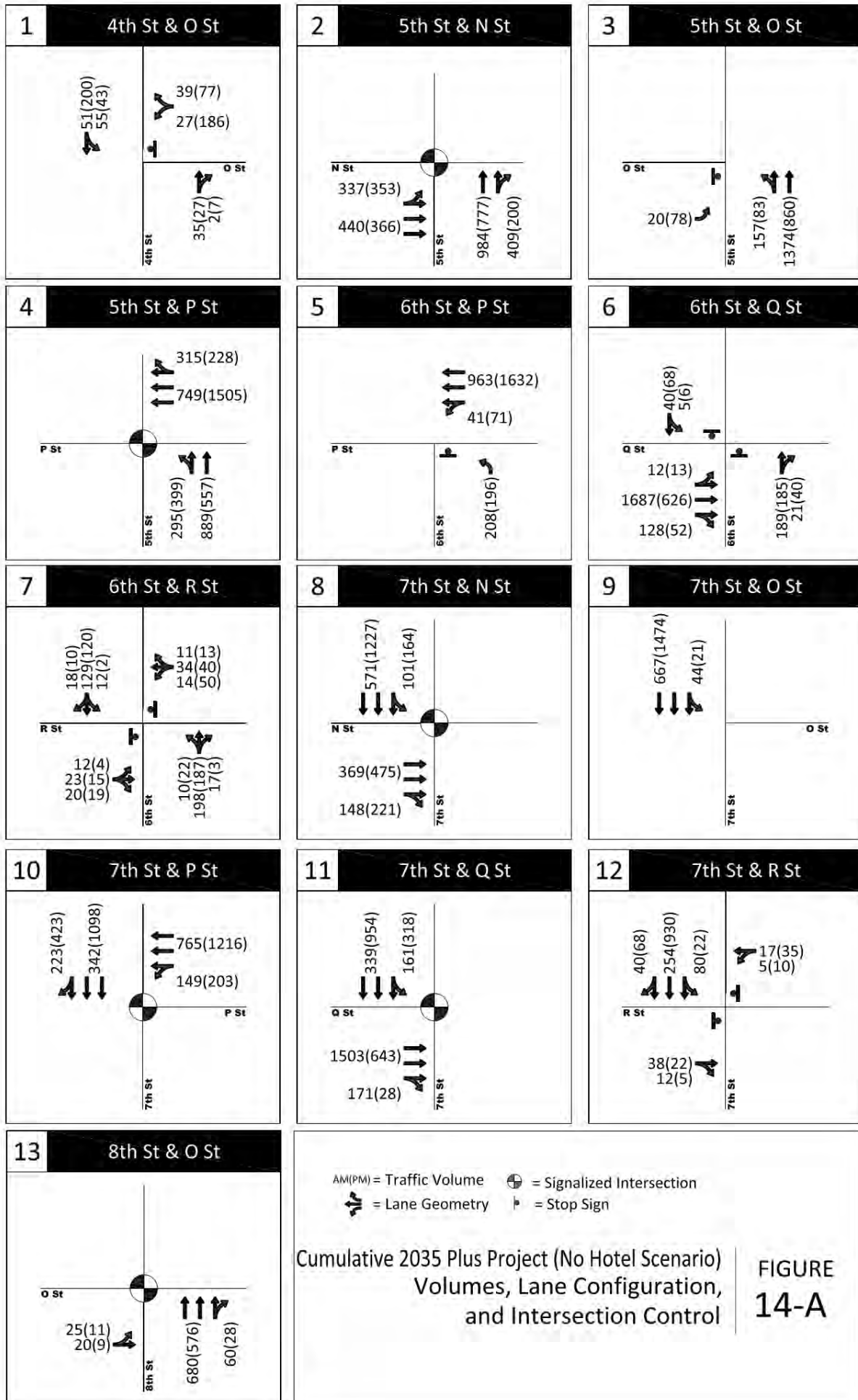
AM(PM) = Traffic Volume ⊕ = Signalized Intersection
 ↕ = Lane Geometry ▮ = Stop Sign

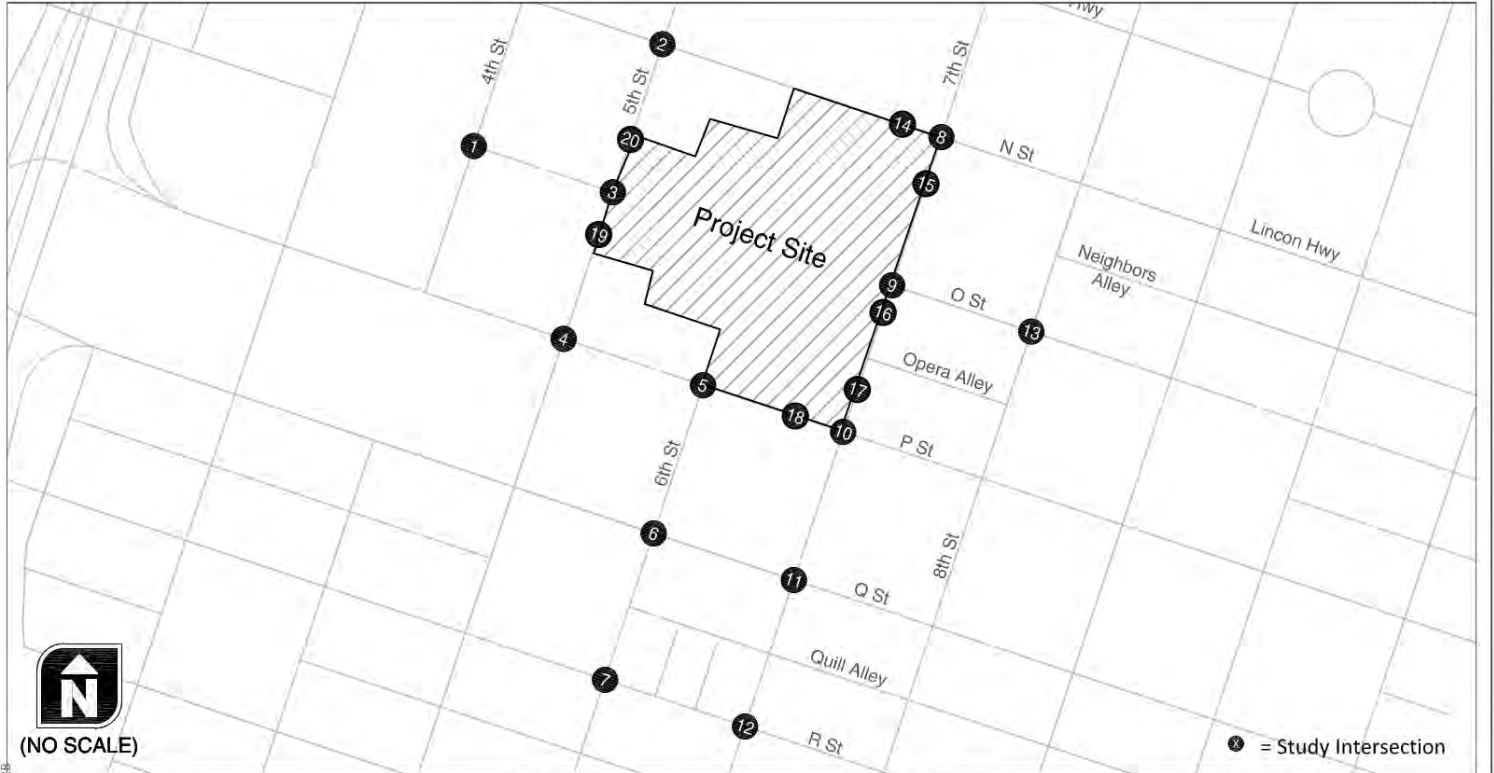
Cumulative 2035 Plus Project (Hotel Scenario)
 Volumes, Lane Configuration,
 and Intersection Control

FIGURE 13-B

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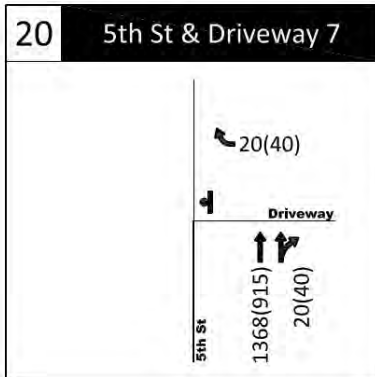
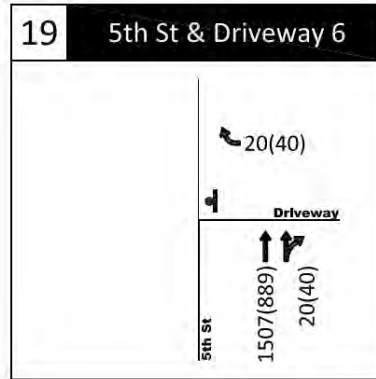
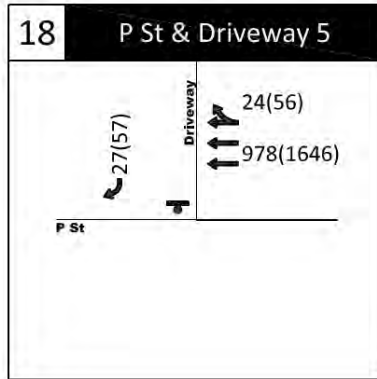
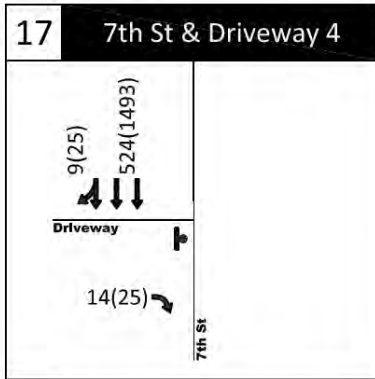
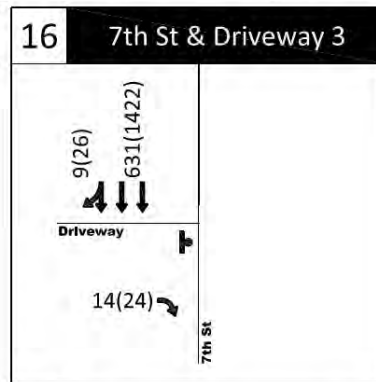
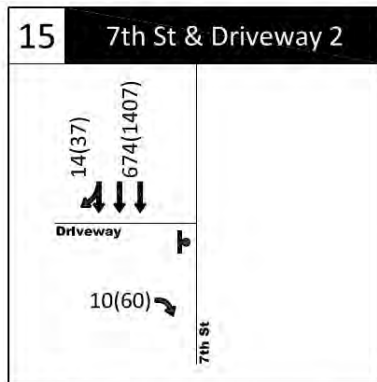
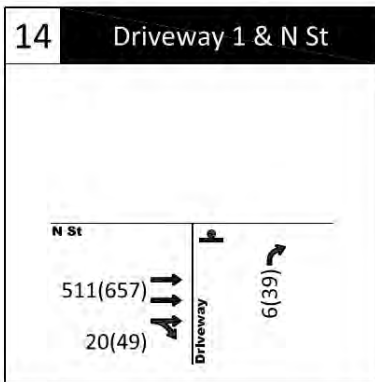






(NO SCALE)

● = Study Intersection



AM(PM) = Traffic Volume ⊕ = Signalized Intersection
 ↕ = Lane Geometry ▮ = Stop Sign

Cumulative 2035 Plus Project (No Hotel Scenario)
 Volumes, Lane Configuration,
 and Intersection Control

FIGURE 14-B

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Level-of-service results for Cumulative 2035 Plus Project in the AM and PM peak hours based on these volumes are shown in Table 16 and Table 17, respectively. Analysis worksheets are included as Appendix H.

As Table 16 and Table 17 shows, all intersections are expected to operate at overall LOS C or better in the Cumulative Plus Project scenarios.

Table 16: LOS for Cumulative 2035 Plus Project Scenarios in the AM Peak Hour

#	North-South Cross Street	East-West Cross Street	Control	Cumulative 2035 No Project Conditions		Cumulative 2035 Plus Project (Hotel Scenario)		Cumulative 2035 Plus Project (No Hotel Scenario)	
				Delay	LOS	Delay	LOS	Delay	LOS
1	4th St	O St	TWSC	4.9 (9.7)	A (A)	5.1 (9.8)	A (A)	5.1 (9.8)	A (A)
2	5th St	N St	Signalized	30.6	C	33.5	C	32.0	C
3	5th St	O St	TWSC	2.4 (36.8)	A (E)	2.6 (44.0)	A (E)	2.6 (42.8)	A (E)
4	5th St	P St	Signalized	20.0	C	20.5	C	20.3	C
5	6th St	P St	TWSC	3.4 (17.6)	A (C)	3.4 (18.2)	A (C)	3.4 (17.9)	A (C)
6	6th St	Q St	TWSC	8.2 (81.5)	A (F)	8.2 (81.5)	A (F)	8.2 (81.5)	A (F)
7	6th St	R St	TWSC	3.3 (13.1)	A (B)	3.3 (13.2)	A (B)	3.2 (13.1)	A (B)
8	7th St	N St	Signalized	7.4	A	7.5	A	7.4	A
9	7th St	O St	None	0.0*	A*	0.0*	A*	0.0*	A*
10	7th St	P St	Signalized	10.8	B	10.9	B	10.8	B
11	7th St	Q St	Signalized	16.6	B	16.6	B	16.6	B
12	7th St	R St	TWSC	0.9 (10.3)	A (B)	1.2 (10.4)	A (B)	1.2 (10.4)	A (B)
13	8th St	O St	Signalized	6.1	A	6.2	A	6.2	A
14	Driveway 1	N St	TWSC	N/A	N/A	0.4 (11.1)	A (B)	0.1 (10.8)	A (B)
15	7th St	Driveway 2	TWSC	N/A	N/A	0.4 (11.7)	A (B)	0.2 (11.5)	A (B)
16	7th St	Driveway 3	TWSC	N/A	N/A	0.2 (11.4)	A (B)	0.2 (11.3)	A (B)
17	7th St	Driveway 4	TWSC	N/A	N/A	0.3 (10.9)	A (B)	0.3 (10.9)	A (B)
18	Driveway 5	P St	TWSC	N/A	N/A	0.4 (13.7)	A (B)	0.4 (13.6)	A (B)
19	5th St	Driveway 6	TWSC	N/A	N/A	0.2 (16.0)	A (C)	0.2 (15.9)	A (C)
20	5th St	Driveway 7	TWSC	N/A	N/A	0.2 (14.8)	A (B)	0.2 (14.7)	A (B)

Highway Capacity Manual 2010 Methodology
Control delays for unsignalized (TWSC) intersections are presented as follows: Average (Worst Approach)
Gray-shaded cells indicate intersections that are only present in Plus Project conditions.
* O Street between 7th and 9th Streets is one-way eastbound, therefore, there is no intersection delay at 7th Street and O Street.
Source: Kittelson & Associates, 2014.

Table 17: LOS for Cumulative 2035 Plus Project Scenarios in the PM Peak Hour

#	North-South Cross Street	East-West Cross Street	Control	Cumulative 2035 No Project Conditions		Cumulative 2035 Plus Project (Hotel Scenario)		Cumulative 2035 Plus Project (No Hotel Scenario)	
				Delay	LOS	Delay	LOS	Delay	LOS
1	4th St	O St	TWSC	6.7 (12.7)	A (B)	7.1 (13.6)	A (B)	7.2 (13.6)	A (B)
2	5th St	N St	Signalized	16.4	B	17.2	B	17.3	B
3	5th St	O St	TWSC	1.9 (16.3)	A (C)	2.2 (18.1)	A (C)	2.4 (18.7)	A (C)
4	5th St	P St	Signalized	20.9	C	21.8	C	21.9	C
5	6th St	P St	TWSC	9.2 (77.3)	A (F)	17.3 (155.4)	C (F)	17.6 (157.9)	C (F)
6	6th St	Q St	TWSC	3.7 (16.2)	A (C)	3.7 (16.2)	A (C)	3.7 (16.2)	A (C)
7	6th St	R St	TWSC	3.3 (12.8)	A (B)	4 (13.5)	A (B)	4.2 (13.8)	A (B)
8	7th St	N St	Signalized	9.2	A	9.7	A	9.7	A
9	7th St	O St	None	0.0*	A*	0.0*	A*	0.0*	A*
10	7th St	P St	Signalized	14.2	B	15.3	B	15.4	B
11	7th St	Q St	Signalized	15.7	B	16.7	B	16.9	B
12	7th St	R St	TWSC	0.4 (13.3)	A (B)	0.4 (13.6)	A (B)	0.3 (13.9)	A (B)
13	8th St	O St	Signalized	5.4	A	5.4	A	5.4	A
14	Driveway 1	N St	TWSC	N/A	N/A	1 (12.4)	A (B)	0.6 (12.0)	A (B)
15	7th St	Driveway 2	TWSC	N/A	N/A	1.2 (20.3)	A (C)	0.8 (18.8)	A (C)
16	7th St	Driveway 3	TWSC	N/A	N/A	0.3 (17.3)	A (C)	0.3 (17.2)	A (C)
17	7th St	Driveway 4	TWSC	N/A	N/A	0.3 (18.0)	A (C)	0.3 (17.9)	A (C)
18	Driveway 5	P St	TWSC	N/A	N/A	0.7 (22.3)	A (C)	0.7 (22.4)	A (C)
19	5th St	Driveway 6	TWSC	N/A	N/A	0.5 (12.0)	A (B)	0.5 (12.1)	A (B)
20	5th St	Driveway 7	TWSC	N/A	N/A	0.5 (12.1)	A (B)	0.5 (12.2)	A (B)

Highway Capacity Manual 2010 Methodology
 Control delays for unsignalized (TWSC) intersections are presented as follows: Average (Worst Approach)
 Gray-shaded cells indicate intersections that are only present in Plus Project conditions.
 * O Street between 7th and 9th Streets is one-way eastbound, therefore, there is no intersection delay at 7th Street and O Street.
 Source: Kittelson & Associates, 2014.

In addition to LOS analysis, each unsignalized intersection was assessed in the Cumulative 2035 No Project Conditions and Cumulative 2035 Plus Project scenarios for whether the peak hour signal warrant is met as described in the 2012 California MUTCD. As Table 18 shows, the intersection of 6th Street & Q Street meets the peak hour signal warrant in the AM peak hour for all cumulative scenarios. The 6th Street and P Street intersection also meets the peak hour signal warrant in the PM peak hour for all cumulative scenarios. Full documentation of these signal warrant findings is provided in Appendix I.

Table 18: Cumulative 2035 Signal Warrant Analysis Summary

#	Intersection	AM			PM		
		Cumulative 2035 No Project Conditions	Cumulative 2035 Plus Project (Hotel Scenario)	Cumulative 2035 Plus Project (No Hotel Scenario)	Cumulative 2035 No Project Conditions	Cumulative 2035 Plus Project (Hotel Scenario)	Cumulative 2035 Plus Project (No Hotel Scenario)
1	4th St & O St	No	No	No	No	No	No
3	5th St & O St	No	No	No	No	No	No
5	6th St & P St	No	No	No	Yes	Yes	Yes
6	6th St & Q St	Yes	Yes	Yes	No	No	No
7	6th St & R St	No	No	No	No	No	No
12	7th St & R St	No	No	No	No	No	No
14	Driveway 1 & N St	No	No	No	No	No	No
15	7th St & Driveway 2	No	No	No	No	No	No
16	7th St & Driveway 3	No	No	No	No	No	No
17	7th St & Driveway 4	No	No	No	No	No	No
18	Driveway 5 & P St	No	No	No	No	No	No
19	5th St & Driveway 6	No	No	No	No	No	No
20	5th St & Driveway 7	No	No	No	No	No	No

Shading indicates that the peak hour signal warrant was met
Source: Kittelson & Associates, 2014

Transit Operations

The anticipated transit trips that the proposed project will generate for both the Hotel Scenario and No Hotel Scenario are shown in Table 9 and Table 10, respectively. As these tables show, the proposed project will generate between 20 and 30 transit trips in the AM peak hour and 40 to 50 transit trips in the PM peak hour. A total of 26 bus stops and four light rail stops are located within a quarter mile of the center of the project site. With 14 transit lines near the project site, each running multiple transit vehicles in the peak hours, the proposed project adequately provides access to transit.

Bicycle and Pedestrians

The proposed project is expected to generate more than 8,000 vehicle trips and 4,000 walk, bike, and other non-vehicle trips during a typical weekday as shown in the trip generation tables (Table 7 and Table 8). This increase in trips has the potential to increase the number of pedestrian/bicycle, pedestrian/motor vehicle, and bicycle/motor vehicle conflicts.

The site plan design and overall proposed project is intended to be pedestrian friendly and oriented. As such, it is supportive of the policies and goals in the 2006 Pedestrian Master Plan that identifies this area as a pedestrian street corridor with a wide sidewalk/bike lane present on N Street adjacent to the project site.



4.8 Impacts and Mitigation Measures

This section describes the transportation impacts of the project for the Hotel Scenario and No Hotel Scenario. Mitigation measures are identified for significant impacts. These measures are applicable to the project, can be feasibly implemented, and are hereby incorporated into this traffic impact analysis as a requirement of the project.

Existing Conditions

This section describes the project-specific transportation impacts under the Existing Conditions scenario.

Impact 1: Under Existing Conditions, project buildout could cause potentially significant impacts to study intersections.

According to the significance criteria and intersection LOS results (shown in Table 6 and Table 5), all study intersections would continue to operate at an acceptable level of service under Existing Plus Project conditions for both the Hotel and No Hotel scenarios in the AM and PM peak hour. Therefore, this is considered a **Less than Significant** impact.

Mitigation Measure

None Required.

Impact 2: Under Existing Conditions, project buildout could cause potentially significant impacts to transit service and facilities.

The proposed project's residents, visitors, and patrons would be provided adequate walking facilities to access transit services. Additionally, the proposed project would not adversely affect public transit operations for both the Hotel and No Hotel scenarios. Therefore, the impact of the proposed project on the transit system is considered **Less than Significant**.

Mitigation Measure

None Required.

Impact 3: Under Existing Conditions, project buildout could cause potentially significant impacts to bicycle access and facilities.

The proposed project would result in an increase in vehicle and bicycle trips in the study area by residents and retail patrons. The proposed project driveways would also increase the number of potential conflict points between vehicles and bicyclists, especially along 5th Street where an existing Class II bike lane exists.

The proposed project will be conditioned to design the project frontage and all access points within the proposed site in accordance to the City's driveway standards subject to review and approval of City Department of Public Works. Furthermore, it is not anticipated to hinder or eliminate the existing bikeways or interfere with the implementation of the planned bikeways in the study area. Therefore, the impact of the proposed project is considered **Less than Significant**.

Mitigation Measure

None Required.

Impact 4. Under Existing Conditions, project buildout could cause potentially significant impacts to pedestrian access and facilities.

The proposed project would result in an increase in vehicle, bicycle, and pedestrian trips in the study area by residents and retail patrons, which may lead to the increased potential for pedestrian/bicycle or pedestrian/motor vehicle conflicts. The proposed project will be conditioned to design the project frontage and all access points within the proposed site in accordance to the City's "Pedestrian Friendly Street Standards" and subject to review and approval of City Department of Public Works. Therefore, the impact of the proposed project is considered **Less than Significant**.

Mitigation Measure

None Required.

Impact 5. Under Existing Conditions, project buildout could cause potentially significant impacts due to construction-related activities.

The effects of demolition/construction and related truck traffic could adversely affect existing motorists, bicycle, pedestrian or transit facilities. Therefore, the impacts would be considered **potentially significant**.

Mitigation Measure

Before issuance of demolition permit and beginning of construction for the project site, the project applicant shall prepare a Traffic Management Plan consistent with the requirements of sections 12.20.020 and 12.20.030 of the Sacramento Municipal Code that will be subject to review and approval by the City Department of Public Works, in consultation with Caltrans, affected transit providers, and local emergency service providers including the City of Sacramento Fire and Police departments. The plan shall ensure maintenance of acceptable operating conditions on local roadways and transit routes. In consideration of the number and type of trucks proposed to be used during construction, the proposed location of staging areas,

and potential need for street closures as identified in the Traffic Management Plan, at a minimum, the plan shall:

- Require the installation of temporary traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.
- Require construction truck trips to occur outside of peak morning and evening commute hours.
- Limit the number of lane closures associated with project construction during peak hours.
- Establish construction truck routes that limit truck traffic on local roadways as defined and identified on Figure M 2B in the City's 2030 General Plan.
- Establish pedestrian, bicycle, and vehicular (including transit and emergency vehicle) detour routes where necessary to avoid conflicts with construction zone operations and traffic.
- Provide safe driveway access during construction for pedestrian, bicycle, and vehicles (including transit and emergency vehicle) through the use of steel plates, signage, and similar measures.
- Require temporary directional signage along all construction zone detour routes.

A copy of the Traffic Management Plan as approved by City Department of Public Works shall be submitted to local emergency response agencies and these agencies shall be notified at least 30 days before the commencement of construction that would partially or fully obstruct roadways. In addition, construction activities are not to interfere with transit service and pedestrian access to transit stops and light rail. With the implementation of this mitigation measure, the construction related impact is **Less than Significant**.

Cumulative 2035 Plus Project

Impact 6. Under Cumulative 2035 scenarios, the proposed project could cause potentially significant impacts to study intersections.

According to the significance criteria and results in Table 16 and Table 17, all study intersections would continue to operate at an acceptable level of service under Cumulative 2035 Plus Project conditions for both the Hotel and No Hotel scenarios in the AM and PM peak hour. Installing a signal at the intersection of 6th Street & P Street adjacent to the project site would be considered an improvement to the overall transportation system and could be performed within existing right-of-way and does not require any roadway widening.

Since this intersection is in the Core Area as defined by the General Plan Mobility Element, LOS F may be acceptable during peak hours provided that the project provides improvements to other parts of the citywide transportation system within the project site vicinity to improve transportation-system-wide roadway capacity, to make intersection improvements, or to

enhance non-auto travel modes in furtherance of the General Plan goals. With implementation of Mitigation Measure 6, the proposed project's impact is considered **Less than Significant**.

Mitigation Measure

The project applicant shall construct a traffic signal at the intersection of 6th Street and P Street with the Phase IV of the development as part of P Street frontage improvements for the project.

Impact 7: Under Cumulative 2035 scenarios, project buildout could cause potentially significant impacts to transit service and facilities.

The proposed project's residents, visitors, and patrons would be provided adequate walking facilities to access transit services. Additionally, the proposed project would not adversely affect public transit operations for both the Hotel and No Hotel scenarios. Therefore, the impact of the proposed project on the transit system is considered **Less than Significant**.

Mitigation Measure

None Required.

Impact 8: Under Cumulative 2035 scenarios, project buildout could cause potentially significant impacts to bicycle access and facilities.

The proposed project would result in an increase in vehicle and bicycle trips in the study area by residents and retail patrons. The proposed project driveways would also increase the number of potential conflict points between vehicles and bicyclists, especially along 5th Street where an existing Class II bike lane exists.

The proposed project will be conditioned to design the project frontage and all access points within the proposed site in accordance to the City's driveway standards subject to review and approval of City Department of Public Works. Furthermore, it is not anticipated to hinder or eliminate the existing bikeways or interfere with the implementation of the planned bikeways in the study area. Therefore, the impact of the proposed project is considered **Less than Significant**.

Mitigation Measure

None Required.

Impact 9. Under Cumulative 2035 scenarios, project buildout could cause potentially significant impacts to pedestrian access and facilities.

The proposed project would result in an increase in vehicle, bicycle, and pedestrian trips in the study area by residents and retail patrons, which may lead to the increased potential for pedestrian/bicycle or pedestrian/motor vehicle conflicts. The proposed project will be conditioned to design the project frontage and all access points within the proposed site in accordance to the City's "Pedestrian Friendly Street Standards" and subject to review and approval of City Department of Public Works. The installation of traffic signal at 6th Street & P Street with Phase IV of the development will provide additional improvement to the existing unsignalized pedestrian crossing on P Street and enhance pedestrian path through the project site. Therefore, the impact of the proposed project is considered **Less than Significant**.

Mitigation Measure

None Required.

5 OTHER CONSIDERATIONS

5.1 Proposed Project Access and On-Site Circulation

Internal circulation was qualitatively evaluated to consider the on-site circulation for pedestrian movements and motorized traffic. Figure 15 illustrates the proposed development plan.

Vehicle access to the proposed development is mostly via one-way streets at seven right-in/right-out driveway access points. This includes one driveway on N Street, three driveways on 7th Street, one driveway on P Street, and two driveways on 5th Street. Given the right-in/right-out configuration of all driveways and the LOS A traffic operations at the driveway intersections through the Cumulative 2035 Plus Project scenarios, the assumption that driveways are controlled by stop signs on the driveway approaches (i.e., minor-street stop control) is justified.

Most of the proposed development's driveways provide direct access to parking garages. Vehicle circulation on the project site outside of the garages is limited to the hotel drop off accessed via driveway 1 and the southeast corner of the proposed project served by driveways 4 and 5. The following observations should be considered when refining the design of these two areas:

- Shrubbery and landscaping near the internal intersections and site access points should be maintained to ensure adequate sight distance; and
- Appropriate turning templates to accommodate vehicles expected to use the areas.

On-site circulation is similar to Existing Conditions scenario where there are open spaces that bisect the project site. These open spaces essentially provide a non-vehicular extension of O Street in the

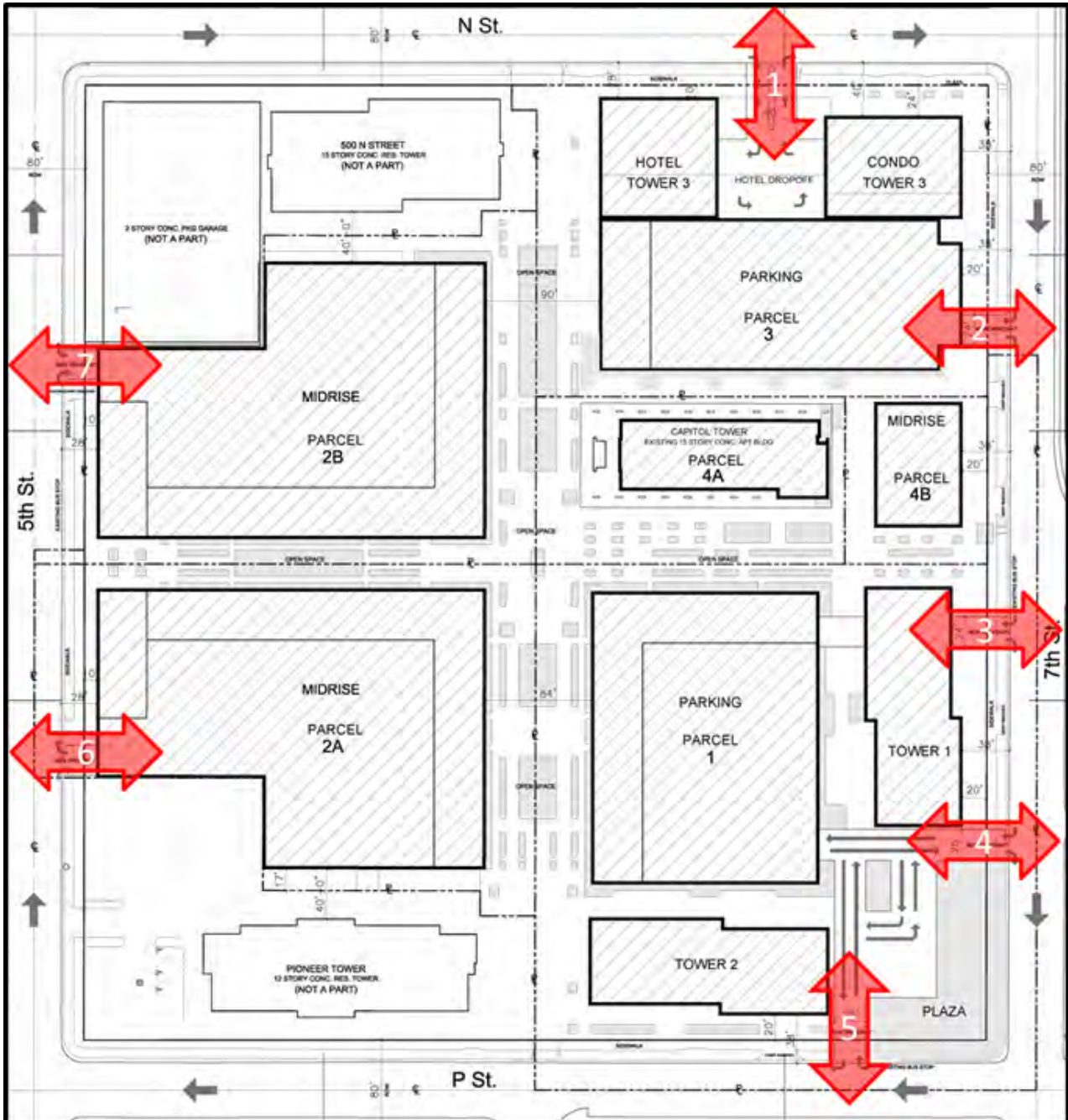
east-west direction and 6th Street in the north-south direction. Figure 16 show how these open spaces are also designed to serve as fire lanes for emergency vehicles.

Considerations to improve on-site access for all modes, as well as to accommodate emergency vehicles, are listed below:

- All turning radii for fire access should be designed as 35' inside and 55' outside.
- Roads used for Fire Department access should have an unobstructed width of not less than 20' and unobstructed vertical clearance of 13'6" or more.
- "No Parking Fire Lane" markings should be applied on the emergency access roads. However, due to the pedestrian nature of the open spaces between the proposed project's buildings, that striping and signage would be limited.
- Clearly define pedestrian on-site routes.
- Landscaping and shrubbery should be placed and maintained in a way that it would not grow to obstruct pathways.

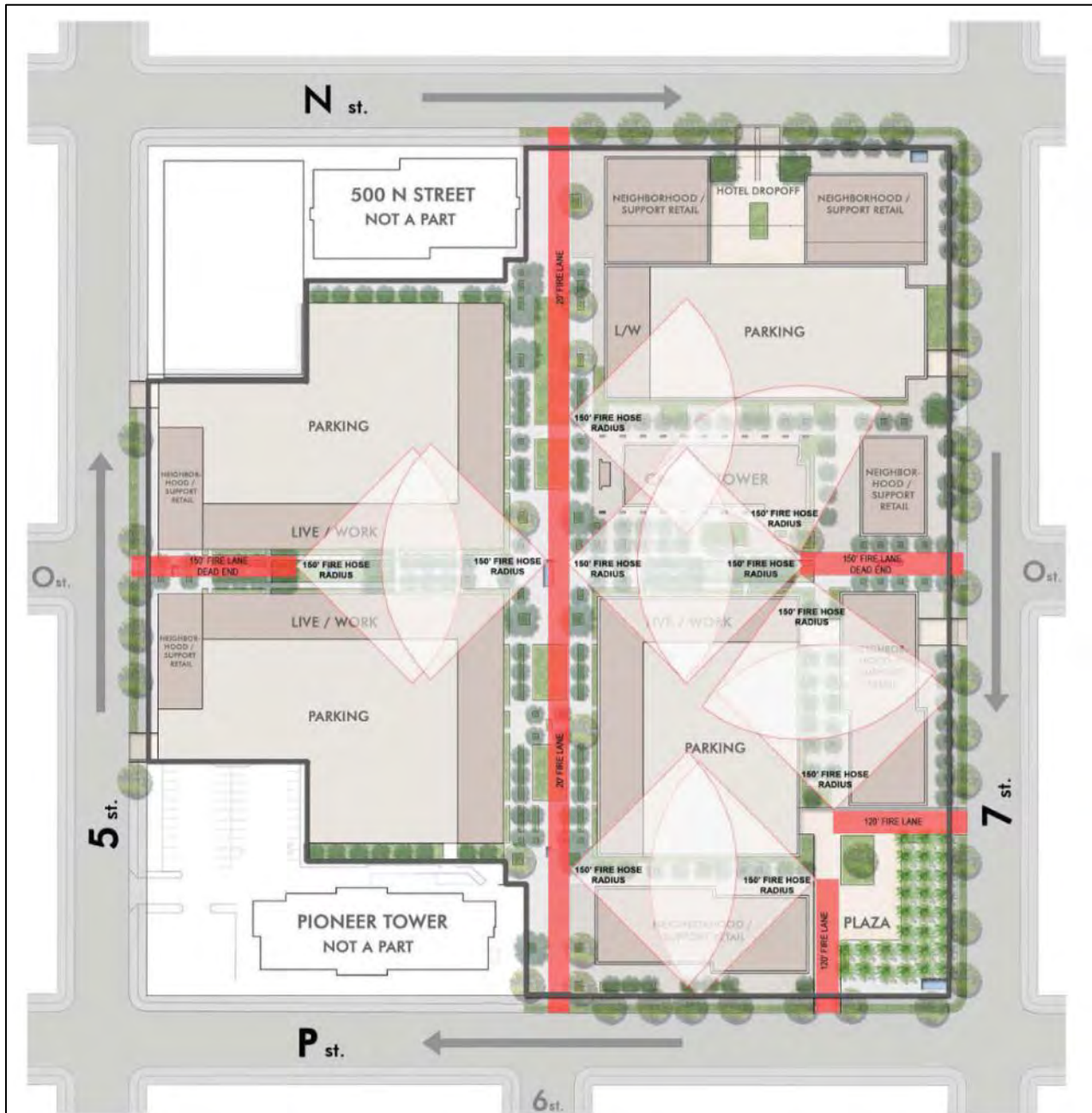
- “No Parking Fire Lane” markings should be applied on the emergency access roads. However, due to the pedestrian nature of the open spaces between the proposed project’s buildings, that striping and signage would be limited.
- Clearly define pedestrian on-site routes.
- Landscaping and shrubbery should be placed and maintained in a way that it would not grow to obstruct pathways.

Figure 15: Site Plan



Source: Van Tilberg, Banvard & Soderbergh, 2014

Figure 16: Fire Lane Diagram



Source: Van Tilberg, Banvard & Soderbergh, 2014

5.2 Intersection Queuing

A review of 95th percentile queues was conducted for all Cumulative 2035 Plus Project scenarios. The PM scenarios had considerably more queuing than the AM scenarios. Under the PM scenarios, the following calculated queues extended to or beyond the upstream intersection which may restrict movements at the upstream intersection.

- Northbound approach to the 5th Street & N Street intersection (#2). The 95th percentile queue is expected to reach the Driveway 7 intersection (#20).
- Northbound approach to the 6th Street & P Street intersection (#5). The 95th percentile queue is expected to reach the 6th Street & Q Street intersection (#6).
- Eastbound approach to the 7th Street & N Street intersection (#8). The 95th percentile queue is expected to reach the Driveway 1 intersection (#14).
- Southbound approach to the 7th Street & P Street intersection (#10). The 95th percentile queue is expected to reach the Driveway 4 intersection (#17).

Figure 17 presents a diagram highlighting the 95th percentile queue lengths in the PM peak hour for the Cumulative 2035 Plus Project No Hotel Scenario. Queue lengths were similar, although slightly shorter, for the Hotel Scenario. Therefore, Figure 17 represents the maximum queue length expected between the two scenarios. None of these queues were found to affect upstream intersections other than those specifically mentioned above. Therefore, the driveways are expected to operate satisfactorily at the locations specified in the proposed project’s site plan and under minor-street stop control.

Table 19 shows the number of parking spaces in each garage. A final design of the driveways’ throat depth and the set back of the gates will be subject to review and approval by the department of Public Works.

Table 19: Project Parking Spaces by Garage

Garage	Serving	Hotel Option	No Hotel Option
1	Parcel 1	610	610
2	Parcel 2A	249	249
3	Parcel 2B	249	249
4	Parcel 3, 4A, & 4B	670	577
Total		1,778	1,685

It is recommended that the throat depth (i.e., queue storage) at the driveways be designed to accommodate the 95th percentile queues on the driveway approaches. The length of outbound queues is a function of outbound vehicular volume and traffic operations on the major roadway. The length of

inbound queues is dictated by inbound vehicular volume and the garage gate opening time (if any is installed).

Outbound traffic queues were calculated⁸ based on the outbound vehicular volume and traffic operations on the major roadway. The following summarizes the calculated maximum outbound queues:

- The maximum 95th percentile queue on Driveway 2 is estimated at 64 feet or about 3 vehicles.
- The maximum 95th percentile queue on Driveway 5 is estimated at 53 feet or about 2 vehicles.
- All other driveways are expected to have outbound queue lengths less than one car length.

Regarding inbound queues due to gated entries, previous studies and field observations performed for the City of Sacramento suggest gate service times⁹ of approximately seven to nine seconds to serve one vehicle, which is taken here as a deterministic (i.e., fixed) value.

To estimate the 95th percentile length of the inbound queues, the hourly inbound rates at the driveways were adjusted upward using the same 95th Percentile Arrival Rate formula used by Synchro 8¹⁰. The adjustments ranged from 5.1 times to 8.3 times the hourly rates, corresponding to rare situations in which 42 percent to 69 percent of the hourly volume would arrive in the same five-minute span.

Using the highest inbound rates—generally those under the Hotel Scenario, PM peak hour—and the relationship between arrival rate, queue length, and waiting times (i.e., Little’s Law), the following findings were derived:

- The inbound queue length at Driveway 1 under the Hotel scenario depends primarily on the dwell time of vehicles at the hotel loading zone. Based on a site plan review, nine vehicles can be accommodated without queue spillback onto N Street. If more vehicles are anticipated, alternate loading options need to be provided. For example, the hotel may consider offering valet services to quickly move vehicles to a parking garage.
- Driveway 2 (Intersection #15, off 7th Street) and Driveway 5 (Intersection #18, off P Street) would result in about two vehicles queued at the driveways. Using a typical 25-foot vehicle length, two vehicles would occupy 50 feet.
- All other proposed project driveways are expected to have single-vehicle queues waiting for the gate to open. Using the standard vehicle length assumption, the inbound queues would be 25 feet long.

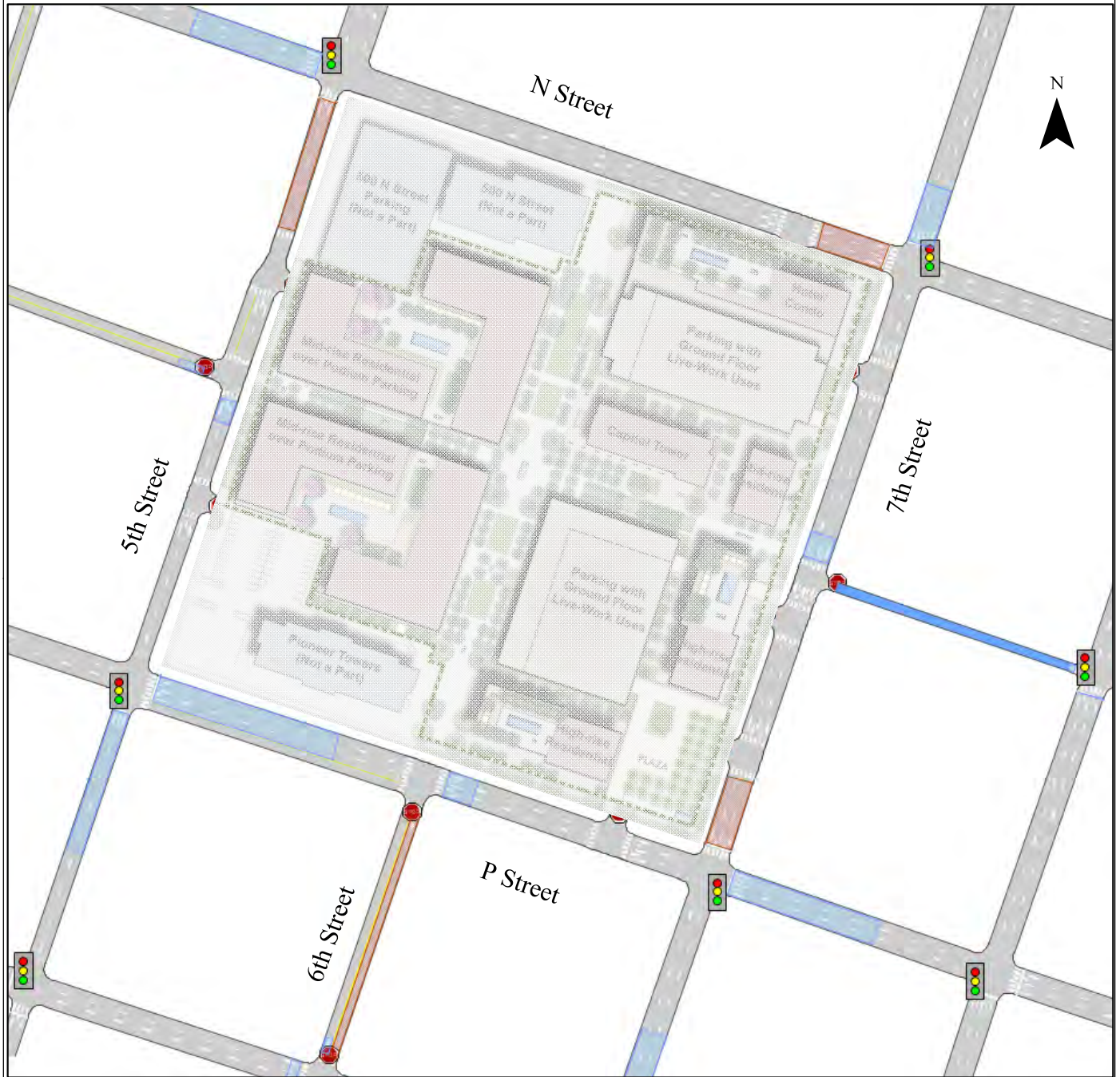
⁸ Calculations performed using the Vistro 2 software

⁹ Gate service time includes time spent swiping a card, waving an electronic fob, typing a code, or any other activity required for the gate to open.

¹⁰ *Synchro Studio 8 User Guide*. Trafficware (2014), page 14-72

In summary, the location of the access gate at the parking garage would depend on the inbound traffic and the service time at each gate which is assumed to be less than nine seconds. The following points summarize the recommendations from this analysis.

- The Driveway 2 throat to and from the proposed Parcel 3 parking garage should be designed to accommodate a minimum of two vehicles (50 feet). This can either be provided linearly or by having additional gates to serve multiple vehicles at the same time.
- According to the current site plan, the Driveway 5 access from and to P Street has sufficient throat depth to accommodate the 53-foot 95th percentile outbound queue length.
- The rest of the proposed project driveways shall be constructed in strict conformance with the City's driveway standards, Standard Construction Specifications, special instructions of the driveway inspector, and the design plans as approved by City of Sacramento Transportation Engineer so that no cars will be backing into the adjacent streets and blocking sidewalks.



Blue queues indicate 95th percentile queues less than link lengths. Red queues indicate 95th percentile queues equal to or greater than link length. Red queues are truncated at the intersections to allow for the display of other queues.
 Source: HCM 2010 as implemented by Vistro 2

**Cumulative 2035 Plus Project No Hotel PM
 95th Percentile Queues**

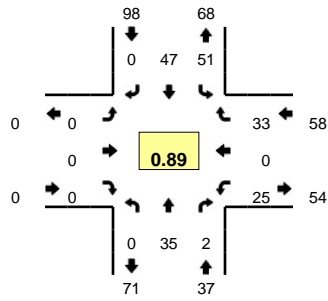
**Figure
 17**

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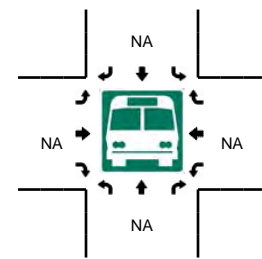
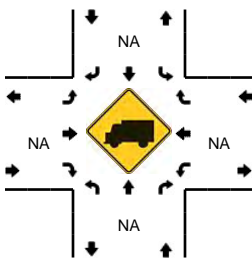
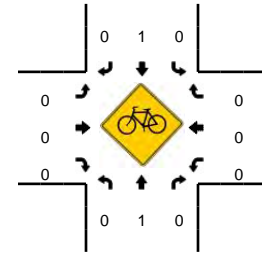
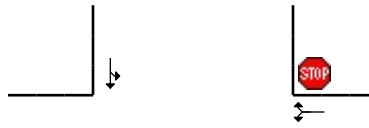
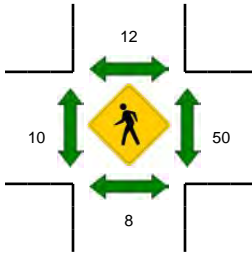
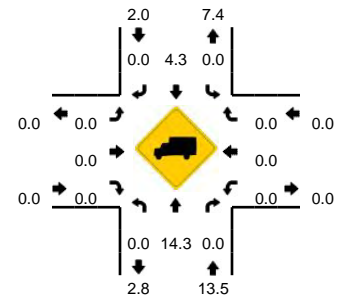
APPENDIX A: TRAFFIC COUNT DATA

LOCATION: 4th St -- O St
CITY/STATE: Sacramento, CA

QC JOB #: 12470807
DATE: Tue, Apr 08 2014



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

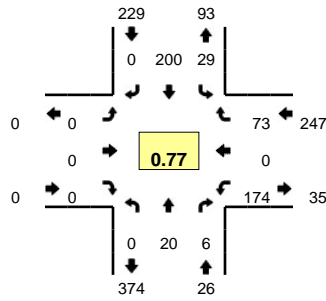


15-Min Count Period Beginning At	4th St (Northbound)				4th St (Southbound)				O St (Eastbound)				O St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	5	1	0	15	8	0	0	0	0	0	0	7	0	7	0	43	
7:15 AM	0	2	1	0	15	8	0	0	0	0	0	0	8	0	3	0	37	
7:30 AM	0	12	0	0	10	14	0	0	0	0	0	0	8	0	8	1	53	
7:45 AM	0	12	0	0	12	11	0	0	0	0	0	0	5	0	14	0	54	187
8:00 AM	0	9	1	0	14	14	0	0	0	0	0	0	3	0	8	0	49	193
8:15 AM	0	6	2	0	11	5	0	0	0	0	0	0	3	0	8	0	35	191
8:30 AM	0	9	0	0	10	9	0	0	0	0	0	0	4	0	12	0	44	182
8:45 AM	0	7	0	0	3	8	0	0	0	0	0	0	3	0	5	0	26	154
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	48	0	0	48	44	0	0	0	0	0	0	20	0	56	0	216	
Heavy Trucks	0	20	0		0	4	0		0	0	0		0	0	0		24	
Pedestrians		12				16				0				32			60	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																	0	
Stopped Buses																		

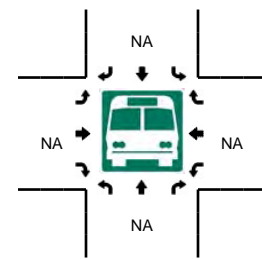
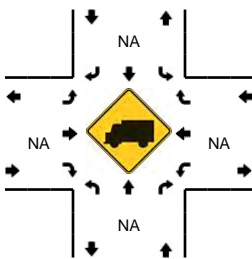
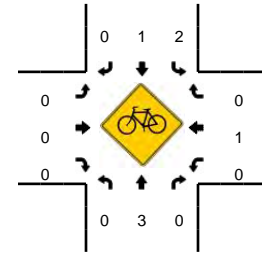
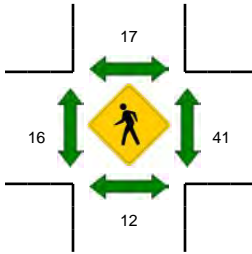
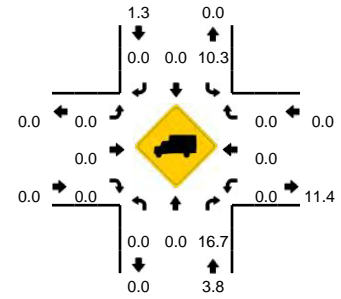
Comments:

LOCATION: 4th St -- O St
CITY/STATE: Sacramento, CA

QC JOB #: 12470808
DATE: Tue, Apr 08 2014



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

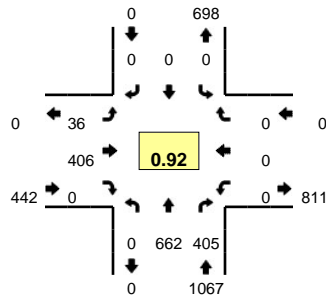


15-Min Count Period Beginning At	4th St (Northbound)				4th St (Southbound)				O St (Eastbound)				O St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	9	1	0	3	38	0	0	0	0	0	0	25	0	15	0	91	
4:15 PM	0	7	0	0	2	30	0	0	0	0	0	0	29	0	13	0	81	
4:30 PM	0	3	1	0	14	49	0	0	0	0	0	0	51	0	17	0	135	
4:45 PM	0	5	0	0	7	45	0	0	0	0	0	0	31	0	12	0	100	407
5:00 PM	0	5	2	0	2	64	0	0	0	0	0	0	65	0	24	0	162	478
5:15 PM	0	7	3	0	6	42	0	0	0	0	0	0	27	0	20	0	105	502
5:30 PM	0	7	1	0	1	38	0	0	0	0	0	0	17	0	8	0	72	439
5:45 PM	0	4	0	0	3	28	0	0	0	0	0	0	12	0	9	0	56	395
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	20	8	0	8	256	0	0	0	0	0	0	260	0	96	0	648	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0	
Pedestrians		16				28				8				64			116	
Bicycles	0	1	0		0	1	0		0	0	0		0	0	0		2	
Railroad																		
Stopped Buses																		

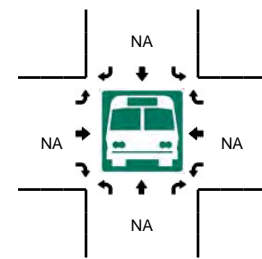
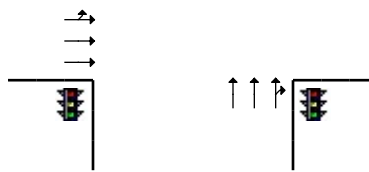
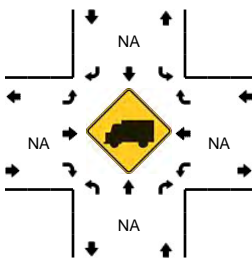
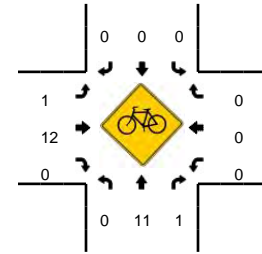
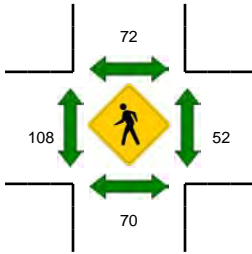
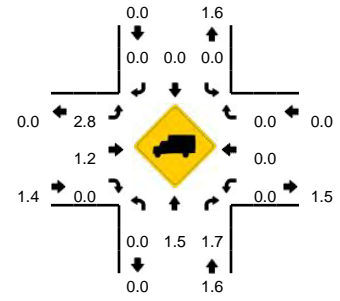
Comments:

LOCATION: 5th St -- N St
CITY/STATE: Sacramento, CA

QC JOB #: 12470803
DATE: Tue, Apr 08 2014



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Peak 15-Min: 8:30 AM -- 8:45 AM



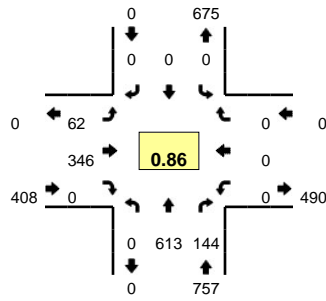
15-Min Count Period Beginning At	5th St (Northbound)				5th St (Southbound)				N St (Eastbound)				N St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	78	43	0	0	0	0	0	13	40	0	0	0	0	0	0	174	
7:15 AM	0	92	63	0	0	0	0	0	6	80	0	0	0	0	0	0	241	
7:30 AM	0	116	61	0	0	0	0	0	11	89	0	0	0	0	0	0	277	
7:45 AM	0	139	90	0	0	0	0	0	10	96	0	0	0	0	0	0	335	1027
8:00 AM	0	156	95	0	0	0	0	0	10	95	0	0	0	0	0	0	356	1209
8:15 AM	0	174	114	0	0	0	0	0	10	80	0	0	0	0	0	0	378	1346
8:30 AM	0	186	98	0	0	0	0	0	11	113	0	0	0	0	0	0	408	1477
8:45 AM	0	146	98	0	0	0	0	0	5	118	0	0	0	0	0	0	367	1509

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	744	392	0	0	0	0	0	44	452	0	0	0	0	0	0	1632
Heavy Trucks	0	16	0		0	0	0		0	8	0		0	0	0		24
Pedestrians		56				64				132				64			316
Bicycles	0	1	0		0	0	0		1	1	0		0	0	0		3
Railroad																	
Stopped Buses																	

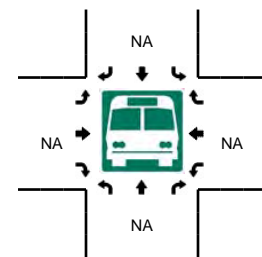
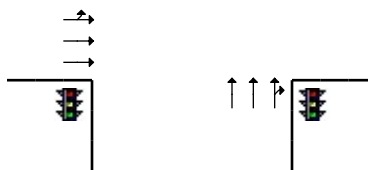
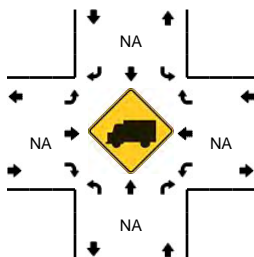
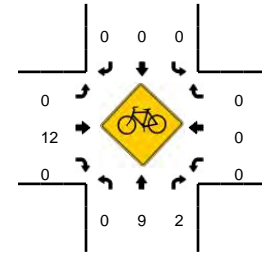
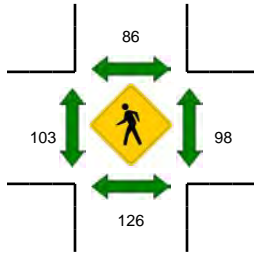
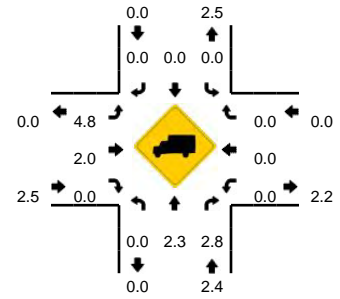
Comments:

LOCATION: 5th St -- N St
CITY/STATE: Sacramento, CA

QC JOB #: 12470804
DATE: Tue, Apr 08 2014



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

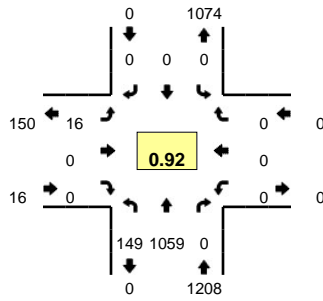


15-Min Count Period Beginning At	5th St (Northbound)				5th St (Southbound)				N St (Eastbound)				N St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	108	31	0	0	0	0	0	17	70	0	0	0	0	0	0	226	
4:15 PM	0	102	29	0	0	0	0	0	17	69	0	0	0	0	0	0	217	
4:30 PM	0	132	46	0	0	0	0	0	11	78	0	0	0	0	0	0	267	
4:45 PM	0	148	34	0	0	0	0	0	14	84	0	0	0	0	0	0	280	990
5:00 PM	0	172	41	0	0	0	0	0	25	99	0	0	0	0	0	0	337	1101
5:15 PM	0	161	23	0	0	0	0	0	12	85	0	0	0	0	0	0	281	1165
5:30 PM	0	140	26	0	0	0	0	0	14	52	0	0	0	0	0	0	232	1130
5:45 PM	0	107	30	0	0	0	0	0	8	48	0	0	0	0	0	0	193	1043
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	688	164	0	0	0	0	0	100	396	0	0	0	0	0	0	1348	
Heavy Trucks	0	20	0		0	0	0		8	4	0		0	0	0		32	
Pedestrians		184				116				156				116			572	
Bicycles	0	1	0		0	0	0		0	3	0		0	0	0		4	
Railroad																		
Stopped Buses																		

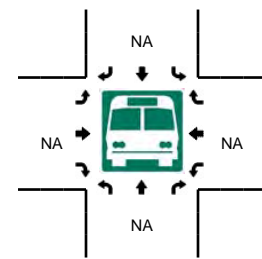
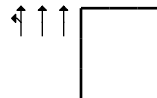
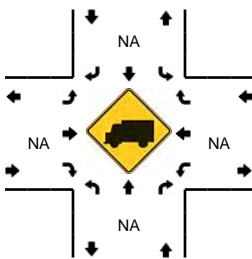
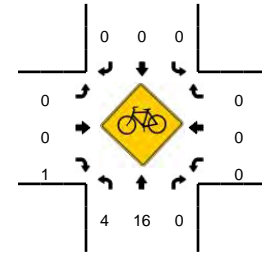
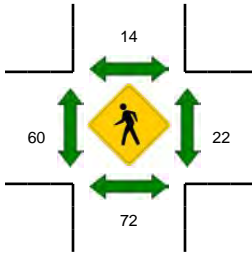
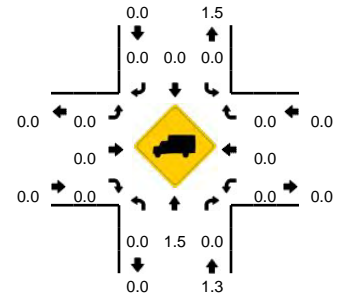
Comments:

LOCATION: 5th St -- O St
CITY/STATE: Sacramento, CA

QC JOB #: 12470805
DATE: Tue, Apr 08 2014



Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

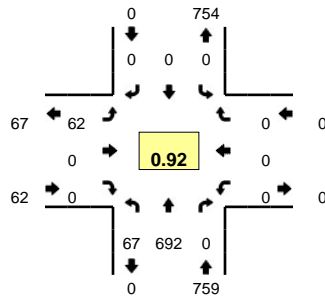


15-Min Count Period Beginning At	5th St (Northbound)				5th St (Southbound)				O St (Eastbound)				O St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	50	113	0	0	0	0	0	0	2	0	0	0	0	0	0	0	165	
7:15 AM	34	156	0	0	0	0	0	0	2	0	0	0	0	0	0	0	192	
7:30 AM	42	179	0	0	0	0	0	0	3	0	0	0	0	0	0	0	224	
7:45 AM	52	232	0	0	0	0	0	0	3	0	0	0	0	0	0	0	287	868
8:00 AM	29	244	0	0	0	0	0	0	5	0	0	0	0	0	0	0	278	981
8:15 AM	35	294	0	0	0	0	0	0	4	0	0	0	0	0	0	0	333	1122
8:30 AM	33	289	0	0	0	0	0	0	3	0	0	0	1	0	0	0	326	1224
8:45 AM	22	227	0	0	0	0	0	0	3	0	0	0	0	0	0	0	252	1189
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	140	1176	0	0	0	0	0	0	16	0	0	0	0	0	0	0	1332	
Heavy Trucks	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
Pedestrians		44				12				32				12			100	
Bicycles	0	3	0		0	0	0		0	0	1		0	0	0		4	
Railroad																		
Stopped Buses																		

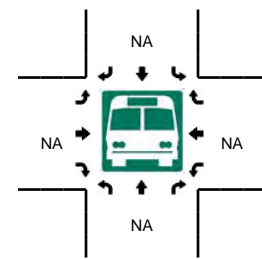
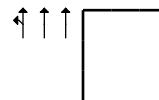
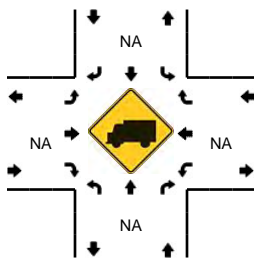
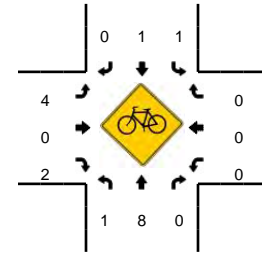
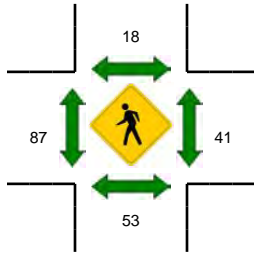
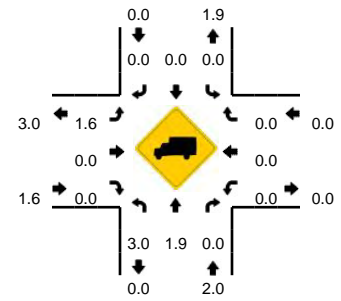
Comments:

LOCATION: 5th St -- O St
CITY/STATE: Sacramento, CA

QC JOB #: 12470806
DATE: Tue, Apr 08 2014



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

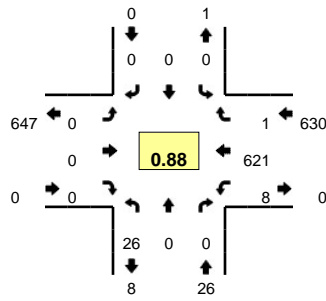


15-Min Count Period Beginning At	5th St (Northbound)				5th St (Southbound)				O St (Eastbound)				O St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	135	0	0	0	0	0	0	10	0	0	0	0	0	0	0	156	
4:15 PM	14	117	0	0	0	0	0	0	8	0	0	0	0	0	0	0	139	
4:30 PM	19	161	0	0	0	0	0	0	19	0	0	0	0	0	0	0	199	
4:45 PM	14	173	0	0	0	0	0	0	15	0	0	0	0	0	0	0	202	696
5:00 PM	16	189	0	0	0	0	0	0	18	0	0	0	0	0	0	0	223	763
5:15 PM	18	169	0	0	0	0	0	0	10	0	0	0	0	0	0	0	197	821
5:30 PM	10	149	0	0	0	0	0	0	14	0	0	0	0	0	0	0	173	795
5:45 PM	6	134	0	0	0	0	0	0	4	0	0	0	0	0	0	0	144	737
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	64	756	0	0	0	0	0	0	72	0	0	0	0	0	0	0	892	
Heavy Trucks	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	
Pedestrians		60				8				104				48			220	
Bicycles	1	1	0		1	0	0		0	0	0		0	0	0		3	
Railroad																		
Stopped Buses																		

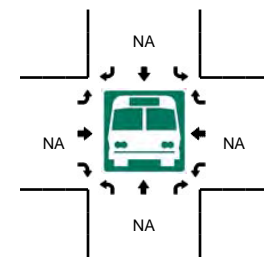
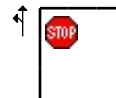
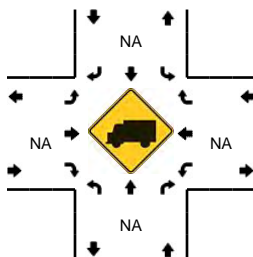
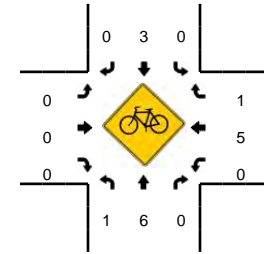
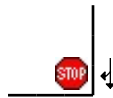
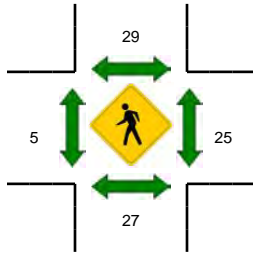
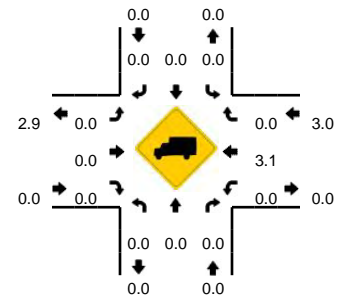
Comments:

LOCATION: 6th St -- P St
CITY/STATE: Sacramento, CA

QC JOB #: 12470811
DATE: Tue, Apr 08 2014



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

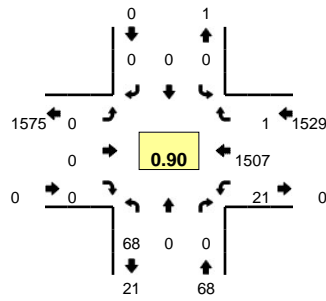


15-Min Count Period Beginning At	6th St (Northbound)				6th St (Southbound)				P St (Eastbound)				P St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	0	0	0	0	0	0	0	0	0	0	0	5	107	0	0	117	
7:15 AM	4	0	0	0	0	0	0	0	0	0	0	0	1	125	0	0	130	
7:30 AM	6	0	0	0	0	0	0	0	0	0	0	0	1	161	0	0	168	
7:45 AM	11	0	0	0	0	0	0	0	0	0	0	0	1	174	1	0	187	602
8:00 AM	2	0	0	0	0	0	0	0	0	0	0	0	3	149	0	0	154	639
8:15 AM	7	0	0	0	0	0	0	0	0	0	0	0	3	137	0	0	147	656
8:30 AM	7	0	0	0	0	0	0	0	0	0	0	0	3	147	0	0	157	645
8:45 AM	5	0	0	0	0	0	0	0	0	0	0	0	0	145	0	0	150	608
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	44	0	0	0	0	0	0	0	0	0	0	0	4	696	4	0	748	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	
Pedestrians		36				28				16				32			112	
Bicycles	0	0	0		0	0	0		0	0	0		0	1	0		1	
Railroad																		
Stopped Buses																		

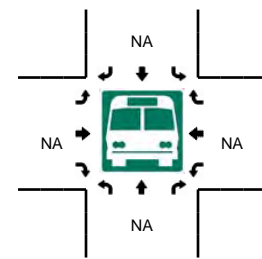
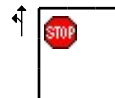
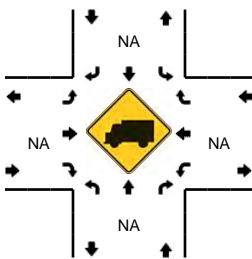
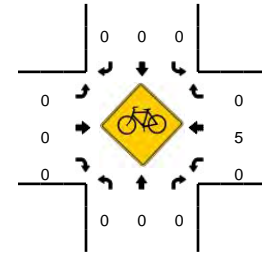
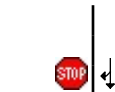
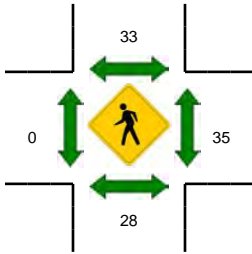
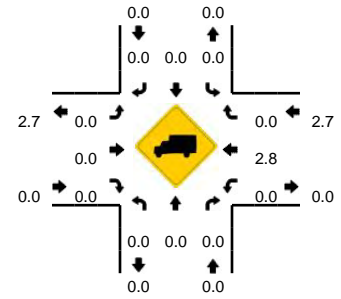
Comments:

LOCATION: 6th St -- P St
CITY/STATE: Sacramento, CA

QC JOB #: 12470812
DATE: Tue, Apr 08 2014



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

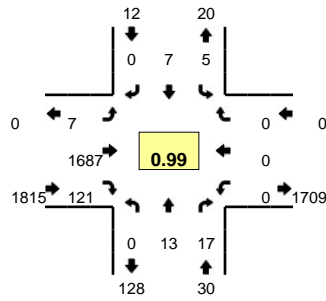


15-Min Count Period Beginning At	6th St (Northbound)				6th St (Southbound)				P St (Eastbound)				P St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	18	0	0	0	0	0	0	0	0	0	0	0	2	355	0	0	375	
4:15 PM	11	0	0	0	0	0	0	0	0	0	0	0	6	342	0	0	359	
4:30 PM	16	0	0	0	0	0	0	0	0	0	0	0	2	357	0	0	375	
4:45 PM	14	0	0	0	0	0	0	0	0	0	0	0	6	357	0	0	377	1486
5:00 PM	33	0	0	0	0	0	0	0	0	0	0	0	8	400	1	0	442	1553
5:15 PM	5	0	0	0	0	0	0	0	0	0	0	0	5	393	0	0	403	1597
5:30 PM	17	0	0	0	0	0	0	0	0	0	0	0	5	288	0	0	310	1532
5:45 PM	8	0	0	0	0	0	0	0	0	0	0	0	5	254	0	0	267	1422
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	132	0	0	0	0	0	0	0	0	0	0	0	32	1600	4	0	1768	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12	
Pedestrians		48				100				0				56			204	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	
Railroad																		
Stopped Buses																		

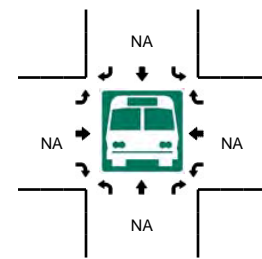
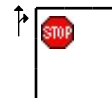
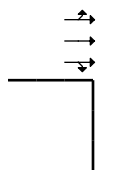
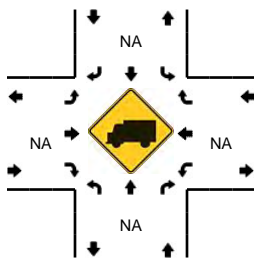
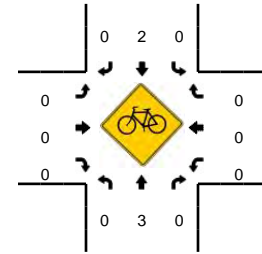
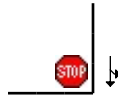
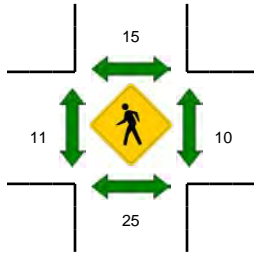
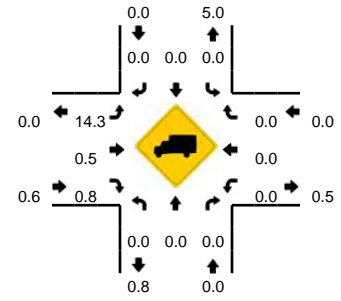
Comments:

LOCATION: 6th St -- Q St
CITY/STATE: Sacramento, CA

QC JOB #: 12470813
DATE: Tue, Apr 08 2014



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

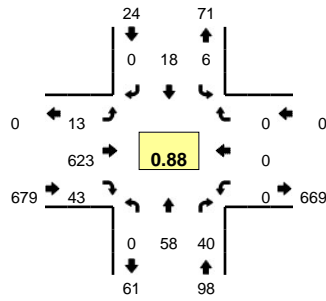


15-Min Count Period Beginning At	6th St (Northbound)				6th St (Southbound)				Q St (Eastbound)				Q St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	3	3	0	0	3	0	0	0	297	22	0	0	0	0	0	328	
7:15 AM	0	2	1	0	1	0	0	0	2	331	23	0	0	0	0	0	360	
7:30 AM	0	6	3	0	1	0	0	0	1	361	27	0	0	0	0	0	399	
7:45 AM	0	5	2	0	1	2	0	0	2	421	36	0	0	0	0	0	469	1556
8:00 AM	0	2	5	0	2	1	0	0	1	413	27	0	0	0	0	0	451	1679
8:15 AM	0	4	5	0	2	2	0	0	3	425	27	0	0	0	0	0	468	1787
8:30 AM	0	2	5	0	0	2	0	0	1	428	31	0	0	0	0	0	469	1857
8:45 AM	0	2	5	0	1	1	0	0	3	370	27	0	0	0	0	0	409	1797
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	20	8	0	4	8	0	0	8	1684	144	0	0	0	0	0	1876	
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	0	0		12	
Pedestrians		40				20				28				12			100	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

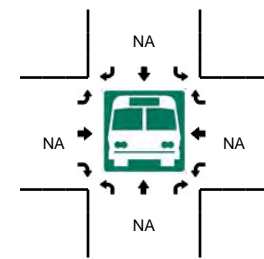
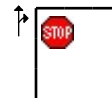
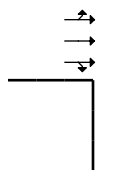
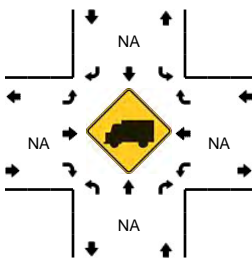
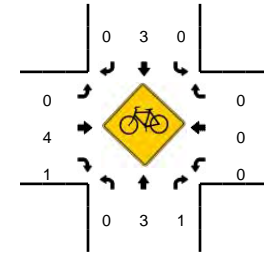
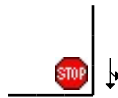
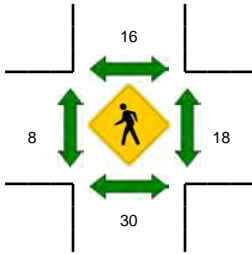
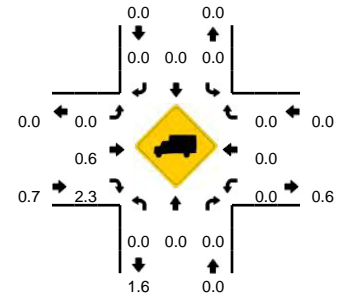
Comments:

LOCATION: 6th St -- Q St
CITY/STATE: Sacramento, CA

QC JOB #: 12470814
DATE: Tue, Apr 08 2014



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

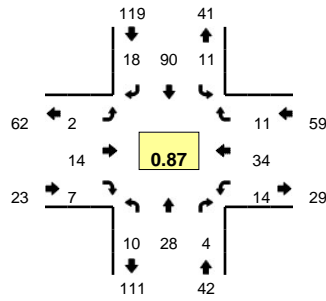


15-Min Count Period Beginning At	6th St (Northbound)				6th St (Southbound)				Q St (Eastbound)				Q St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	17	11	0	0	1	0	0	1	100	11	0	0	0	0	0	141	
4:15 PM	0	10	4	0	4	5	0	0	3	117	9	0	0	0	0	0	152	
4:30 PM	0	14	10	0	0	2	0	0	3	151	8	0	0	0	0	0	188	
4:45 PM	0	13	6	0	2	5	0	0	3	169	15	0	0	0	0	0	213	694
5:00 PM	0	25	15	0	2	6	0	0	7	160	13	0	0	0	0	0	228	781
5:15 PM	0	6	9	0	2	5	0	0	0	143	7	0	0	0	0	0	172	801
5:30 PM	0	14	4	0	0	2	0	0	2	155	5	0	0	0	0	0	182	795
5:45 PM	0	7	5	0	2	2	0	0	2	125	6	0	0	0	0	0	149	731
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	8	24	0	0	28	640	52	0	0	0	0	0	912	
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	0	0		4	
Pedestrians		40				16				4				28			88	
Bicycles	0	3	1		0	1	0		0	2	0		0	0	0		7	
Railroad																		
Stopped Buses																		

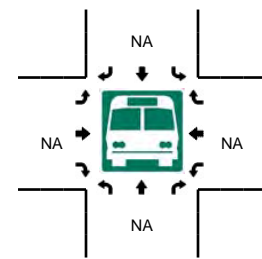
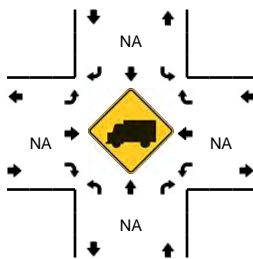
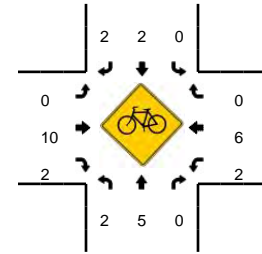
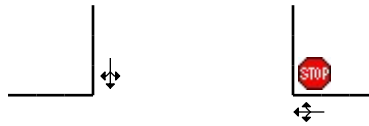
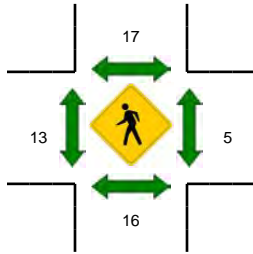
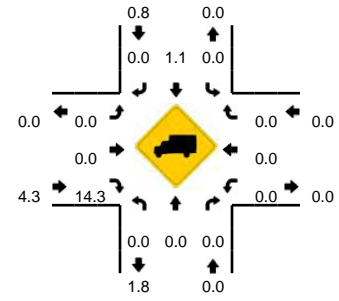
Comments:

LOCATION: 6th St -- R St
CITY/STATE: Sacramento, CA

QC JOB #: 12470815
DATE: Tue, Apr 08 2014



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

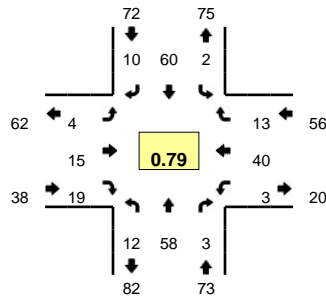


15-Min Count Period Beginning At	6th St (Northbound)				6th St (Southbound)				R St (Eastbound)				R St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	5	0	0	0	16	3	0	1	2	4	0	3	4	0	0	38	
7:15 AM	1	5	0	0	2	11	6	0	0	4	4	0	5	3	2	0	43	
7:30 AM	0	6	1	0	1	20	4	0	0	3	3	0	3	4	2	0	47	
7:45 AM	4	7	1	0	2	31	6	0	1	2	1	0	5	9	1	0	70	198
8:00 AM	1	4	1	0	3	17	3	0	1	3	4	0	4	6	3	0	50	210
8:15 AM	3	8	1	0	1	22	4	0	0	8	1	0	2	9	3	0	62	229
8:30 AM	2	9	1	0	5	20	5	0	0	1	1	0	3	10	4	0	61	243
8:45 AM	0	7	0	0	2	19	6	0	1	4	3	0	2	5	1	0	50	223
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	16	28	4	0	8	124	24	0	4	8	4	0	20	36	4	0	280	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	
Pedestrians		20				40				44				4			108	
Bicycles	1	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	5	
Railroad																		
Stopped Buses																		

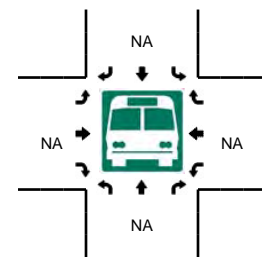
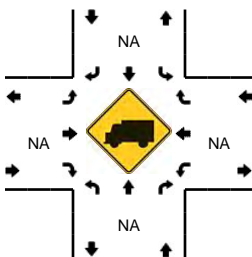
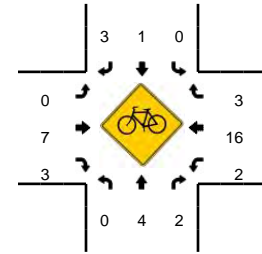
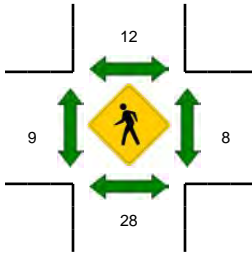
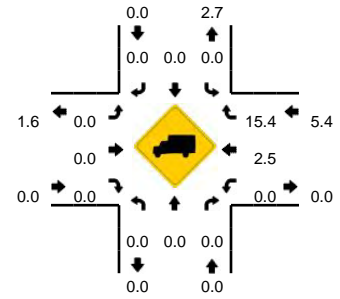
Comments:

LOCATION: 6th St -- R St
CITY/STATE: Sacramento, CA

QC JOB #: 12470816
DATE: Tue, Apr 08 2014



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

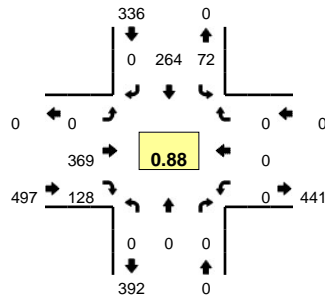


15-Min Count Period Beginning At	6th St (Northbound)				6th St (Southbound)				R St (Eastbound)				R St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	17	2	0	0	10	3	0	3	6	3	0	1	6	6	0	57	
4:15 PM	0	8	0	0	0	9	1	0	1	3	7	0	4	5	3	1	42	
4:30 PM	1	13	2	0	0	13	2	0	0	4	5	0	2	3	3	0	48	
4:45 PM	2	16	0	0	0	14	4	0	1	4	3	0	3	9	1	0	57	204
5:00 PM	2	17	2	0	1	21	3	0	1	4	6	0	0	11	8	0	76	223
5:15 PM	1	14	0	0	1	13	3	0	1	5	6	0	0	12	1	0	57	238
5:30 PM	7	11	1	0	0	12	0	0	1	2	4	0	0	8	3	0	49	239
5:45 PM	0	6	1	0	0	8	1	0	2	7	4	0	2	6	0	0	37	219
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	68	8	0	4	84	12	0	4	16	24	0	0	44	32	0	304	
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0	
Pedestrians		60				20				8				24			112	
Bicycles	0	4	0		0	1	1		0	3	0		2	2	0		13	
Railroad																		
Stopped Buses																		

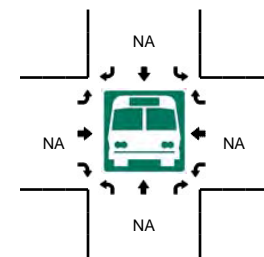
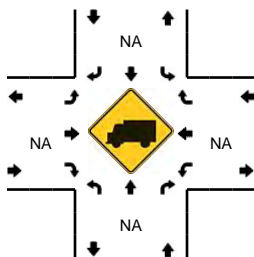
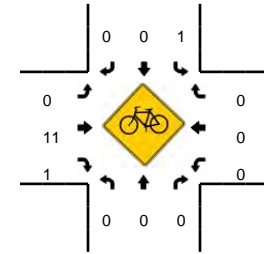
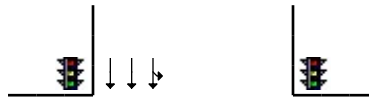
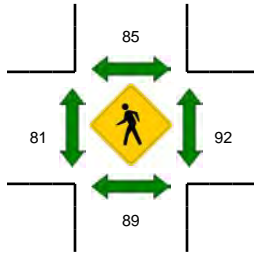
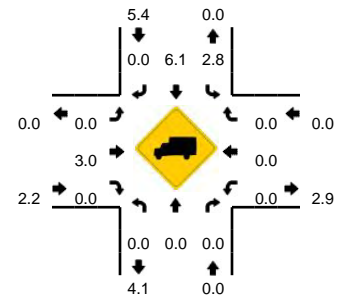
Comments:

LOCATION: 7th St -- N St
CITY/STATE: Sacramento, CA

QC JOB #: 12470825
DATE: Tue, Apr 08 2014



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

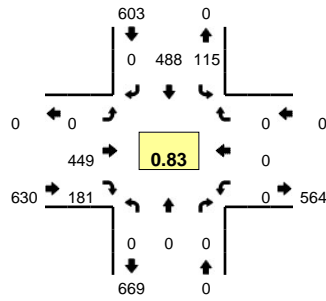


15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				N St (Eastbound)				N St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	13	38	0	0	0	40	23	0	0	0	0	0	114	
7:15 AM	0	0	0	0	18	55	0	0	0	89	26	0	0	0	0	0	188	
7:30 AM	0	0	0	0	19	62	0	0	0	93	18	0	0	0	0	0	192	
7:45 AM	0	0	0	0	27	80	0	0	0	95	35	0	0	0	0	0	237	731
8:00 AM	0	0	0	0	12	61	0	0	0	81	41	0	0	0	0	0	195	812
8:15 AM	0	0	0	0	16	63	0	0	0	94	20	0	0	0	0	0	193	817
8:30 AM	0	0	0	0	17	60	0	0	0	99	32	0	0	0	0	0	208	833
8:45 AM	0	0	0	0	25	61	0	0	0	109	39	0	0	0	0	0	234	830
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	0	0	0	108	320	0	0	0	380	140	0	0	0	0	0	948	
Heavy Trucks	0	0	0	0	8	24	0	0	0	16	0	0	0	0	0	0	48	
Pedestrians		100				124				88				80			392	
Bicycles	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	
Railroad																		
Stopped Buses																		

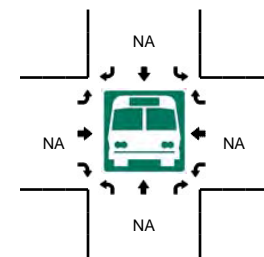
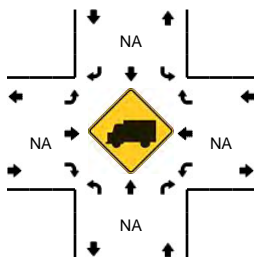
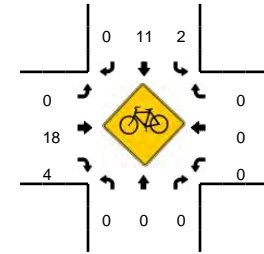
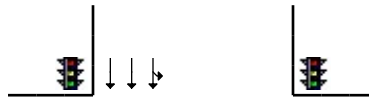
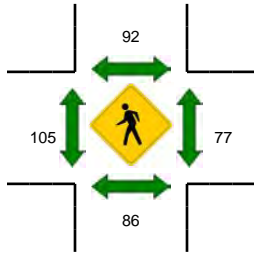
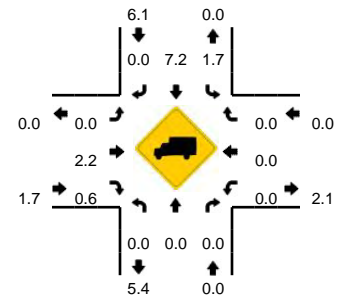
Comments:

LOCATION: 7th St -- N St
CITY/STATE: Sacramento, CA

QC JOB #: 12470826
DATE: Tue, Apr 08 2014



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

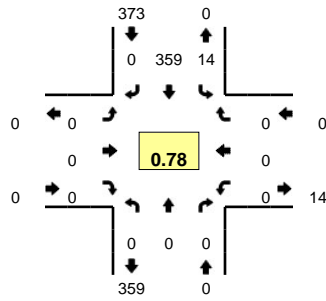


15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				N St (Eastbound)				N St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	23	79	0	0	0	80	23	0	0	0	0	0	205	
4:15 PM	0	0	0	0	21	81	0	0	0	85	29	0	0	0	0	0	216	
4:30 PM	0	0	0	0	18	81	0	0	0	106	39	0	0	0	0	0	244	
4:45 PM	0	0	0	0	33	123	0	0	0	104	41	0	0	0	0	0	301	966
5:00 PM	0	0	0	0	28	154	0	0	0	125	64	0	0	0	0	0	371	1132
5:15 PM	0	0	0	0	36	130	0	0	0	114	37	0	0	0	0	0	317	1233
5:30 PM	0	0	0	0	25	93	0	0	0	78	36	0	0	0	0	0	232	1221
5:45 PM	0	0	0	0	24	80	0	0	0	59	31	0	0	0	0	0	194	1114
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	112	616	0	0	0	500	256	0	0	0	0	0	1484	
Heavy Trucks	0	0	0	0	0	24	0	0	0	8	0	0	0	0	0	0	32	
Pedestrians		96				128				124				76			424	
Bicycles	0	0	0	0	1	5	0	0	0	6	1	0	0	0	0	0	13	
Railroad																		
Stopped Buses																		

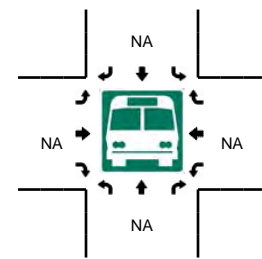
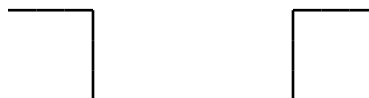
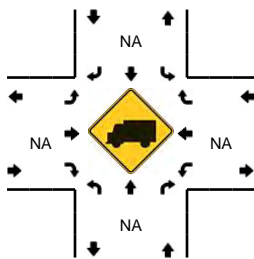
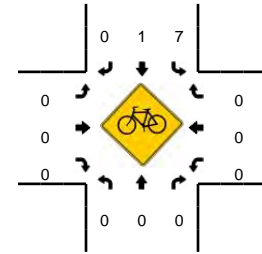
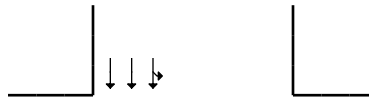
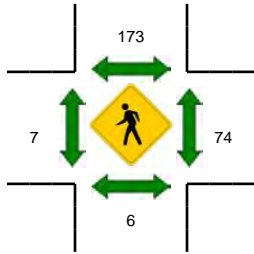
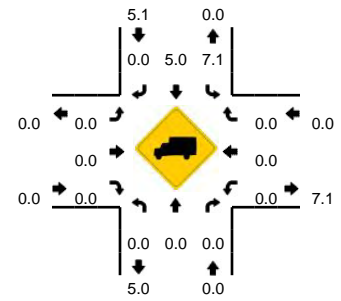
Comments:

LOCATION: 7th St -- O St
CITY/STATE: Sacramento, CA

QC JOB #: 12470821
DATE: Tue, Apr 08 2014



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

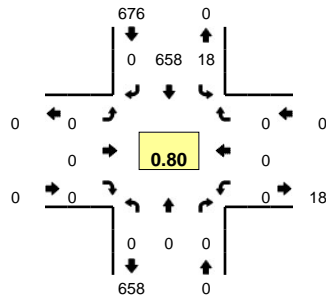


15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				O St (Eastbound)				O St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	57	0	0	0	0	0	0	0	0	0	0	58	
7:15 AM	0	0	0	0	5	68	0	0	0	0	0	0	0	0	0	0	73	
7:30 AM	0	0	0	0	6	76	0	0	0	0	0	0	0	0	0	0	82	
7:45 AM	0	0	0	0	5	115	0	0	0	0	0	0	0	0	0	0	120	333
8:00 AM	0	0	0	0	3	87	0	0	0	0	0	0	0	0	0	0	90	365
8:15 AM	0	0	0	0	1	71	0	0	0	0	0	0	0	0	0	0	72	364
8:30 AM	0	0	0	0	5	86	0	0	0	0	0	0	0	0	0	0	91	373
8:45 AM	0	2	0	0	5	84	0	0	0	0	0	0	0	0	0	0	91	344
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	0	0	0	20	460	0	0	0	0	0	0	0	0	0	0	480	
Heavy Trucks	0	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	36	
Pedestrians		8				276				20				72			376	
Bicycles	0	0	0		2	1	0		0	0	0		0	0	0		3	
Railroad																		
Stopped Buses																		

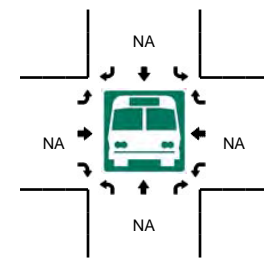
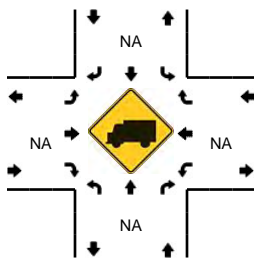
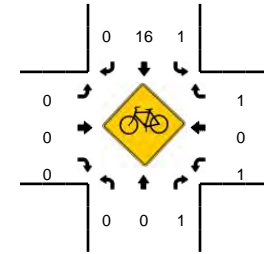
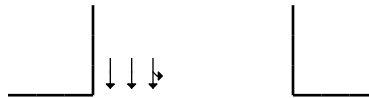
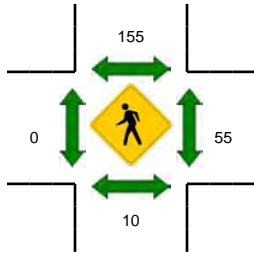
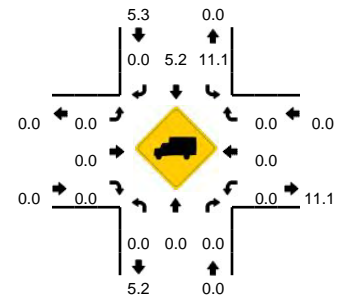
Comments:

LOCATION: 7th St -- O St
CITY/STATE: Sacramento, CA

QC JOB #: 12470822
DATE: Tue, Apr 08 2014



Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

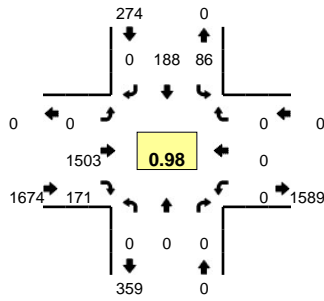


15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				O St (Eastbound)				O St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	4	98	0	0	0	0	0	0	0	0	0	0	102	
4:15 PM	0	0	0	0	5	115	0	0	0	0	0	0	0	0	0	0	120	
4:30 PM	0	0	0	0	3	129	0	0	0	0	0	0	0	0	0	0	132	
4:45 PM	0	0	0	0	6	146	0	0	0	0	0	0	0	0	0	0	152	506
5:00 PM	0	0	0	0	3	209	0	0	0	0	0	0	0	0	0	0	212	616
5:15 PM	0	0	0	0	5	169	0	0	0	0	0	0	0	0	0	0	174	670
5:30 PM	0	0	0	0	4	134	0	0	0	0	0	0	0	0	0	0	138	676
5:45 PM	0	0	0	0	2	104	0	0	0	0	0	0	0	0	0	0	106	630
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	12	836	0	0	0	0	0	0	0	0	0	0	848	
Heavy Trucks	0	0	0	0	4	16	0	0	0	0	0	0	0	0	0	0	20	
Pedestrians		24				232				0				92			348	
Bicycles	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0	0	5	
Railroad																		
Stopped Buses																		

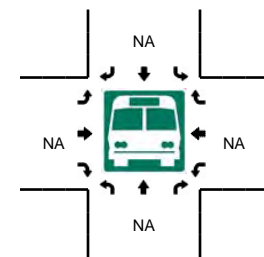
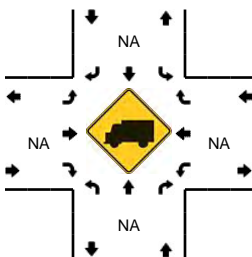
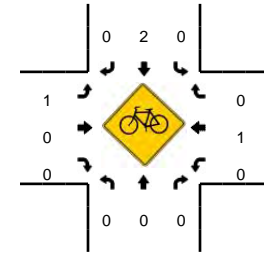
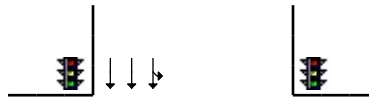
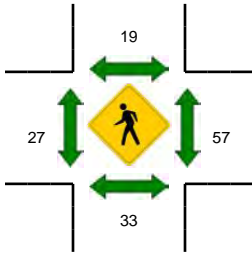
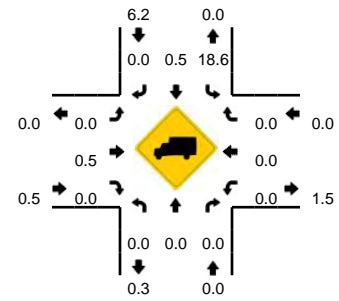
Comments:

LOCATION: 7th St -- Q St
CITY/STATE: Sacramento, CA

QC JOB #: 12470819
DATE: Tue, Apr 08 2014



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

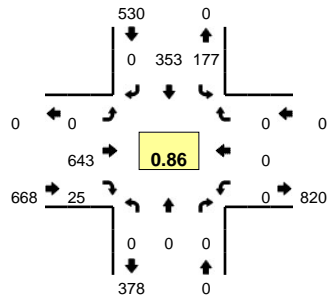


15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				Q St (Eastbound)				Q St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	11	30	0	0	0	271	28	0	0	0	0	0	340	
7:15 AM	0	0	0	0	21	23	0	0	0	296	41	0	0	0	0	0	381	
7:30 AM	0	0	0	0	25	39	0	0	0	328	38	0	0	0	0	0	430	
7:45 AM	0	0	0	0	27	53	0	0	0	372	40	0	0	0	0	0	492	1643
8:00 AM	0	0	0	0	23	51	0	0	0	367	57	0	0	0	0	0	498	1801
8:15 AM	0	0	0	0	19	42	0	0	0	385	41	0	0	0	0	0	487	1907
8:30 AM	0	0	0	0	17	42	0	0	0	379	33	0	0	0	0	0	471	1948
8:45 AM	0	0	0	0	26	33	0	0	0	364	34	0	0	0	0	0	457	1913
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	92	204	0	0	0	1468	228	0	0	0	0	0	1992	
Heavy Trucks	0	0	0	0	12	0	0	0	0	12	0	0	0	0	0	0	24	
Pedestrians		40				8				20				100			168	
Bicycles	0	0	0		0	0	0		1	0	0		0	0	0		1	
Railroad																		
Stopped Buses																		

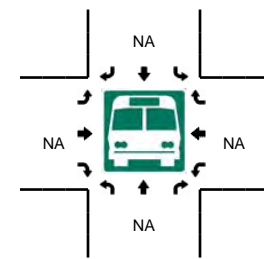
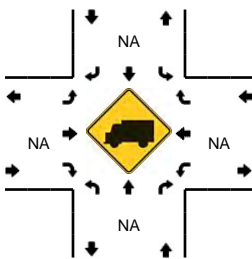
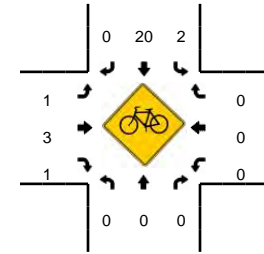
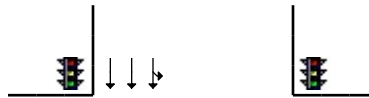
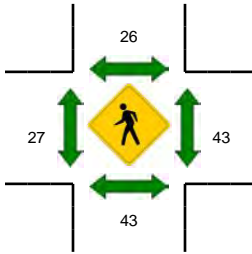
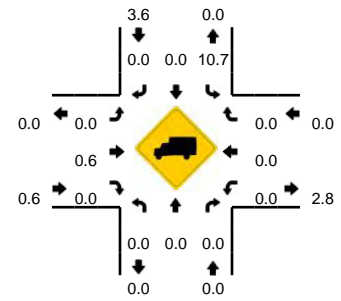
Comments:

LOCATION: 7th St -- Q St
CITY/STATE: Sacramento, CA

QC JOB #: 12470820
DATE: Tue, Apr 08 2014



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

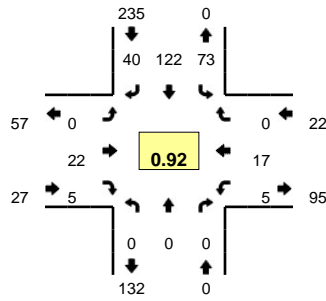


15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				Q St (Eastbound)				Q St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	29	39	0	0	0	104	3	0	0	0	0	0	175	
4:15 PM	0	0	0	0	28	41	0	0	0	122	2	0	0	0	0	0	193	
4:30 PM	0	0	0	0	39	63	0	0	0	153	7	0	0	0	0	0	262	
4:45 PM	0	0	0	0	44	69	0	0	0	173	5	0	0	0	0	0	291	921
5:00 PM	0	0	0	0	47	119	0	0	0	175	6	0	0	0	0	0	347	1093
5:15 PM	0	0	0	0	47	102	0	0	0	142	7	0	0	0	0	0	298	1198
5:30 PM	0	0	0	0	27	59	0	0	0	145	12	0	0	0	0	0	243	1179
5:45 PM	0	0	0	0	33	52	0	0	0	128	12	0	0	0	0	0	225	1113
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	188	476	0	0	0	700	24	0	0	0	0	0	1388	
Heavy Trucks	0	0	0	0	8	0	0	0	0	4	0	0	0	0	0	0	12	
Pedestrians		48				40				28				68			184	
Bicycles	0	0	0	0	0	5	0	0	0	2	1	0	0	0	0	0	8	
Railroad																		
Stopped Buses																		

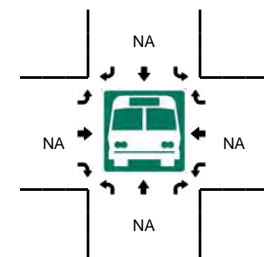
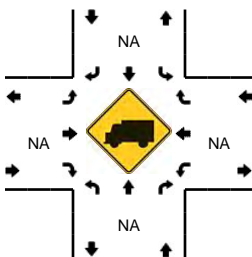
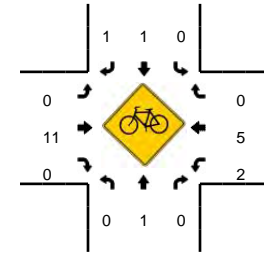
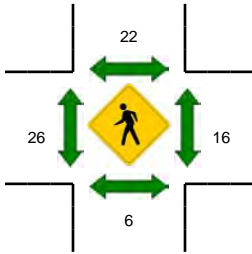
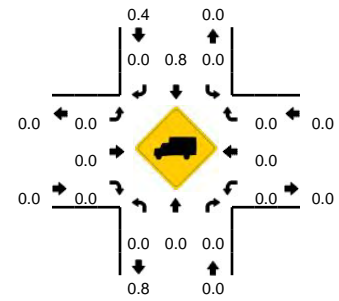
Comments:

LOCATION: 7th St -- R St
CITY/STATE: Sacramento, CA

QC JOB #: 12470817
DATE: Tue, Apr 08 2014



Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

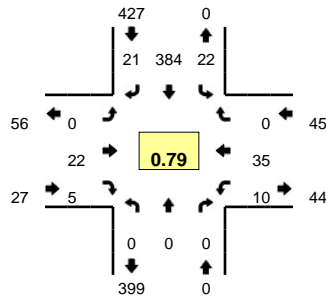


15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				R St (Eastbound)				R St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	15	18	5	0	0	2	1	0	0	3	0	0	44	
7:15 AM	0	0	0	0	11	24	6	0	0	5	1	0	0	3	0	0	50	
7:30 AM	0	0	0	0	19	32	7	0	0	5	0	0	1	2	0	0	66	
7:45 AM	0	0	0	0	19	28	11	0	0	3	1	0	2	7	0	0	71	231
8:00 AM	0	0	0	0	20	32	11	0	0	6	3	0	1	4	0	0	77	264
8:15 AM	0	0	0	0	15	30	11	0	0	8	1	0	1	4	0	0	70	284
8:30 AM	0	0	0	0	13	25	10	0	0	6	1	0	1	4	0	0	60	278
8:45 AM	0	0	0	0	15	29	7	0	0	4	1	0	1	1	0	0	58	265
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	0	0	0	80	128	44	0	0	24	12	0	4	16	0	0	308	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians		12			20				24				40				96	
Bicycles	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5	
Railroad																		
Stopped Buses																		

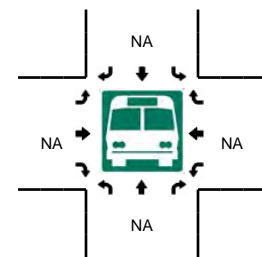
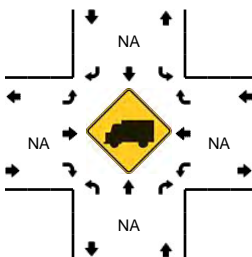
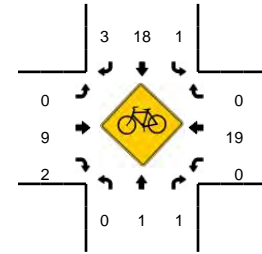
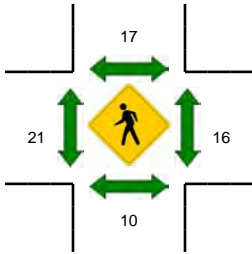
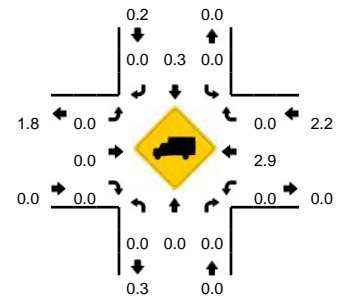
Comments:

LOCATION: 7th St -- R St
CITY/STATE: Sacramento, CA

QC JOB #: 12470818
DATE: Tue, Apr 08 2014



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

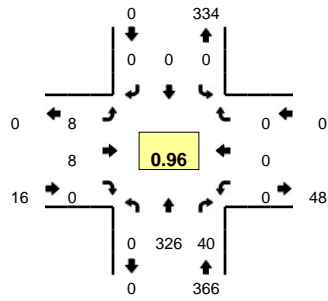


15-Min Count Period Beginning At	7th St (Northbound)				7th St (Southbound)				R St (Eastbound)				R St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	1	41	5	0	0	6	1	0	1	10	0	1	66	
4:15 PM	0	0	0	0	2	35	5	0	0	1	1	0	0	5	0	0	49	
4:30 PM	0	0	0	0	7	73	3	0	0	6	1	0	6	7	0	0	103	
4:45 PM	0	0	0	0	6	79	3	0	0	3	1	0	1	9	0	0	102	320
5:00 PM	0	0	0	0	3	127	7	0	0	7	1	0	1	12	0	0	158	412
5:15 PM	0	0	0	0	6	105	8	0	0	6	2	0	2	7	0	0	136	499
5:30 PM	0	0	0	0	0	70	4	0	0	3	0	0	3	2	0	0	82	478
5:45 PM	0	0	0	0	1	61	3	0	0	8	0	0	1	5	0	0	79	455
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	0	0	0	12	508	28	0	0	28	4	0	4	48	0	0	632	
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians		16				28				24				16			84	
Bicycles	0	0	0	0	0	5	1	0	0	4	0	0	0	3	0	0	13	
Railroad																		
Stopped Buses																		

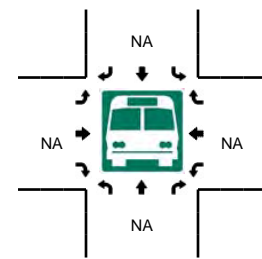
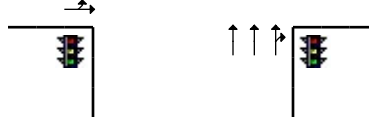
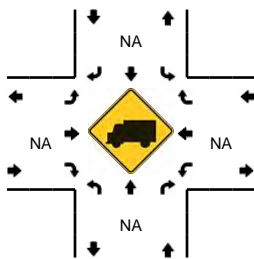
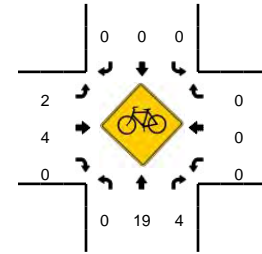
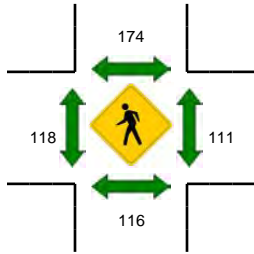
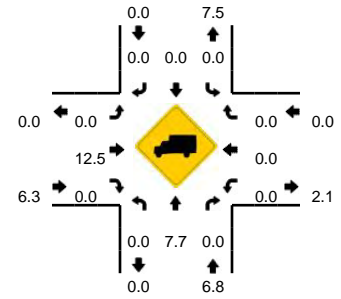
Comments:

LOCATION: 8th St -- O St
CITY/STATE: Sacramento, CA

QC JOB #: 12470809
DATE: Tue, Apr 08 2014



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

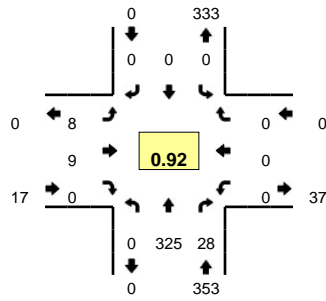


15-Min Count Period Beginning At	8th St (Northbound)				8th St (Southbound)				O St (Eastbound)				O St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	59	11	0	0	0	0	0	0	0	0	0	0	0	0	0	70	
7:15 AM	0	53	11	0	0	0	0	0	1	1	0	0	0	0	0	0	66	
7:30 AM	0	81	4	0	0	0	0	0	5	2	0	0	0	0	0	0	92	
7:45 AM	0	84	9	0	0	0	0	0	3	3	0	0	0	0	0	0	99	327
8:00 AM	0	81	12	0	0	0	0	0	1	2	0	0	0	0	0	0	96	353
8:15 AM	0	81	11	0	0	0	0	0	2	0	0	0	0	0	0	0	94	381
8:30 AM	0	80	8	0	0	0	0	0	2	3	0	0	0	0	0	0	93	382
8:45 AM	0	75	1	0	0	0	0	0	1	3	0	0	0	0	0	0	80	363
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	336	36	0	0	0	0	0	12	12	0	0	0	0	0	0	396	
Heavy Trucks	0	36	0		0	0	0		0	0	0		0	0	0		36	
Pedestrians		152				320				168				132			772	
Bicycles	0	4	2		0	0	0		0	1	0		0	0	0		7	
Railroad																		
Stopped Buses																		

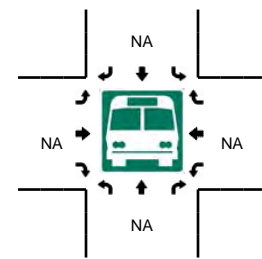
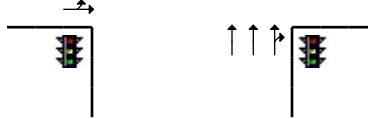
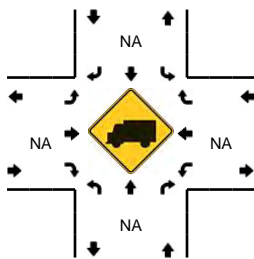
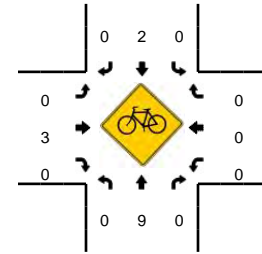
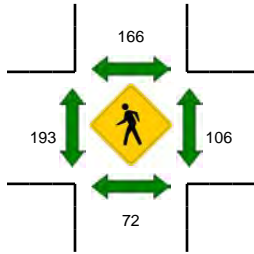
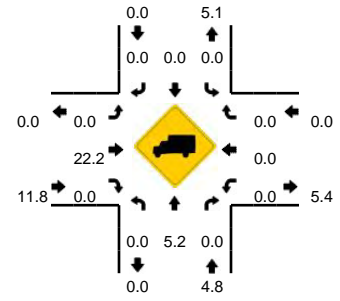
Comments:

LOCATION: 8th St -- O St
CITY/STATE: Sacramento, CA

QC JOB #: 12470810
DATE: Tue, Apr 08 2014



Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM



15-Min Count Period Beginning At	8th St (Northbound)				8th St (Southbound)				O St (Eastbound)				O St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	53	5	0	0	0	0	0	5	2	0	0	0	0	0	0	65	
4:15 PM	0	56	10	0	0	0	0	0	5	3	0	0	0	0	0	0	74	
4:30 PM	0	79	9	0	0	0	0	0	1	0	0	0	0	0	0	0	89	
4:45 PM	0	66	8	0	0	0	0	0	3	4	0	0	0	0	0	0	81	309
5:00 PM	0	88	8	0	0	0	0	0	1	4	0	0	0	0	0	0	101	345
5:15 PM	0	92	3	0	0	0	0	0	3	1	0	0	0	0	0	0	99	370
5:30 PM	0	63	3	0	0	0	0	0	3	1	0	0	0	0	0	0	70	351
5:45 PM	0	50	3	0	0	0	0	0	4	0	0	0	0	0	0	0	57	327
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	352	32	0	0	0	0	0	4	16	0	0	0	0	0	0	404	
Heavy Trucks	0	16	0		0	0	0		0	4	0		0	0	0		20	
Pedestrians		100				228				272				116			716	
Bicycles	0	1	0		0	1	0		0	1	0		0	0	0		3	
Railroad																		
Stopped Buses																		

Comments:

APPENDIX B: EXISTING CONDITIONS LOS WORKSHEETS

Intersection

Int Delay, s/veh 4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	25	33	35	2	51	47
Conflicting Peds, #/hr	8	12	0	50	50	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	14	0	0	4
Mvmt Flow	25	33	35	2	51	47















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	197	98	0
Stage 1	48	-	-
Stage 2	149	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	796	963	1571
Stage 1	980	-	-
Stage 2	884	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	729	914	1506
Mov Cap-2 Maneuver	729	-	-
Stage 1	970	-	-
Stage 2	818	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	3.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	824	1506	-
HCM Lane V/C Ratio	-	-	0.07	0.034	-
HCM Control Delay (s)	-	-	9.7	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	36	406	0	0	0	0	0	662	405	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.91			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	187.8	0.0				0.0	186.3	190.0			
Adj Flow Rate, veh/h	36	406	0				0	662	405			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	1	1	0				0	2	2			
Cap, veh/h	195	2056	0				0	909	556			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	297	4751	0				0	2127	1242			
Grp Volume(v), veh/h	165	277	0				0	576	491			
Grp Sat Flow(s),veh/h/ln	1783	1555	0				0	1770	1507			
Q Serve(g_s), s	0.0	3.8	0.0				0.0	18.7	18.7			
Cycle Q Clear(g_c), s	3.7	3.8	0.0				0.0	18.7	18.7			
Prop In Lane	0.22		0.00				0.00		0.82			
Lane Grp Cap(c), veh/h	860	1391	0				0	791	674			
V/C Ratio(X)	0.19	0.20	0.00				0.00	0.73	0.73			
Avail Cap(c_a), veh/h	860	1391	0				0	791	674			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	11.7	11.7	0.0				0.0	15.9	15.9			
Incr Delay (d2), s/veh	0.5	0.3	0.0				0.0	5.8	6.8			
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	1.7	0.0				0.0	10.2	8.9			
LnGrp Delay(d),s/veh	12.2	12.1	0.0				0.0	21.7	22.7			
LnGrp LOS	B	B						C	C			
Approach Vol, veh/h		442						1067				
Approach Delay, s/veh		12.1						22.1				
Approach LOS		B						C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		5.8		20.7								
Green Ext Time (p_c), s		2.8		5.3								
Intersection Summary												
HCM 2010 Ctrl Delay			19.2									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	16	0	149	1059	0	0
Conflicting Peds, #/hr	14	72	60	0	0	60
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	16	0	149	1059	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	900	132	72
Stage 1	72	-	-
Stage 2	828	-	-
Critical Hdwy	6.6	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.8	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	296	923	1541
Stage 1	956	-	-
Stage 2	394	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	197	824	1464
Mov Cap-2 Maneuver	197	-	-
Stage 1	899	-	-
Stage 2	279	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.9	1.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1464	-	197	-	-
HCM Lane V/C Ratio	0.102	-	0.081	-	-
HCM Control Delay (s)	7.7	0.7	24.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	358	183	185	695	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0.0	190.0	190.0	190.0	187.0	0.0			
Adj Flow Rate, veh/h				0	358	183	185	695	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1473	681	361	1142	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	3629	1599	611	2766	0			
Grp Volume(v), veh/h				0	358	183	460	420	0			
Grp Sat Flow(s),veh/h/ln				0	1729	1599	1675	1617	0			
Q Serve(g_s), s				0.0	4.6	5.1	9.0	10.1	0.0			
Cycle Q Clear(g_c), s				0.0	4.6	5.1	10.7	10.1	0.0			
Prop In Lane				0.00		1.00	0.40		0.00			
Lane Grp Cap(c), veh/h				0	1473	681	815	689	0			
V/C Ratio(X)				0.00	0.24	0.27	0.56	0.61	0.00			
Avail Cap(c_a), veh/h				0	1473	681	815	689	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	14.3	14.5	11.2	11.1	0.0			
Incr Delay (d2), s/veh				0.0	0.4	1.0	2.8	4.0	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				0.0	2.3	2.4	5.6	5.2	0.0			
LnGrp Delay(d),s/veh				0.0	14.7	15.5	14.1	15.1	0.0			
LnGrp LOS					B	B	B	B				
Approach Vol, veh/h					541			880				
Approach Delay, s/veh					15.0			14.6				
Approach LOS					B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		7.1		12.7								
Green Ext Time (p_c), s		3.0		3.6								
Intersection Summary												
HCM 2010 Ctrl Delay				14.7								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	8	621	26	0
Conflicting Peds, #/hr	0	27	27	0	5	25
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	8	621	26	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	25
Stage 1	-	-	25
Stage 2	-	-	264
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1603
Stage 1	-	-	962
Stage 2	-	-	724
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1567
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	942
Stage 2	-	-	702

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	665	-	-	1567	-
HCM Lane V/C Ratio	0.039	-	-	0.005	-
HCM Control Delay (s)	10.6	-	-	7.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	7	1687	121	0	0	0	0	13	17
Conflicting Peds, #/hr	15	0	25	25	0	15	11	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	14	0	1	0	0	0	0	0	0
Mvmt Flow	7	1687	121	0	0	0	0	13	17

Major/Minor	Major1			Minor1		
Conflicting Flow All	11	0	0	1788	1784	914
Stage 1	-	-	-	1773	1773	-
Stage 2	-	-	-	15	11	-
Critical Hdwy	-	-	-	5.7	6.5	7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.8	4	3.9
Pot Cap-1 Maneuver	-	-	-	124	83	240
Stage 1	-	-	-	81	137	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	120	0	238
Mov Cap-2 Maneuver	-	-	-	120	0	-
Stage 1	-	-	-	80	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0	22.3
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	238	-	-	-	-
HCM Lane V/C Ratio	0.126	-	-	-	-
HCM Control Delay (s)	22.3	-	-	-	-
HCM Lane LOS	C	-	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	5	7	0
Conflicting Peds, #/hr	10	0	11
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	5	7	0

Major/Minor

	Minor2		
Conflicting Flow All	717	1844	36
Stage 1	11	11	-
Stage 2	706	1833	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	434	76	-
Stage 1	-	-	-
Stage 2	414	128	-
Platoon blocked, %			
Mov Cap-1 Maneuver	426	0	-
Mov Cap-2 Maneuver	426	0	-
Stage 1	-	0	-
Stage 2	410	0	-

Approach

HCM Control Delay, s

HCM LOS

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	14	7	14	34	11	10	28	4
Conflicting Peds, #/hr	17	0	16	16	0	17	13	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	14	0	0	0	0	0	0
Mvmt Flow	2	14	7	14	34	11	10	28	4

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	228	207	129	216	214	60	125	0	0
Stage 1	138	138	-	67	67	-	-	-	-
Stage 2	90	69	-	149	147	-	-	-	-
Critical Hdwy	7.1	6.5	6.34	7.1	6.5	6.2	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	3.5	4	3.426	3.5	4	3.3	2.2	-	-
Pot Cap-1 Maneuver	731	693	890	745	687	1011	1474	-	-
Stage 1	870	786	-	948	843	-	-	-	-
Stage 2	922	841	-	858	779	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	669	663	868	701	658	986	1458	-	-
Mov Cap-2 Maneuver	669	663	-	701	658	-	-	-	-
Stage 1	852	769	-	928	825	-	-	-	-
Stage 2	859	823	-	820	762	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	10.2	10.5	1.8
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	715	713	1554	-	-
HCM Lane V/C Ratio	0.007	-	-	0.032	0.083	0.007	-	-
HCM Control Delay (s)	7.5	0	-	10.2	10.5	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	11	90	18
Conflicting Peds, #/hr	5	0	13
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	1	0
Mvmt Flow	11	90	18

Major/Minor Major2

Conflicting Flow All	49	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1571	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1554	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB













HCM Control Delay, s 0.7

HCM LOS

Minor Lane/Major Mvmt















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	369	128	0	0	0	0	0	0	72	264	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0.0	185.9	190.0							190.0	180.3	0.0
Adj Flow Rate, veh/h	0	369	128							72	264	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	3	3							6	6	0
Cap, veh/h	0	1329	427							484	1621	0
Arrive On Green	0.00	0.36	0.36							0.43	0.43	0.00
Sat Flow, veh/h	0	3870	1189							746	3954	0
Grp Volume(v), veh/h	0	334	163							131	205	0
Grp Sat Flow(s),veh/h/ln	0	1691	1509							1565	1493	0
Q Serve(g_s), s	0.0	2.4	2.6							0.0	1.4	0.0
Cycle Q Clear(g_c), s	0.0	2.4	2.6							1.5	1.4	0.0
Prop In Lane	0.00		0.79							0.55		0.00
Lane Grp Cap(c), veh/h	0	1214	542							833	1272	0
V/C Ratio(X)	0.00	0.28	0.30							0.16	0.16	0.00
Avail Cap(c_a), veh/h	0	1619	722							1410	2394	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.6	7.7							5.9	5.9	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3							0.4	0.3	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	0.0	1.1	1.1							0.8	0.6	0.0
LnGrp Delay(d),s/veh	0.0	7.7	8.0							6.3	6.2	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		497									336	
Approach Delay, s/veh		7.8									6.3	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.3						15.7				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		3.5						4.6				
Green Ext Time (p_c), s		2.1						2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			7.2									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
 10: 7th St & P St

Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	87	503	0	0	0	0	0	133	114
Number				7	4	14				5	2	12
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				190.0	190.0	0.0				0.0	173.8	190.0
Adj Flow Rate, veh/h				87	503	0				0	133	114
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	1	1
Cap, veh/h				344	1828	0				0	1360	615
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				572	4448	0				0	3320	1431
Grp Volume(v), veh/h				220	370	0				0	133	114
Grp Sat Flow(s),veh/h/ln				1717	1573	0				0	1582	1431
Q Serve(g_s), s				0.8	3.8	0.0				0.0	1.3	2.5
Cycle Q Clear(g_c), s				3.9	3.8	0.0				0.0	1.3	2.5
Prop In Lane				0.40		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				832	1341	0				0	1360	615
V/C Ratio(X)				0.26	0.28	0.00				0.00	0.10	0.19
Avail Cap(c_a), veh/h				832	1341	0				0	1360	615
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				9.3	9.3	0.0				0.0	8.5	8.8
Incr Delay (d2), s/veh				0.8	0.5	0.0				0.0	0.1	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.1	1.7	0.0				0.0	0.6	1.1
LnGrp Delay(d),s/veh				10.1	9.8	0.0				0.0	8.6	9.5
LnGrp LOS				B	A						A	A
Approach Vol, veh/h					590						247	
Approach Delay, s/veh					9.9						9.0	
Approach LOS					A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		4.5		5.9								
Green Ext Time (p_c), s		1.4		3.3								
Intersection Summary												
HCM 2010 Ctrl Delay				9.7								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	1503	171	0	0	0	0	0	0	86	188	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0.0	188.3	190.0							190.0	178.2	0.0
Adj Flow Rate, veh/h	0	1503	171							86	188	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							1	1	0
Cap, veh/h	0	1986	226							610	1402	0
Arrive On Green	0.00	0.43	0.43							0.43	0.43	0.00
Sat Flow, veh/h	0	4831	530							1115	3406	0
Grp Volume(v), veh/h	0	1105	569							107	167	0
Grp Sat Flow(s),veh/h/ln	0	1714	1764							1425	1475	0
Q Serve(g_s), s	0.0	13.6	13.7							1.7	1.7	0.0
Cycle Q Clear(g_c), s	0.0	13.6	13.7							2.2	1.7	0.0
Prop In Lane	0.00		0.30							0.81		0.00
Lane Grp Cap(c), veh/h	0	1460	752							743	1269	0
V/C Ratio(X)	0.00	0.76	0.76							0.14	0.13	0.00
Avail Cap(c_a), veh/h	0	1460	752							743	1269	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.2	12.2							8.7	8.6	0.0
Incr Delay (d2), s/veh	0.0	3.7	7.0							0.4	0.2	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	0.0	7.0	8.0							1.0	0.7	0.0
LnGrp Delay(d),s/veh	0.0	15.9	19.2							9.1	8.8	0.0
LnGrp LOS		B	B							A	A	
Approach Vol, veh/h		1674									274	
Approach Delay, s/veh		17.0									8.9	
Approach LOS		B									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		4.2		15.7								
Green Ext Time (p_c), s		1.5		4.4								
Intersection Summary												
HCM 2010 Ctrl Delay			15.9									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	22	5	5	17	0	0	0	0
Conflicting Peds, #/hr	22	0	6	6	0	22	26	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	22	5	5	17	0	0	0	0

Major/Minor

	Minor2	Minor1				
Conflicting Flow All	341	332	102	250	352	48
Stage 1	310	310	-	22	22	-
Stage 2	31	22	-	228	330	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.5	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.5	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	-
Pot Cap-1 Maneuver	657	591	797	726	576	-
Stage 1	629	663	-	-	-	-
Stage 2	-	-	-	729	649	-
Platoon blocked, %						
Mov Cap-1 Maneuver	633	0	782	713	0	-
Mov Cap-2 Maneuver	633	0	-	713	0	-
Stage 1	617	0	-	-	0	-
Stage 2	-	0	-	729	0	-

Approach

	EB	WB
HCM Control Delay, s	9.8	
HCM LOS	A	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	782	-	-	-	-
HCM Lane V/C Ratio	0.035	-	-	-	-
HCM Control Delay (s)	9.8	-	-	-	-
HCM Lane LOS	A	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	73	122	40
Conflicting Peds, #/hr	16	0	26
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	1	0
Mvmt Flow	73	122	40

Major/Minor Major2

Conflicting Flow All	22	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

















HCM Control Delay, s 0

HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	8	8	0	0	0	0	0	326	40	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.84			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	179.2	0.0				0.0	177.4	190.0			
Adj Flow Rate, veh/h	8	8	0				0	326	40			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	12	12	0				0	8	8			
Cap, veh/h	378	305	0				0	1897	222			
Arrive On Green	0.30	0.30	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	598	1004	0				0	4460	503			
Grp Volume(v), veh/h	16	0	0				0	241	125			
Grp Sat Flow(s),veh/h/ln	1602	0	0				0	1614	1575			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	1.2	1.3			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	1.2	1.3			
Prop In Lane	0.50		0.00				0.00		0.32			
Lane Grp Cap(c), veh/h	683	0	0				0	1424	695			
V/C Ratio(X)	0.02	0.00	0.00				0.00	0.17	0.18			
Avail Cap(c_a), veh/h	1594	0	0				0	2177	1062			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.6	4.7			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.3	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	0.6	0.7			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	4.9	5.2			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		16						366				
Approach Delay, s/veh		6.7						5.0				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		11.8						15.6				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						3.3				
Green Ext Time (p_c), s		0.0						1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			5.1									
HCM 2010 LOS			A									

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	497	0	0	0	0	0
Conflicting Peds, #/hr	0	89	89	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	0	0	0	0	0
Mvmt Flow	497	0	0	0	0	0

Major/Minor	Major1	Minor1
Conflicting Flow All	0	497
Stage 1	-	497
Stage 2	-	0
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	7.3
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.8
Pot Cap-1 Maneuver	-	503
Stage 1	-	444
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	466
Mov Cap-2 Maneuver	-	466
Stage 1	-	444
Stage 2	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	373	0
Conflicting Peds, #/hr	0	0	7	0	0	7
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	0	0	0	373	0

Major/Minor

	Minor2		Major2
Conflicting Flow All	373	186	- 0
Stage 1	373	-	-
Stage 2	0	-	-
Critical Hdwy	6.4	7.1	-
Critical Hdwy Stg 1	7.3	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	3.8	3.9	-
Pot Cap-1 Maneuver	591	706	-
Stage 1	538	-	-
Stage 2	-	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	591	706	-
Mov Cap-2 Maneuver	591	-	-
Stage 1	538	-	-
Stage 2	-	-	-

Approach

	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	359	0
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	0	0	0	0	359	0

Major/Minor

	Minor2		Major2
Conflicting Flow All	359	179	-
Stage 1	359	-	-
Stage 2	0	-	-
Critical Hdwy	6.4	7.1	-
Critical Hdwy Stg 1	7.3	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	3.8	3.9	-
Pot Cap-1 Maneuver	601	713	-
Stage 1	550	-	-
Stage 2	-	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	601	713	-
Mov Cap-2 Maneuver	601	-	-
Stage 1	550	-	-
Stage 2	-	-	-

Approach

	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	247	0
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	0	0	0	0	247	0

Major/Minor

	Minor2		Major2	
Conflicting Flow All	247	123	-	0
Stage 1	247	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	694	774	-	-
Stage 1	652	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	694	774	-	-
Mov Cap-2 Maneuver	694	-	-	-
Stage 1	652	-	-	-
Stage 2	-	-	-	-

Approach

	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	630	0	0	0
Conflicting Peds, #/hr	29	0	0	29	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	630	0	0	0

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	1208	0	0	0
Conflicting Peds, #/hr	0	0	0	22	22	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	0	1208	0	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1208	603	0	0
Stage 1	1208	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	141	447	-	-
Stage 1	197	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	138	447	-	-
Mov Cap-2 Maneuver	138	-	-	-
Stage 1	197	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	1067	0	0	0
Conflicting Peds, #/hr	0	0	0	52	52	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	0	1067	0	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1067	533	0	0
Stage 1	1067	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	179	496	-	-
Stage 1	241	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	171	496	-	-
Mov Cap-2 Maneuver	171	-	-	-
Stage 1	241	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 6.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	174	73	20	6	29	200
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	174	73	20	6	29	200















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	298	81	43
Stage 1	40	-	-
Stage 2	258	-	-
Critical Hdwy	6.4	6.2	4.2
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.29
Pot Cap-1 Maneuver	698	985	1516
Stage 1	988	-	-
Stage 2	790	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	650	938	1464
Mov Cap-2 Maneuver	650	-	-
Stage 1	974	-	-
Stage 2	746	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	715	1464	-
HCM Lane V/C Ratio	-	-	0.345	0.02	-
HCM Control Delay (s)	-	-	12.7	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Existing PM -

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	62	346	0	0	0	0	0	613	144	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	185.4	0.0				0.0	185.9	190.0			
Adj Flow Rate, veh/h	62	346	0				0	613	144			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	344	1844	0				0	1230	288			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	608	4276	0				0	2844	644			
Grp Volume(v), veh/h	152	256	0				0	393	364			
Grp Sat Flow(s),veh/h/ln	1660	1536	0				0	1766	1628			
Q Serve(g_s), s	0.6	3.5	0.0				0.0	11.1	11.2			
Cycle Q Clear(g_c), s	3.5	3.5	0.0				0.0	11.1	11.2			
Prop In Lane	0.41		0.00				0.00		0.40			
Lane Grp Cap(c), veh/h	815	1373	0				0	790	728			
V/C Ratio(X)	0.19	0.19	0.00				0.00	0.50	0.50			
Avail Cap(c_a), veh/h	815	1373	0				0	790	728			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	11.7	11.7	0.0				0.0	13.8	13.8			
Incr Delay (d2), s/veh	0.5	0.3	0.0				0.0	2.2	2.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.9	1.6	0.0				0.0	5.8	5.5			
LnGrp Delay(d),s/veh	12.2	12.0	0.0				0.0	16.0	16.2			
LnGrp LOS	B	B						B	B			
Approach Vol, veh/h		408						757				
Approach Delay, s/veh		12.0						16.1				
Approach LOS		B						B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		5.5		13.2								
Green Ext Time (p_c), s		2.6		4.8								
Intersection Summary												
HCM 2010 Ctrl Delay			14.7									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	62	0	67	692	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	62	0	67	692	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	533	140	53
Stage 1	53	-	-
Stage 2	480	-	-
Critical Hdwy	6.63	6.2	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.3	2.227
Pot Cap-1 Maneuver	492	913	1546
Stage 1	969	-	-
Stage 2	589	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	415	809	1434
Mov Cap-2 Maneuver	415	-	-
Stage 1	926	-	-
Stage 2	520	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.2	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	415	-	-
HCM Lane V/C Ratio	0.047	-	0.149	-	-
HCM Control Delay (s)	7.6	0.2	15.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Existing PM -

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	1307	174	329	448	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0.0	189.6	190.0	190.0	185.5	0.0			
Adj Flow Rate, veh/h				0	1307	174	329	448	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1965	262	642	799	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	4784	614	1200	1960	0			
Grp Volume(v), veh/h				0	977	504	404	373	0			
Grp Sat Flow(s),veh/h/ln				0	1725	1778	1472	1604	0			
Q Serve(g_s), s				0.0	13.4	13.4	10.8	8.7	0.0			
Cycle Q Clear(g_c), s				0.0	13.4	13.4	10.8	8.7	0.0			
Prop In Lane				0.00		0.35	0.81		0.00			
Lane Grp Cap(c), veh/h				0	1470	757	758	683	0			
V/C Ratio(X)				0.00	0.67	0.67	0.53	0.55	0.00			
Avail Cap(c_a), veh/h				0	1470	757	758	683	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	18.1	18.1	11.3	10.7	0.0			
Incr Delay (d2), s/veh				0.0	2.4	4.6	2.7	3.1	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				0.0	6.9	7.6	4.9	4.4	0.0			
LnGrp Delay(d),s/veh				0.0	20.5	22.7	14.0	13.9	0.0			
LnGrp LOS					C	C	B	B				
Approach Vol, veh/h					1481			777				
Approach Delay, s/veh					21.2			13.9				
Approach LOS					C			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		15.4		12.8								
Green Ext Time (p_c), s		4.3		3.1								
Intersection Summary												
HCM 2010 Ctrl Delay				18.7								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	21	1507	68	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	21	1507	68	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	680
Stage 1	-	-	35
Stage 2	-	-	645
Critical Hdwy	-	4.1	6.05
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	2.2	3.65
Pot Cap-1 Maneuver	-	1589	435
Stage 1	-	-	953
Stage 2	-	-	459
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1552	378
Mov Cap-2 Maneuver	-	-	378
Stage 1	-	-	925
Stage 2	-	-	411

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	378	-	-	1552	-
HCM Lane V/C Ratio	0.18	-	-	0.014	-
HCM Control Delay (s)	16.6	-	-	7.4	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	13	623	43	0	0	0	0	58	40
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	13	623	43	0	0	0	0	58	40

Major/Minor

	Major1		Minor1		
Conflicting Flow All	18	0	0	716	707 350
Stage 1	-	-	-	689	689 -
Stage 2	-	-	-	27	18 -
Critical Hdwy	-	-	-	5.7	6.5 7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5 -
Critical Hdwy Stg 2	-	-	-	-	- -
Follow-up Hdwy	-	-	-	3.8	4 3.9
Pot Cap-1 Maneuver	-	-	-	435	363 556
Stage 1	-	-	-	377	450 -
Stage 2	-	-	-	-	- -
Platoon blocked, %	-	-	-	-	- -
Mov Cap-1 Maneuver	-	-	-	418	0 548
Mov Cap-2 Maneuver	-	-	-	418	0 -
Stage 1	-	-	-	371	0 -
Stage 2	-	-	-	-	0 -

Approach

	EB	NB
HCM Control Delay, s	0	13
HCM LOS		B

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	548	-	-	-	-
HCM Lane V/C Ratio	0.179	-	-	-	-
HCM Control Delay (s)	13	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	18	0
Conflicting Peds, #/hr	18	0	8
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	6	18	0

Major/Minor

	Minor2		
Conflicting Flow All	340	728	48
Stage 1	18	18	-
Stage 2	322	710	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	658	353	-
Stage 1	-	-	-
Stage 2	653	440	-
Platoon blocked, %			
Mov Cap-1 Maneuver	638	0	-
Mov Cap-2 Maneuver	638	0	-
Stage 1	-	0	-
Stage 2	643	0	-

Approach

HCM Control Delay, s

HCM LOS

Minor Lane/Major Mvmt

Intersection									
Int Delay, s/veh	4.5								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	4	15	19	3	40	13	12	58	3
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	4	15	19	3	40	13	12	58	3
Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	235	210	102	226	214	97	98	0	0
Stage 1	97	97	-	112	112	-	-	-	-
Stage 2	138	113	-	114	102	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	724	691	959	734	684	925	1508	-	-
Stage 1	914	819	-	898	803	-	-	-	-
Stage 2	870	806	-	896	811	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	654	653	930	680	647	897	1497	-	-
Mov Cap-2 Maneuver	654	653	-	680	647	-	-	-	-
Stage 1	886	799	-	870	778	-	-	-	-
Stage 2	801	781	-	854	791	-	-	-	-
Approach	EB			WB			NB		
HCM Control Delay, s	9.9			10.6			1.2		
HCM LOS	A			B					
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR	
Capacity (veh/h)	1497	-	-	767	694	1508	-	-	
HCM Lane V/C Ratio	0.008	-	-	0.05	0.081	0.001	-	-	
HCM Control Delay (s)	7.4	0	-	9.9	10.6	7.4	0	-	
HCM Lane LOS	A	A	-	A	B	A	A	-	
HCM 95th %tile Q(veh)	0	-	-	0.2	0.3	0	-	-	

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	2	60	10
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	2	60	10

Major/Minor

Major2

Conflicting Flow All	89	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1519	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1508	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach













SB

HCM Control Delay, s	0.2
HCM LOS	

Minor Lane/Major Mvmt













HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Existing PM -

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	449	181	0	0	0	0	0	0	115	488	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0.0	186.8	190.0							190.0	179.2	0.0
Adj Flow Rate, veh/h	0	449	181							115	488	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1292	487							437	1617	0
Arrive On Green	0.00	0.36	0.36							0.42	0.42	0.00
Sat Flow, veh/h	0	3709	1334							656	4040	0
Grp Volume(v), veh/h	0	430	200							231	372	0
Grp Sat Flow(s),veh/h/ln	0	1700	1475							1582	1484	0
Q Serve(g_s), s	0.0	3.0	3.3							1.0	2.7	0.0
Cycle Q Clear(g_c), s	0.0	3.0	3.3							3.0	2.7	0.0
Prop In Lane	0.00		0.90							0.50		0.00
Lane Grp Cap(c), veh/h	0	1240	538							822	1232	0
V/C Ratio(X)	0.00	0.35	0.37							0.28	0.30	0.00
Avail Cap(c_a), veh/h	0	1661	721							1444	2428	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.6	7.6							6.4	6.4	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.4							0.9	0.6	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	0.0	1.4	1.4							1.6	1.2	0.0
LnGrp Delay(d),s/veh	0.0	7.7	8.1							7.3	7.0	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		630									603	
Approach Delay, s/veh		7.8									7.1	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.3						15.7				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		5.0						5.3				
Green Ext Time (p_c), s		3.9						3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			7.5									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
10: 7th St & P St

Existing PM -

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑						↑↑↑	
Volume (veh/h)	0	0	0	88	1189	0	0	0	0	0	453	277
Number				7	4	14				5	2	12
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				190.0	190.0	0.0				0.0	182.4	190.0
Adj Flow Rate, veh/h				88	1189	0				0	453	277
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				189	2013	0				0	1427	640
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				244	4881	0				0	3484	1488
Grp Volume(v), veh/h				474	803	0				0	453	277
Grp Sat Flow(s),veh/h/ln				1822	1573	0				0	1660	1488
Q Serve(g_s), s				4.2	9.8	0.0				0.0	4.5	6.5
Cycle Q Clear(g_c), s				9.9	9.8	0.0				0.0	4.5	6.5
Prop In Lane				0.19		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				862	1341	0				0	1427	640
V/C Ratio(X)				0.55	0.60	0.00				0.00	0.32	0.43
Avail Cap(c_a), veh/h				862	1341	0				0	1427	640
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				11.0	11.1	0.0				0.0	9.4	10.0
Incr Delay (d2), s/veh				2.5	2.0	0.0				0.0	0.6	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.6	4.6	0.0				0.0	2.1	3.0
LnGrp Delay(d),s/veh				13.5	13.0	0.0				0.0	10.0	12.1
LnGrp LOS				B	B						A	B
Approach Vol, veh/h					1277						730	
Approach Delay, s/veh					13.2						10.8	
Approach LOS					B						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		8.5		11.9								
Green Ext Time (p_c), s		4.1		5.5								
Intersection Summary												
HCM 2010 Ctrl Delay				12.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Existing PM -

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	643	25	0	0	0	0	0	0	177	353	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0.0	188.2	190.0							190.0	183.3	0.0
Adj Flow Rate, veh/h	0	643	25							177	353	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	2155	83							671	1387	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	5228	196							1245	3375	0
Grp Volume(v), veh/h	0	434	234							201	329	0
Grp Sat Flow(s),veh/h/ln	0	1713	1830							1435	1518	0
Q Serve(g_s), s	0.0	4.2	4.2							6.0	4.8	0.0
Cycle Q Clear(g_c), s	0.0	4.2	4.2							6.2	4.8	0.0
Prop In Lane	0.00		0.11							0.88		0.00
Lane Grp Cap(c), veh/h	0	1459	779							753	1305	0
V/C Ratio(X)	0.00	0.30	0.30							0.27	0.25	0.00
Avail Cap(c_a), veh/h	0	1459	779							753	1305	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.4							14.9	14.3	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0							0.9	0.5	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	0.0	2.0	2.3							2.7	2.1	0.0
LnGrp Delay(d),s/veh	0.0	10.0	10.4							15.7	14.8	0.0
LnGrp LOS		A	B							B	B	
Approach Vol, veh/h		668									530	
Approach Delay, s/veh		10.1									15.1	
Approach LOS		B									B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		8.2		6.2								
Green Ext Time (p_c), s		2.7		3.8								
Intersection Summary												
HCM 2010 Ctrl Delay			12.3									
HCM 2010 LOS			B									

Intersection									
Int Delay, s/veh	0.6								
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	22	5	10	35	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	22	5	10	35	0	0	0	0
Major/Minor	Minor2			Minor1					
Conflicting Flow All	491	473	219	243	483	38			
Stage 1	456	456	-	17	17	-			
Stage 2	35	17	-	226	466	-			
Critical Hdwy	5.7	6.5	7.1	5.7	6.56	-			
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-			
Critical Hdwy Stg 2	-	-	-	6	5.56	-			
Follow-up Hdwy	3.8	4	3.9	3.8	4.03	-			
Pot Cap-1 Maneuver	558	493	673	731	480	-			
Stage 1	517	572	-	-	-	-			
Stage 2	-	-	-	731	558	-			
Platoon blocked, %									
Mov Cap-1 Maneuver	542	0	663	721	0	-			
Mov Cap-2 Maneuver	542	0	-	721	0	-			
Stage 1	510	0	-	-	0	-			
Stage 2	-	0	-	731	0	-			
Approach	EB			WB					
HCM Control Delay, s	10.7								
HCM LOS	B								
Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	663	-	-	-	-				
HCM Lane V/C Ratio	0.041	-	-	-	-				
HCM Control Delay (s)	10.7	-	-	-	-				
HCM Lane LOS	B	-	-	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	-	-				

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	22	384	21
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	22	384	21

Major/Minor

Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

















SB

HCM Control Delay, s	0
HCM LOS	

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Existing PM -

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	8	9	0	0	0	0	0	325	28	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.86			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	170.2	0.0				0.0	181.6	190.0			
Adj Flow Rate, veh/h	8	9	0				0	325	28			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	349	303	0				0	2040	170			
Arrive On Green	0.30	0.30	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	516	1020	0				0	4759	383			
Grp Volume(v), veh/h	17	0	0				0	231	122			
Grp Sat Flow(s),veh/h/ln	1537	0	0				0	1653	1673			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	1.1	1.2			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	1.1	1.2			
Prop In Lane	0.47		0.00				0.00		0.23			
Lane Grp Cap(c), veh/h	653	0	0				0	1467	743			
V/C Ratio(X)	0.03	0.00	0.00				0.00	0.16	0.16			
Avail Cap(c_a), veh/h	1553	0	0				0	2262	1145			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.5	4.5			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.2	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	0.6	0.6			
LnGrp Delay(d),s/veh	6.8	0.0	0.0				0.0	4.7	5.0			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		17						353				
Approach Delay, s/veh		6.8						4.8				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		11.5						15.5				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						3.2				
Green Ext Time (p_c), s		0.0						1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			4.9									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	630	0	0	0	0	0
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	630	0	0	0	0	0

Major/Minor	Major1	Minor1
Conflicting Flow All	0	630
Stage 1	-	630
Stage 2	-	0
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	7.3
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.8
Pot Cap-1 Maneuver	-	423
Stage 1	-	362
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	393
Mov Cap-2 Maneuver	-	393
Stage 1	-	362
Stage 2	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	676	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	0	0	0	676	0

Major/Minor

	Minor2		Major2	
Conflicting Flow All	676	337	-	0
Stage 1	676	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	398	567	-	-
Stage 1	336	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	398	567	-	-
Mov Cap-2 Maneuver	398	-	-	-
Stage 1	336	-	-	-
Stage 2	-	-	-	-

Approach

	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	658	0
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	658	0

Major/Minor

	Minor2		Major2	
Conflicting Flow All	658	328	-	0
Stage 1	658	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	408	574	-	-
Stage 1	346	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	408	574	-	-
Mov Cap-2 Maneuver	408	-	-	-
Stage 1	346	-	-	-
Stage 2	-	-	-	-

Approach

	EB	SB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	730	0
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	730	0

Major/Minor Minor2 Major2

Conflicting Flow All	730	364	-	0
Stage 1	730	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	371	545	-	-
Stage 1	309	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	371	545	-	-
Mov Cap-2 Maneuver	371	-	-	-
Stage 1	309	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	1529	0	0	0
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	1529	0	0	0

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	759	0	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	0	759	0	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	759	379	0	0
Stage 1	759	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	299	625	-	-
Stage 1	369	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	289	625	-	-
Mov Cap-2 Maneuver	289	-	-	-
Stage 1	369	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	757	0	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	0	757	0	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	757	378	0	0
Stage 1	757	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	300	625	-	-
Stage 1	370	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	276	625	-	-
Mov Cap-2 Maneuver	276	-	-	-
Stage 1	370	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

APPENDIX C: CAPITOL TOWERS SURVEY INFORMATION

Capitol Towers Travel Survey Data

Automobile Auto Passenger Auto Picked-up Walk to Bus Walk to LRT Walk Only Automobile Auto Passenger Auto Picked-up Walk to Bus Walk to LRT Walk Only

Trips During Five-Day Workweek

AM Peak Hour	Arrivals							Departures							
	Mode	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
6:00 - 7:00	3	0	0	0	0	0	0	3	28	0	0	5	0	15	48
6:15 - 7:15	3	0	0	0	0	0	0	3	19	0	0	0	0	15	34
6:30 - 7:30	3	0	0	0	0	0	0	3	19	0	0	0	2	20	41
6:45 - 7:45	0	0	0	0	0	0	0	0	34	0	0	0	7	25	66
7:00 - 8:00	0	0	0	0	0	0	0	0	45	0	0	0	7	25	77
7:15 - 8:15	1	0	0	0	0	0	0	1	62	0	0	0	7	54	123
7:30 - 8:30	1	0	0	0	0	0	0	1	66	0	0	0	7	62	135
7:45 - 8:45	1	0	0	0	0	0	0	1	56	0	0	0	2	80	138
8:00 - 9:00	1	0	0	0	0	0	0	1	40	0	2	0	2	75	119
PM Peak Hour	Arrivals							Departures							
	Mode	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
16:00 - 17:00	5	0	0	0	3	25	33	33	4	0	0	0	0	0	4
16:15 - 17:15	20	0	0	0	2	35	57	57	15	0	0	0	0	2	17
16:30 - 17:30	30	0	0	0	2	40	72	72	15	0	0	0	0	2	17
16:45 - 17:45	49	0	0	0	7	59	115	115	11	0	0	0	0	2	13
17:00 - 18:00	59	0	0	0	5	44	108	108	11	0	0	0	0	2	13
17:15 - 18:15	75	0	0	5	5	42	127	127	0	0	0	0	0	0	0
17:30 - 18:30	66	0	0	5	5	42	118	118	0	0	0	0	0	0	0
17:45 - 18:45	47	0	0	5	0	37	89	89	2	2	0	0	0	0	4
18:00 - 19:00	37	0	0	5	3	37	82	82	5	2	0	0	0	0	7

Peak Hour Trips During Auto Peak Hour

During Five-Day Workweek

Mode	Arrivals							Departures							
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
7:30 - 8:30	1	0	0	0	0	0	1	1	66	0	0	0	7	62	135
17:15 - 18:15	75	0	0	5	5	42	127	127	0	0	0	0	0	0	0

During Average Weeday

Mode	Arrivals							Departures							
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
7:30 - 8:30	0.2	0	0	0	0	0	0.2	0.2	13.2	0	0	0	1.4	12.4	27
17:15 - 18:15	15	0	0	1	1	8.4	25.4	25.4	0	0	0	0	0	0	0

Dwelling Units = 79

Peak Auto Trips Per Dwelling Unit During Average Weekday

Mode	Arrivals							Departures							
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
7:30 - 8:30	0.00								0.17						
17:15 - 18:15	0.19								0.00						

Capitol Towers Travel Survey Data

Peak Period Trips By Mode During Five-Day Workweek

Mode	Arrivals							Departures						
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
6:00 - 9:00	4	0	0	0	0	0	4	128	0	2	5	9	119	263
16:00 - 19:00	106	2	0	5	11	111	235	20	2	0	0	0	6	28

Peak Period Mode Shares (During Five-Day Workweek)

Mode	1	2	3	4	5	6	Total
6:00 - 9:00	49%	0%	1%	2%	3%	45%	100%
16:00 - 19:00	48%	2%	0%	2%	4%	44%	100%

Peak Period Auto Destinations During Five-Day Workweek

Destination	Arrivals							Departures						
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
6:00 - 9:00	1	3	0	0	0	0	4	24	24	53	17	5	5	128
16:00 - 19:00	29	15	48	6	8	0	106	3	11	3	3	0	0	20

Peak Period Auto Destination Percentages (During Five-Day Workweek)

Destination	1	2	3	4	5	6	Total
6:00 - 9:00	19%	20%	40%	13%	4%	4%	100%
16:00 - 19:00	25%	21%	40%	7%	6%	0%	100%

Downtown
 East North
 West South
 Other

APPENDIX D: TRIP GENERATION MEMORANDUM



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

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MEMORANDUM

Date: May 21, 2014

Project #:
15604.105

To: Aelita Milatzo, City of Sacramento, CA

Cc: Samar Hajeer, City of Sacramento, CA

From: Erin Ferguson, P.E.; Aaron Elias, P.E.; and Mark Bowman, P.E.

Project: Sacramento Commons

Subject: Trip Generation

This technical memorandum documents the trip generation calculations Kittelson & Associates, Inc. (KAI) conducted for the Sacramento Commons proposed project.

The following documents the proposed project's description; trip generation methodology and assumptions; and summary of the trip generation calculation results. Appendix A contains the more detailed parcel-by-parcel trip generation calculation worksheets. Appendix B contains information to support the methodology and assumptions.

PROJECT DESCRIPTION

The description below is from the Notice of Preparation memorandum prepared for the Sacramento Commons Project and dated April 8, 2014.

The project includes high-rise and mid-rise apartments and condominiums, with opportunities for live-work and neighborhood-serving retail and support services for community residents and guests. Modern community amenities, pedestrian promenades, rooftop open space areas, and a potential hotel (described below) are other planned features of the community (see Figure 3, Proposed Project).

As part of the site's development, the project would enhance the pedestrian walkways and replace 206 existing garden apartment units with approximately 1,400–1,500 new dwelling units (including the existing 203-unit Capitol Tower high-rise) of various types and densities (a net increase of approximately 1,200–1,300 dwelling units), new parking structures with up to 1,778 spaces serve uses on-site, approximately 65,000–69,000 square feet of neighborhood-serving retail and/or support uses, and 44,000 square feet of live-work space to activate the

streets, public areas, and pedestrian spaces of the community (see Figure 3, Proposed Project; Figure 4, Parcel Diagram; and Figure 5, Land Use Summary).

The existing 15-story Capitol Tower building, containing 203 dwelling units, would remain an integral part of the Sacramento Commons community. Improvements to Capitol Tower could include interior modifications to reconfigure apartments, senior living facilities, or condominiums. The building's exterior would likely undergo a makeover to ensure overall architectural compatibility with Sacramento Commons.

Two potential development options are proposed for the project parcel near the corner of N and 7th streets (see Figure 5, Land Use Summary). Option 1 is planned as a 22-story mixed-use high-rise hotel and residential condominium development that would include a lobby area, restaurant, hotel meeting spaces, and other supporting uses on floors 1 and 2; hotel rooms on floors 3 through 11; and condominium units on floors 12–22. Option 2 proposes an all condominium alternative, with ground floor support uses.

METHODOLOGY AND ASSUMPTIONS

Trip generation for the Sacramento Commons project is based on information compiled by the Institute of Transportation Engineers (*Trip Generation Manual, 9th Edition, 2012* and *Trip Generation Manual User's Guide and Handbook, 9th Edition, 2012*), the travel mode shares from the travel survey at the existing Capitol Towers apartment building (conducted in February 2008 and March 2008 at the site), and the *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG House Travel Survey* (DKS, 2001). Appendix B contains a summary of the travel survey conducted in February/March 2008 at the existing Capitol Towers site.

ITE Trip Generation Land Use Assumptions

KAI calculated trip generation estimates for two proposed land use options. As noted above, Option 1 includes a 320-room hotel, 100 fewer residential units, and an additional 4,000 square feet of retail compared to Option 2. Option 1 and 2 include replacing 206 low-rise garden apartments. Option 1 and 2 also both include maintaining the existing Capitol Towers building that consists of 203 high-rise apartments and 4,122 square feet of retail space. The following summarizes the land uses used from the ITE Trip Generation Manual to estimate the initial automobile trips for the proposed project.

- **New Neighborhood Support/Retail (noted in Parcel 1, 2A, 2B, 3 and 4A):** ITE Trip Generation Land Use 820 for a shopping center; a reasonable conservative estimate given that specific types of retail is not known at this time.
- **New high rise apartments (noted in Parcel 1 and Parcel 3):** ITE Trip Generation Land Use 222, which is applicable to apartments in buildings with more than 10 levels.
- **New mid-rise apartments (noted in Parcel 2A, 2B and 4B):** ITE Trip Generation Land Use 223, which is applicable to apartments in buildings that have between 3 and 10 levels. The

ITE Trip Generation Manual does not include a weekday daily trip estimate for mid-rise apartments; therefore, to estimate the daily trips for the mid-rise apartments we used, ITE Trip Generation Land Use 221 for low-rise apartments. The low-rise apartment land use provides a more conservative estimate for daily trips than the high-rise apartment land use.

- **New Hotel (noted in Option 1 for Parcel 3):** ITE Trip Generation Land Use 310 directly applicable to hotels providing sleeping accommodations and supporting facilities (e.g., restaurants, retail, service shops).

The total automobile trip generation estimates for the proposed project were calculated as the automobile trips generated by the proposed new project minus the existing trips generated by the existing land uses to be replaced at the project site. The following section discusses the trip generation adjustments made to account for transit use, walking, biking and internal trips.

Trip Generation Adjustments

The ITE trip generation estimates are based on surveys taken primarily in suburban locations. It was therefore necessary to adjust ITE trip generation estimates to reflect trip making expected to result from development of the project in Downtown Sacramento. Adjustments to the ITE trip generation estimates were made to account for:

- Higher transit ridership;
- Higher levels of walking and bicycle use within the highly urbanized project setting; and
- The interaction of travel among the mixture of land uses within the project.

Adjustments for the higher use of transit and walk, bike, and other non-auto travel for the residential land uses proposed as part of the project were based on the travel mode shares identified in the February/March 2008 survey of the existing Capitol Towers apartments. Adjustments for the higher use of transit and walk, bike, and other non-auto travel for non-residential land uses were based on information contained in the 2000 SACOG Household Travel Survey.

February/March 2008 Capitol Towers Travel Survey and 2000 SACOG Household Travel Survey

The February/March 2008 Capitol Towers Travel Survey was a voluntary survey that residents of Capitol Towers participated in. The survey had participants record all trips they took on the most recent weekday between 6:00 – 9:00 a.m. and 4:00 – 6:00 p.m. Forms were filled out for each member of the household. Trip characteristics that were recorded include information such as departure and arrival times, mode of transportation (e.g., walk, walk to transit, car, bike), trip purpose, destination, and number of times the trip is typically made during the work week (i.e., Monday through Friday). From this information, the transit and walk shares for the Capitol Towers were calculated for the weekday a.m. and p.m. peak periods.

The 2000 SACOG Household Survey was a detailed survey conducted in Spring 2000 of the entire Sacramento region. The scope of the travel survey included Sacramento, Yolo, Yuba, and Sutter

counties as well as western portions of Placer and El Dorado counties. In the 2001, the *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey* was prepared by DKS & Associates, Inc. to summarize travel characteristics, such as mode choice, reflected in the 2000 data. Given the scope of the SACOG Household Survey, the Capitol Towers Travel Survey is used in combination to identify reasonable assumptions for mode splits at the proposed site.

Transit and walk, bike and other non-auto travel mode splits for the proposed project were calculated as the percentage recorded in the Capitol Towers Travel Survey minus the percentage reported in the 2001 *Pre-Census Travel Behavior Report* for non-urban conditions. For example, the Capitol Towers Travel Survey found the transit share for residential uses in the a.m. peak hour to be 5 percent and the *Pre-Census Travel Behavior Report* for non-urban conditions found the transit share in the a.m. peak hour to be 0.8 percent. Therefore, the transit percentage for residential land uses applied to the proposed new project is 4.2 percent (5.0 minus 0.8 percent).

The difference between the two percentages is applied because the ITE Trip Generation Manual rates are based on suburban land use development patterns. The ITE Trip Generation Manual specifically states that its data are collected at suburban locations with little to no transit service, pedestrian amenities, or travel demand management programs. As a result, it recommends adjusting trip generation results to account for transit service, walking and biking for sites with such activity. Therefore, the ITE Trip Generation Manual rates inherently reflect smaller transit shares captured in the *Pre-Census Travel Behavior Report* for non-urban conditions (e.g., 0.8 percent in the a.m. peak hour) and do not capture the additional 4.2 percent of transit riders recorded at the project site in the a.m. peak hour. The additional 4.2 percent of transit riders is accounted for in our calculations by subtracting that additional transit share from the total project trips calculated with the ITE Trip Generation Manual rates. This approach is used to account for transit ride share in the weekday a.m., weekday p.m., and daily time periods as well as to calculate the percentages for the walk, bike and other non-auto travel mode share.

Adjustments for Transit Trips

The transit trip reduction for the retail component of the project was assumed to be 2.2 percent of the total number of trips. This adjustment to retail trips was based on transit shares from the *Pre-Census Travel Behavior Report* for Downtown and Sacramento for work-trips and non-work trips, assuming 7 percent of retail trips would be work trips.

The transit trip reduction for the residential component of the project was assumed to be 4.9 percent of the total number of daily trips, 4.2% for a.m. peak hour, and 5.3% for the p.m. peak hour. As described in the section above, these are based on the transit shares from the Capitol Towers Travel Survey and the transit shares from the *Pre-Census Travel Behavior Report*. *Appendix A* contains a worksheet titled "Adjustments to ITE Trip Generation Rates for High Non-Auto Travel" that summarizes the Capitol Towers Travel Survey data in the upper right-hand portion of the page. *Appendix B* contains a more detailed summary of the survey information.

The combined effect of a 2.2-percent adjustment for trips associated with the proposed new retail and 4.9-percent adjustment for trips associated with the proposed new residential results in a 3.6 percent reduction in trips (i.e., 3.6% of trips are transit trips) to account for higher transit use Downtown.

Trip Adjustments for Walk, Bike, and Other Non-Auto Travel

A similar process was used to develop adjustments for higher use of walk, bike, and other non-auto travel (hereinafter referred to as “walk trips”). The walk trip reduction for the retail component of the project was assumed to be 11.6 percent of the total number of trips, based on data from the *Pre-Census Travel Behavior Report*.

The walk trip reduction for the residential component of the project was assumed to be 38.9 percent of the total number of daily trips (the walk trip reduction was 40 percent during the a.m. peak hour and 38.8 percent during the p.m. peak hour). These adjustments to residential trips were based on the differences between walk shares from the survey of Capitol Towers residents (Downtown) and the walk shares from the *Pre-Census Travel Behavior Report*. The walk share of total daily trips from the Capitol Towers Travel Survey was assumed to be 44.5 percent (the average of the 45 percent a.m. walk share and the 44 percent p.m. peak hour walk share).

Internal Trip Adjustments

After the adjustments were made for transit, walk, bike, and other non-auto travel, an adjustment was made to account for internal trips between different types of land uses within each parcel within the project. The internal trip adjustments were performed using procedures recommended by the Institute of Transportation Engineers for multi-use developments (*Trip Generation Handbook*, 2012). Internal trips are trips that would occur between different land uses within the same site without accessing the street system. The number of trips between parcels was estimated as the total number of internal trips for the entire project minus the number of internal trips within each parcel. The worksheets in *Appendix A* titled *Trips Among All Parcels* summarize these trip calculations.

No pass-by trips were assumed for retail uses because it is not convenient to drive by, park and stop to shop due to parking limitations downtown. Most of these types of trips would be served by non-motorized travel modes – walking or biking.

RESULTS

The automobile and transit trip generation summaries are presented for Option 1 and Option 2 below. Detailed, parcel-by-parcel summary and worksheet calculations are contained in Appendix A.

Automobile Trip Generation

Table 1 and Table 2 summarize the automobile trip generation results for Option 1 and Option 2, respectively.

The rows labeled “Transit Adjustments”; “Walk, Bike & Other Non-Auto Travel Adjustments”; and “Internal Trips Within This Site” reflect only the trips associated with the proposed new land uses. Those trips are subtracted from the Total Project Trips to arrive at the Total External Automobile Trips for the new project. The Total External Automobile Trips for the new project are then reduced by the number of External Automobile Trips generated by the Existing Land Uses to be replaced (i.e., 206 garden story apartments) and this produces the Net New External Automobile Trips.

Table 1 Automobile Trip Generation Summary for Proposed Project, Option 1

Land Use	Size	Units	Week -day	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Retail (Shopping Center, ITE 820)	65.0	KSF	7,734	118	73	191	316	343	659
Hotel (ITE 310)	320	Rooms	2,491	100	70	170	98	94	192
Mid-rise Apartment (Includes Live/Work, ITE 223 and 221)	533	Units	3,891	55	124	179	128	94	222
High-rise Apartment (Includes Live/Work, ITE 222)	686	Units	3,000	52	155	207	149	95	244
<i>Total Project Trips</i>			<i>17,116</i>	<i>325</i>	<i>422</i>	<i>747</i>	<i>691</i>	<i>626</i>	<i>1317</i>
Transit Adjustments (-3.7%)			-629	-13	-16	-29	-26	-25	-51
Walk, Bike & Other Non-Auto Travel Adjustments (-26.6%)			-4,548	-97	-149	-246	-180	-151	-331
Internal Trips Within This Site (-7.8%)			-1,334	-17	-17	-34	-60	-60	-120
<i>Total External Automobile Trips for New Project</i>			<i>10,605</i>	<i>198</i>	<i>240</i>	<i>438</i>	<i>425</i>	<i>390</i>	<i>815</i>
<i>External Automobile Trips for Existing Land Uses</i>			<i>-1,358</i>	<i>-28</i>	<i>-100</i>	<i>-128</i>	<i>-98</i>	<i>-52</i>	<i>-150</i>
Net New External Automobile Trips^A			9,247	170	140	310	327	338	665

Source: Kittelson & Associates, Inc., 2014.

^A Net New External Automobile Trips is the Total External Automobile Trips for the New Project minus (or plus the negative value of) the External Automobile for the Existing Land Uses to be replaced by the proposed project.

Table 2 Automobile Trip Generation Summary for Proposed Project, Option 2

Land Use	Size	Units	Week-day	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Retail (Shopping Center, ITE 820)	61.0	KSF	7,465	115	70	185	304	331	635
Mid-rise Apartment (Includes Live/Work, ITE 223 and 221)	533	Units	4,766	55	124	179	128	94	222
High-rise Apartment (Includes Live/Work, ITE 222)	786	Units	3,422	59	178	237	168	108	276
<i>Total Project Trips</i>			<i>15,653</i>	<i>229</i>	<i>372</i>	<i>601</i>	<i>600</i>	<i>533</i>	<i>1,133</i>
Transit Adjustments (-3.6%)			-564	-9	-14	-23	-22	-20	-42
Walk, Bike & Other Non-Auto Travel Adjustments (-25.9%)			-4,052	-59	-130	-189	-149	-118	-267
Internal Trips Within This Site (-8.2%)			-1,286	-17	-17	-34	-54	-54	-108
<i>Total External Automobile Trips for New Project</i>			<i>9,751</i>	<i>144</i>	<i>211</i>	<i>355</i>	<i>371</i>	<i>337</i>	<i>708</i>
<i>External Automobile Trips for Existing Land Uses</i>			<i>-1,358</i>	<i>-28</i>	<i>-100</i>	<i>-128</i>	<i>-98</i>	<i>-52</i>	<i>-150</i>
Net New External Automobile Trips^A			8,393	116	111	227	273	285	558

Source: Kittelson & Associates, Inc., 2014

^A Net New External Automobile Trips is a sum of the Total External Automobile Trips for the New Project and the External Automobile for the Existing Land Uses to be replaced by the proposed project.

Transit Trip Generation

Table 3 and 4 summarize the net new transit trip generation for Option 1 and Option 2, respectively. The net new transit trips are calculated as the difference between the project transit trips and the transit trips generated from the existing land uses to be removed with the proposed project.

Table 3 Net New Transit Trip Generation Summary for Proposed Project, Option 1

City Block	Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1							
<i>New Project Transit Trips – Increase to account for Downtown Location (from Table 1)</i>	173	3	5	8	8	7	15
<i>New Project Transit Trips (base without increase for Downtown site)</i>	25	0	2	2	2	1	3
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 1	173	3	5	8	9	7	16
Parcel 2A							
<i>New Project Transit Trips – Increase to account for Downtown Location (from Table 1)</i>	99	2	3	5	4	4	8
<i>New Project Transit Trips (base without increase for Downtown site)</i>	14	0	0	0	0	0	0
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2A	101	2	2	4	3	4	7
Parcel 2B							
<i>New Project Transit Trips – Increase to account for Downtown Location (from Table 1)</i>	99	2	3	5	4	4	8
<i>New Project Transit Trips (base without increase for Downtown site)</i>	14	0	0	0	0	0	0
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2B	101	2	2	4	3	4	7
Parcel 3, 4A, and 4B							
<i>New Project Transit Trips – Increase to account for Downtown Location (from Table 1)</i>	258	6	5	11	10	10	20
<i>New Project Transit Trips (base without increase for Downtown site)</i>	36	1	1	2	1	1	2
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 3, 4A and 4B	269	7	4	11	10	10	20
Entire Site Net New Transit Trips	644	14	13	27	25	25	50

Source: Kittelson & Associates, Inc., 2014.

Table 4 Net New Transit Trip Generation Summary for Proposed Project, Option 2

City Block	New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1							
<i>New Project Transit Trips – Increase to account for Downtown Location (from Table 2)</i>	173	3	5	8	8	7	15
<i>New Project Transit Trips (base without increase for Downtown site)</i>	25	0	2	2	2	1	3
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 1	173	3	5	8	9	7	16
Parcel 2A							
<i>New Project Transit Trips – Increase to account for Downtown Location (from Table 2)</i>	99	2	3	5	4	4	8
<i>New Project Transit Trips (base without increase for Downtown site)</i>	14	0	0	0	0	0	0
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2A	101	2	2	4	3	4	7
Parcel 2B							
<i>New Project Transit Trips – Increase to account for Downtown Location (from Table 2)</i>	99	2	3	5	4	4	8
<i>New Project Transit Trips (base without increase for Downtown site)</i>	14	0	0	0	0	0	0
<i>Existing Transit Trips of Land Uses to be Removed</i>	-12	0	-1	-1	-1	0	-1
Net New Transit Trips for Parcel 2B	101	2	2	4	3	4	7
Parcel 3, 4A, and 4B							
<i>New Project Transit Trips – Increase to account for Downtown Location (from Table 2)</i>	193	2	3	5	6	5	11
<i>New Project Transit Trips (base without increase for Downtown site)</i>	28	0	1	1	1	1	2
<i>Existing Transit Trips of Land Uses to be Removed</i>	-25	0	-2	-2	-1	-1	-2
Net New Transit Trips for Parcel 3, 4A, and 4B	196	2	2	4	6	5	11
Entire Site Net New Transit Trips	571	9	11	20	21	20	41

Source: Kittelson & Associates, Inc., 2014.

REFERENCES

- Institute of Transportation Engineers. *Trip Generation Manual, 9th Edition*. 2012.
- Institute of Transportation Engineers. *Trip Generation Manual User's Guide and Handbook, 9th Edition*. 2012.
- *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG House Travel Survey* (DKS, 2001)

APPENDICES

- Appendix A – Trip Generation Calculation Worksheets
- Appendix B – Supporting Survey Information

Appendix A – Trip Generation Calculation Worksheets

Sacramento Commons

May 21, 2014

Proposed Project - Option 1

Trip Generation for Proposed Project - Option 1								
Land Use	Amount	Weekday	Trips Generated					
			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Parcel 1								
Retail (Shopping Center)	24.0 KSF	2,686	40	25	65	110	120	230
High-rise Apartment (Includes Live/Work)	562 Units	2,334	42	127	169	117	75	192
Total Trips for Site		5,020	82	152	234	227	195	422
Transit Adjustments (-3.4%)		-173	-3	-5	-8	-8	-7	-15
Walk, Bike & Other Non-Auto Travel Adjustments (-24.3%)		-1,220	-22	-54	-76	-58	-43	-101
Internal Trips Within This Site (-9.2%)		-462	-6	-6	-12	-21	-21	-42
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		3,165	51	87	138	140	124	264
External Automobile Trips for Existing Land Uses		-455	-9	-32	-41	-32	-17	-49
New External Automobile Trips		2,710	42	55	97	108	107	215
Parcel 2A								
Retail (Shopping Center)	4.5 KSF	905	15	9	24	36	39	75
Mid-rise Apartment (Includes Live/Work)	240 Units	1,616	26	59	85	60	44	104
Total Trips for Site		2,521	41	68	109	96	83	179
Transit Adjustments (-3.9%)		-99	-2	-3	-5	-4	-4	-8
Walk, Bike & Other Non-Auto Travel Adjustments (-29.1%)		-734	-12	-25	-37	-27	-22	-49
Internal Trips Within This Site (-6.2%)		-156	-2	-2	-4	-7	-7	-14
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		1,532	25	38	63	58	50	108
External Automobile Trips for Existing Land Uses		-224	-5	-18	-23	-17	-9	-26
New External Automobile Trips		1,308	20	20	40	41	41	82
Parcel 2B								
Retail (Shopping Center)	4.5 KSF	905	15	9	24	36	39	75
Mid-rise Apartment (Includes Live/Work)	240 Units	1,616	26	59	85	60	44	104
Total Trips for Site		2,521	41	68	109	96	83	179
Transit Adjustments (-3.9%)		-99	-2	-3	-5	-4	-4	-8
Walk, Bike & Other Non-Auto Travel Adjustments (-29.1%)		-734	-12	-25	-37	-27	-22	-49
Internal Trips Within This Site (-6.2%)		-156	-2	-2	-4	-7	-7	-14
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		1,532	25	38	63	58	50	108
External Automobile Trips for Existing Land Uses		-224	-5	-18	-23	-17	-9	-26
New External Automobile Trips		1,308	20	20	40	41	41	82
Parcel 3, 4A, and 4B								
Retail (Shopping Center)	32.0 KSF	3,238	48	30	78	134	145	279
Hotel	320 Rooms	2,491	100	70	170	98	94	192
Mid-rise Apartment (Includes Live/Work)	53 Units	659	3	6	9	8	6	14
High-rise Apartment (Includes Live/Work)	124 Units	666	10	28	38	32	20	52
Total Trips for Site		7,054	161	134	295	272	265	537
Transit Adjustments (-3.7%)		-258	-6	-5	-11	-10	-10	-20
Walk, Bike & Other Non-Auto Travel Adjustments (-26.4%)		-1,860	-51	-45	-96	-68	-64	-132
Internal Trips Within This Site (-7.9%)		-560	-7	-7	-14	-25	-25	-50
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		4,376	97	77	174	169	166	335
External Automobile Trips for Existing Land Uses		-455	-9	-32	-41	-32	-17	-49
New External Automobile Trips		3,921	88	45	133	137	149	286
Total Project Trips - Proposed Project Option 1								
Retail (Shopping Center)	65.0 KSF	7,734	118	73	191	316	343	659
Hotel	320 Units	2,491	100	70	170	98	94	192
Mid-rise Apartment (Includes Live/Work)	533 Units	3,891	55	124	179	128	94	222
High-rise Apartment (Includes Live/Work)	686 Units	3,000	52	155	207	149	95	244
Total Project Trips		17,116	325	422	747	691	626	1,317
Transit Adjustments (-3.7%)		-629	-13	-16	-29	-26	-25	-51
Walk, Bike & Other Non-Auto Travel Adjustments (-26.6%)		-4,548	-97	-149	-246	-180	-151	-331
Internal Trips Within This Site (-7.8%)		-1,334	-17	-17	-34	-60	-60	-120
Trips To-From Other Sites within the Project (0%)		0	0	0	0	0	0	0
Total External Automobile Trips for New Project		10,605	198	240	438	425	390	815
External Automobile Trips for Existing Land Uses		-1,358	-28	-100	-128	-98	-52	-150
New External Automobile Trips		9,247	170	140	310	327	338	665

Source: Kittelson & Associates, Inc. 2014

62.0%

58.6%

61.9%

Proposed Project - Option 1

New Transit Trips for Proposed Project - Option 1							
City Block	Net New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1	173	3	5	8	9	7	16
Parcel 2A	101	2	2	4	3	4	7
Parcel 2B	101	2	2	4	3	4	7
Parcel 3, 4A, and 4B	269	7	4	11	10	10	20
Netl New Transit Trips	644	14	13	27	25	25	50
Source: Kittelson & Associates, Inc., 2014							

Sacramento Commons
Adjustments to ITE Trip Generation Rates for High Non-Auto Travel

Shares of Total Trips			
Transit Shares	Work Trips^a	Non-Work Trips^b	Total
Walk Access			
Downtown	7.4%	1.8%	
Suburban	1.4%	0.3%	
Increase Above Suburban Conditions	6.0%	1.5%	
Drive Access			
Downtown	6.2%	1.2%	
Suburban	0.1%	0.3%	
Increase Above Suburban Conditions	6.1%	0.9%	
Walk, Bike & Other Non-Auto Shares			
Downtown	4.5%	18.8%	
Suburban	2.8%	6.5%	
Increase Above Suburban Conditions	1.7%	12.3%	

Capitol Towers Survey Data	
Transit Shares	
AM Peak Hour	5%
PM Peak Hour	6%
Walk Shares	
AM Peak Hour	45%
PM Peak Hour	44%

Adjustments for Higher Transit Use Downtown			
Office¹	10.9%	0.2%	11.1%
Retail²	0.8%	1.4%	2.2%
	Home-Work	Home-Non-Work	Non Home-Based
Residential^{3,c}			Total
AM Peak Hour			4.2%
PM Peak Hour			5.3%
Daily			4.9%

Suburban Transit Shares			
	Home-Work	Home-Non-Work	Non Home-Based
			Total
	0.6%	0.1%	0.0%
	0.5%	0.1%	0.1%
	0.4%	0.1%	0.1%

Adjustments for Higher Walk, Bike & Other Non-Auto Travel Downtown			
Office¹	1.5%	1.2%	2.8%
Retail²	0.1%	11.4%	11.6%
	Home-Work	Home-Non-Work	Non Home-Based
Residential^c			Total
AM Peak Hour			40.0%
PM Peak Hour			38.8%
Daily			38.9%

Suburban Walk, Bike, Other Shares			
	Home-Work	Home-Non-Work	Non Home-Based
			Total
	1.2%	2.9%	0.9%
	1.0%	2.5%	1.8%
	0.7%	3.0%	1.9%

Transit Trips			
	Work Trips	Non-Work Trips	Total
Office¹	12.2%	0.3%	12.5%
Retail²	1.0%	1.7%	2.6%
	Home-Work	Home-Non-Work	Non Home-Based
Residential			Total
AM Peak Hour			5.0%
PM Peak Hour			6.0%
Daily			5.5%

¹ Assumes 90 percent of office trips are work trips.

² Assumes 7 percent of retail trips are work trips. Non-work trips would only include walk trips to transit.

³ Transit adjustments for residential uses only include walk trips to transit.

Source: *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey*, DKS, 2001.

Table references from the source are provided as follows:

^a Table A26

^b Table A27

^c The amount of transit use for each trip purpose is based on the following data from Table A33:

Travel Hours	Home-Work	Home-Non-Work	Non Home-Based	Total
AM Peak Hour	73,190	78,124	25,868	177,182
PM Peak Hour	60,563	67,068	47,784	175,415
Daily	473,704	861,535	557,764	1,893,003

**Sacramento Commons
Proposed Project - Option 1
Parcel 1**

Trip Generation Land Use Category	Amount	Source	Trips Generated									Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak			
				In	Out	Total	In	Out	Total	In	Out	In	Out		
Parcel 1															
Automobile Trips for New Project															
Retail (Shopping Center)	24.0 KSF	ITE (820)	2,686	40	25	65	110	120	230	62%	38%	48%	52%		
Residential															
High-rise Apartment (Includes Live/Work)	562 Units	ITE (222)	2,334	42	127	169	117	75	192	25%	75%	61%	39%		
Subtotal Residential	562 Units		2,334	42	127	169	117	75	192						
Other															
Total Trips for Site			5,020	82	152	234	227	195	422						
Transit Adjustments															
Office (-11.1%)			0	0	0	0	0	0	0						
Retail (-2.2%)			-59	-1	0	-1	-2	-3	-5						
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-114	-2	-5	-7	-6	-4	-10						
Total Transit Adjustments			-173	-3	-5	-8	-8	-7	-15						
Walk, Bike & Other Non-Auto Travel Adjustments															
Office (-2.8%)			0	0	0	0	0	0	0						
Retail (-11.6%)			-312	-5	-3	-8	-13	-14	-27						
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-908	-17	-51	-68	-45	-29	-74						
Total Walk, Bike & Other Non-Auto Travel Adjustments			-1,220	-22	-54	-76	-58	-43	-101						
Internal Trips Within This Site			-462	-6	-6	-12	-21	-21	-42						
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0						
External Automobile Trips for New Project															
Office (General Office Building)				0	0	0	0	0	0						
Retail (Shopping Center)				31	19	50	86	91	177						
Subtotal Residential				20	68	88	54	33	87						
Total External Automobile Trips for New Project			3,165	51	87	138	140	124	264						
External Auto Trips Percent of Total Project Trips			63%	62%	57%	59%	62%	64%	63%						
External Automobile Trips for Existing Land Uses															
Low-rise Apartment	69 Units	ITE (221)	-455	-9	-32	-41	-32	-17	-49	21%	79%	65%	35%		
New External Automobile Trips															
Total			2,710	42	55	97	108	107	215						
Transit Trips															
New Project															
Office (12.5%)			0	0	0	0	0	0	0						
Retail (2.6%)			70	1	1	2	3	3	6						
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			128	2	6	8	7	5	12						
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-25	0	-2	-2	-1	-1	-2						
Total Transit Trips			173	3	5	8	9	7	16						

**Sacramento Commons
Proposed Project - Option 1
Parcel 2A**

Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak	
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 2A													
Automobile Trips for New Project													
Retail (Shopping Center)	4.5 KSF	ITE (820)	905	15	9	24	36	39	75	62%	38%	48%	52%
Residential													
		ITE (221 - Daily)											
Mid-rise Apartment (Includes Live/Work)	240 Units	(223 - AM/PM)	1,616	26	59	85	60	44	104	31%	69%	58%	42%
Subtotal Residential	240 Units		1,616	26	59	85	60	44	104				
Other													
Total Trips for Site			2,521	41	68	109	96	83	179				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-20	-1	0	-1	-1	-1	-2				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-79	-1	-3	-4	-3	-3	-6				
Total Transit Adjustments			-99	-2	-3	-5	-4	-4	-8				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-105	-2	-1	-3	-4	-5	-9				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-629	-10	-24	-34	-23	-17	-40				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-734	-12	-25	-37	-27	-22	-49				
Internal Trips Within This Site			-156	-2	-2	-4	-7	-7	-14				
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0				
External Automobile Trips for New Project													
Office (General Office Building)			0	0	0	0	0	0	0				
Retail (Shopping Center)			11	7	18	28	29	57					
Subtotal Residential			14	31	45	30	21	51					
Total External Automobile Trips for New Project			1,532	25	38	63	58	50	108				
External Auto Trips Percent of Total Project Trips			61%	61%	56%	58%	60%	60%	60%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	34 Units	ITE (221)	-224	-5	-18	-23	-17	-9	-26	21%	79%	65%	35%
New External Automobile Trips													
Total			1,308	20	20	40	41	41	82				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			24	1	0	1	1	1	2				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			89	1	3	4	3	3	6				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-12	0	-1	-1	-1	0	-1				
Total Transit Trips			101	2	2	4	3	4	7				

**Sacramento Commons
Proposed Project - Option 1
Parcel 2B**

Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak	
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 2B													
Automobile Trips for New Project													
Retail (Shopping Center)	4.5 KSF	ITE (820)	905	15	9	24	36	39	75	62%	38%	48%	52%
Residential													
		ITE (221 - Daily)											
Mid-rise Apartment (Includes Live/Work)	240 Units	(223 - AM/PM)	1,616	26	59	85	60	44	104	31%	69%	58%	42%
Subtotal Residential	240 Units		1,616	26	59	85	60	44	104				
Other													
Total Trips for Site			2,521	41	68	109	96	83	179				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-20	-1	0	-1	-1	-1	-2				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-79	-1	-3	-4	-3	-3	-6				
Total Transit Adjustments			-99	-2	-3	-5	-4	-4	-8				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-105	-2	-1	-3	-4	-5	-9				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-629	-10	-24	-34	-23	-17	-40				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-734	-12	-25	-37	-27	-22	-49				
Internal Trips Within This Site			-156	-2	-2	-4	-7	-7	-14				
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0				
External Automobile Trips for New Project													
Office (General Office Building)			0	0	0	0	0	0	0				
Retail (Shopping Center)			11	7	18	28	29	57					
Subtotal Residential			14	31	45	30	21	51					
Total External Automobile Trips for New Project			1,532	25	38	63	58	50	108				
External Auto Trips Percent of Total Project Trips			61%	61%	56%	58%	60%	60%	60%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	34 Units	ITE (221)	-224	-5	-18	-23	-17	-9	-26	21%	79%	65%	35%
New External Automobile Trips													
Total			1,308	20	20	40	41	41	82				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			24	1	0	1	1	1	2				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			89	1	3	4	3	3	6				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-12	0	-1	-1	-1	0	-1				
Total Transit Trips			101	2	2	4	3	4	7				

**Sacramento Commons
Proposed Project - Option 1
Parcel 3, 4A, and 4B**

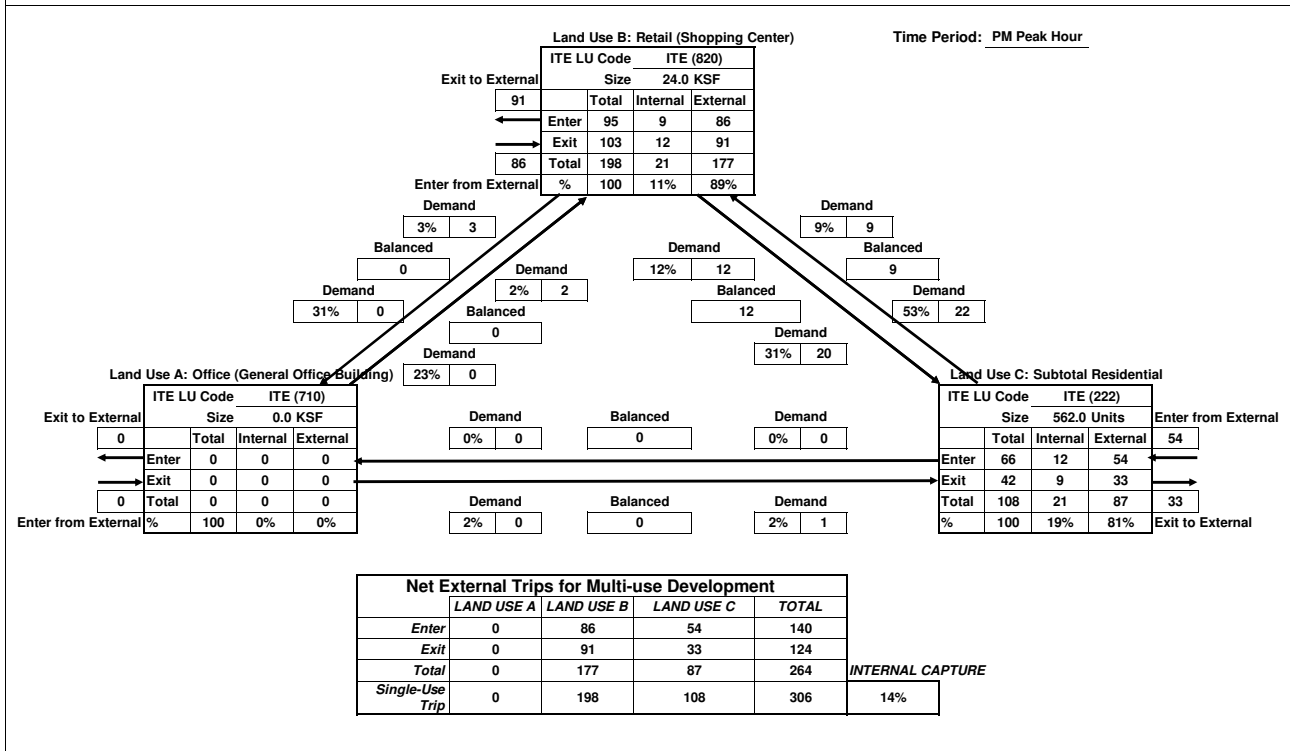
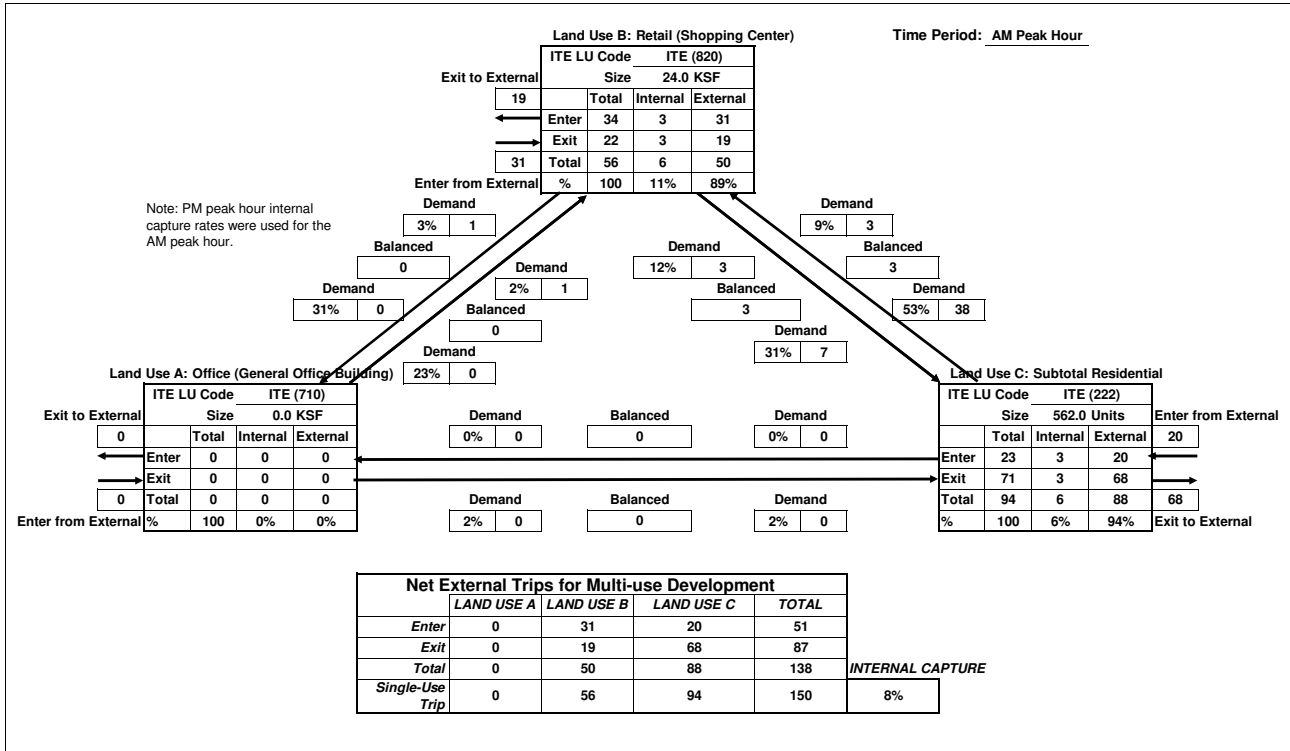
Trip Generation Land Use Category	Amount	Source	Trips Generated						Distribution				
			Weekday	AM Peak Hour		PM Peak Hour		AM Peak		PM Peak			
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 3, 4A, and 4B													
Automobile Trips for New Project													
Retail (Shopping Center)	32.0 KSF	ITE (820)	3,238	48	30	78	134	145	279	62%	38%	48%	52%
Residential													
Hotel	320 Rooms	ITE (310)	2,491	100	70	170	98	94	192	59%	41%	51%	49%
		ITE(221 - Daily), ITE											
Mid-rise Apartment (Includes Live/Work	53 Unites	(223 - AM/PM)	659	3	6	9	8	6	14	31%	69%	58%	42%
High-rise Apartment (Includes Live/Work)	124 Units	ITE (222)	666	10	28	38	32	20	52	25%	75%	61%	39%
Subtotal Residential	497 Units		3,816	113	104	217	138	120	258				
Other													
Total Trips for Site			7,054	161	134	295	272	265	537				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-71	-1	-1	-2	-3	-3	-6				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-187	-5	-4	-9	-7	-7	-14				
Total Transit Adjustments			-258	-6	-5	-11	-10	-10	-20				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-376	-6	-3	-9	-15	-17	-32				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-1,484	-45	-42	-87	-53	-47	-100				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-1,860	-51	-45	-96	-68	-64	-132				
Internal Trips Within This Site			-560	-7	-7	-14	-25	-25	-50				
Trips To-From Other Sites within the Project			0	0	0	0	0	0	0				
External Automobile Trips for New Project													
Office (General Office Building)				0	0	0	0	0	0				
Retail (Shopping Center)				37	23	60	106	110	216				
Subtotal Residential				60	54	114	63	56	119				
Total External Automobile Trips for New Project			4,376	97	77	174	169	166	335				
External Auto Trips Percent of Total Project Trips			62%	60%	57%	59%	62%	63%	62%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	69 Units	ITE (221)	-455	-9	-32	-41	-32	-17	-49	21%	79%	65%	35%
New External Automobile Trips													
Total			3,921	88	45	133	137	149	286				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			84	1	1	2	3	4	7				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			210	6	5	11	8	7	15				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-25	0	-2	-2	-1	-1	-2				
Total Transit Trips			269	7	4	11	10	10	20				

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 1**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 1

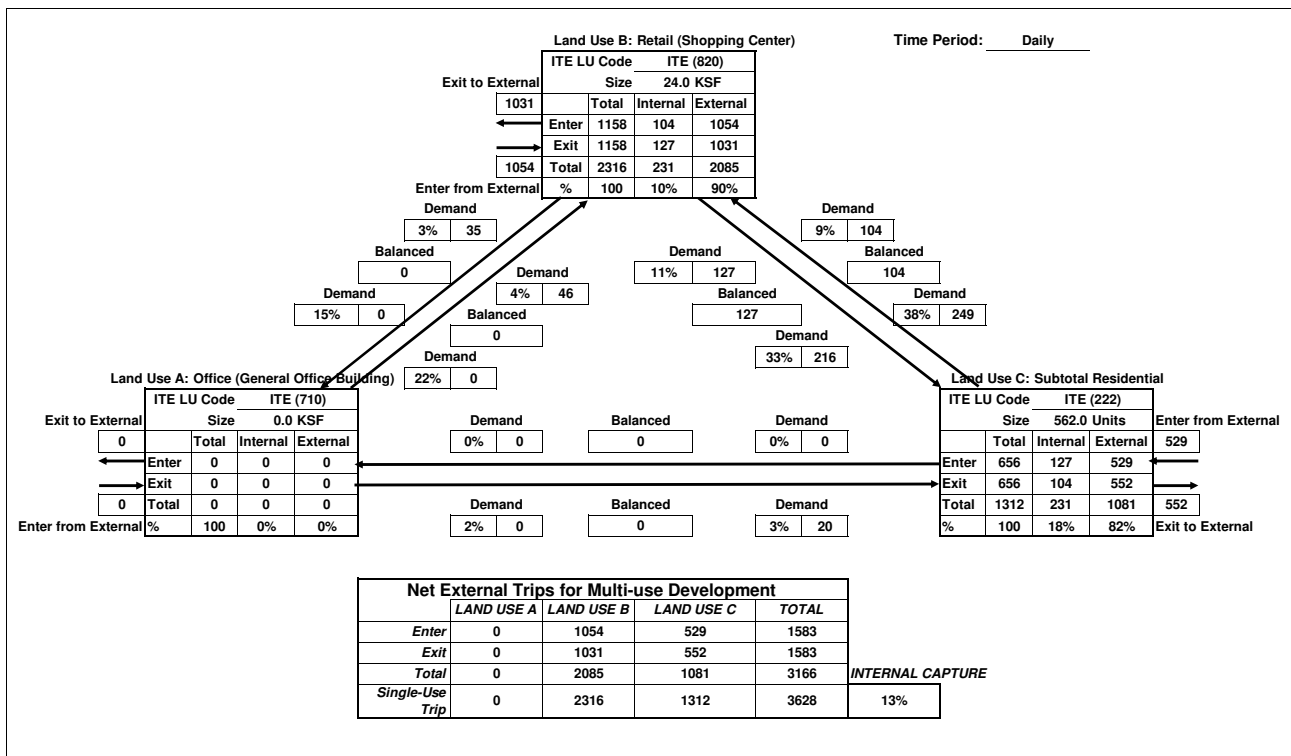
Date: 5/14/2014



**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 1**

Date: 5/14/2014

Time Period: Daily

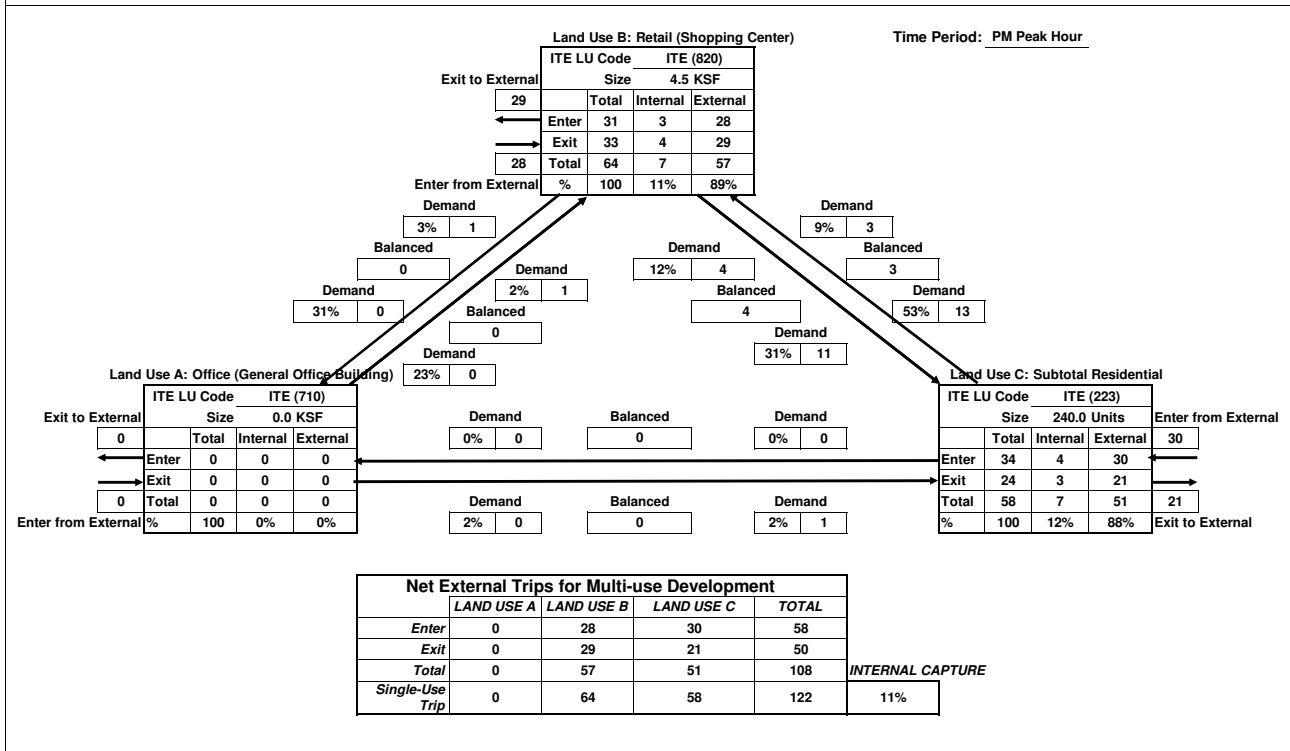
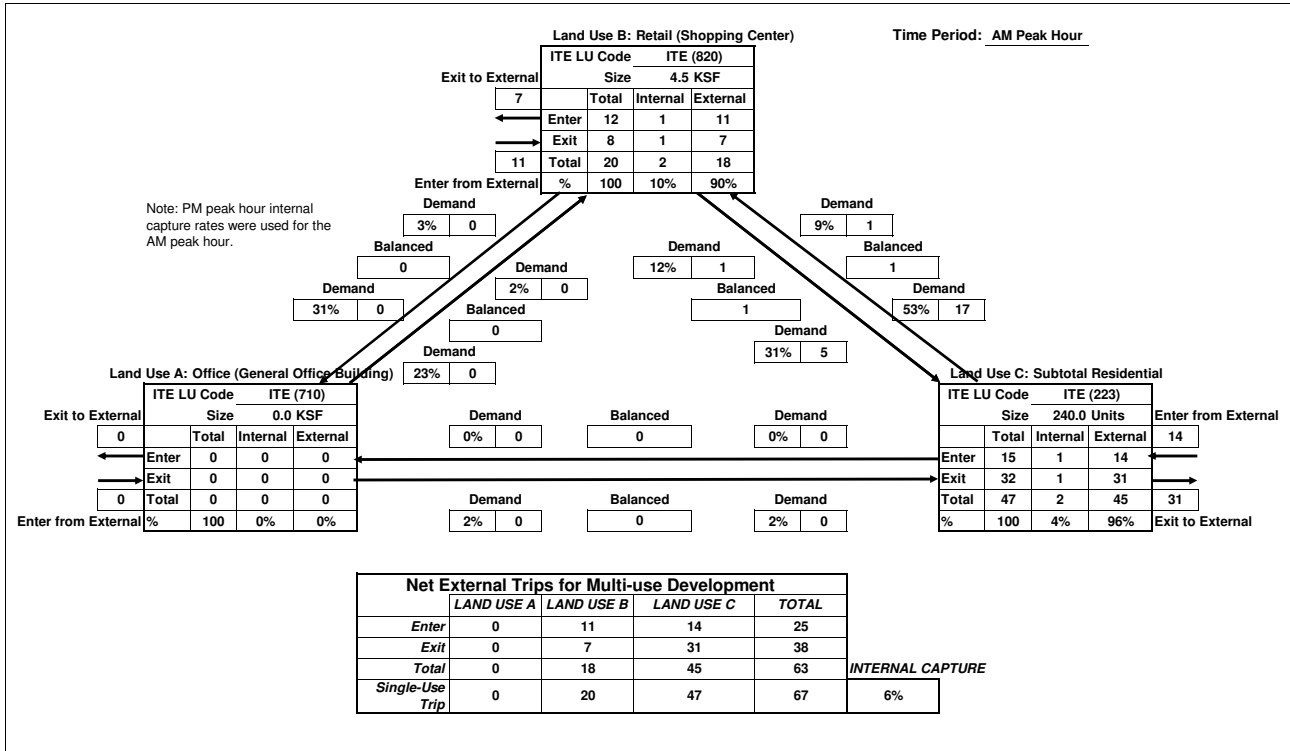


**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2A**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 1

Date: 5/14/2014



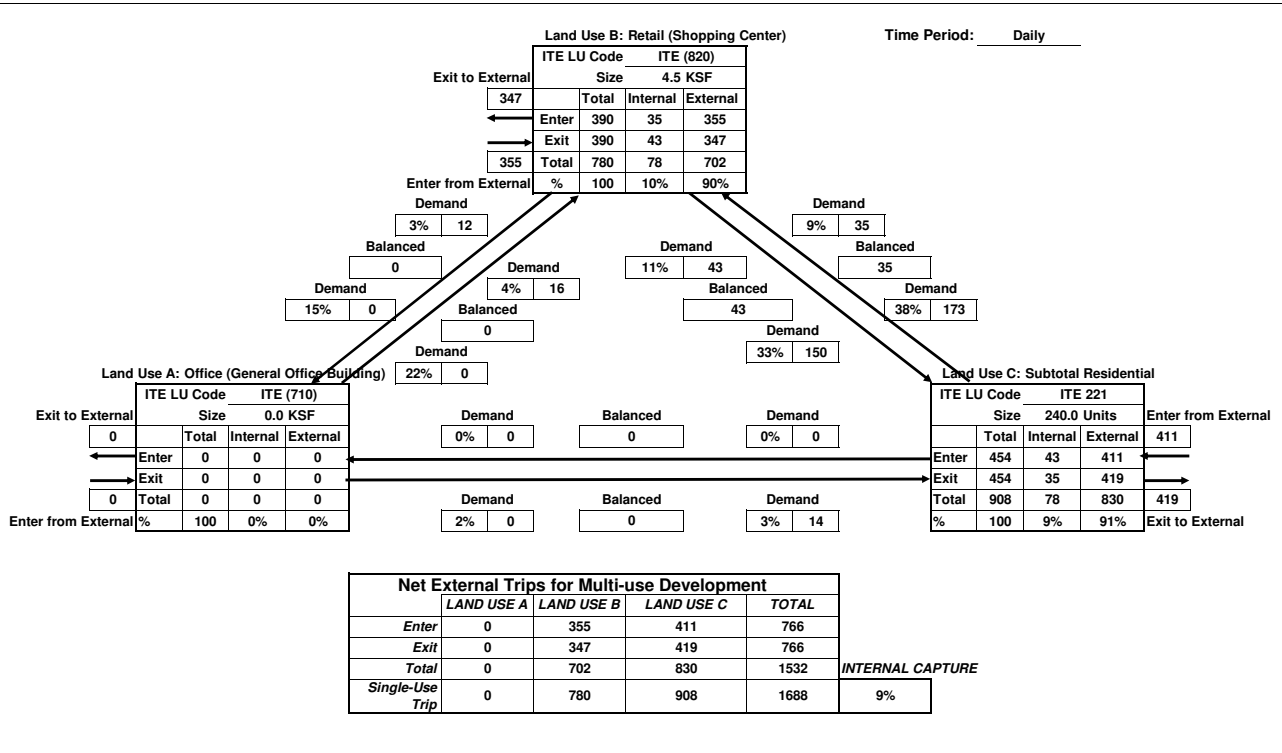
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2A**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 1

Date: 5/14/2014

Time Period: Daily

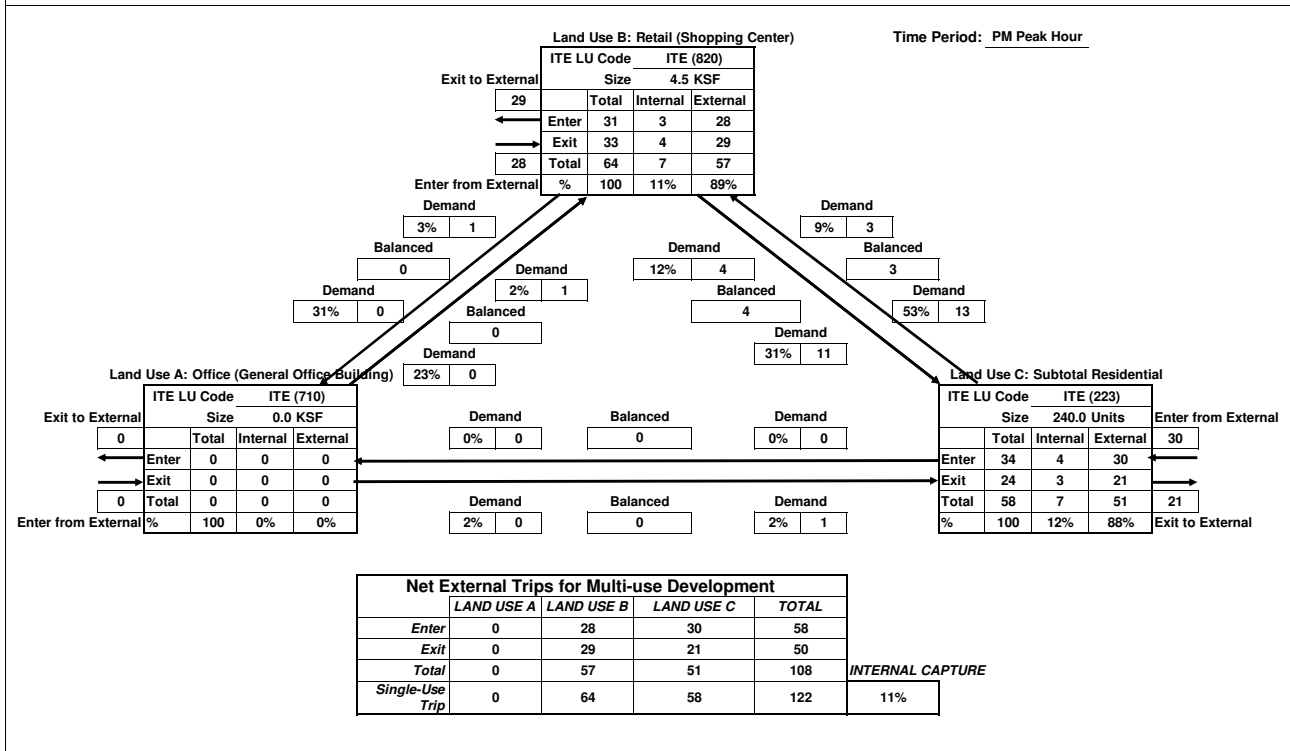
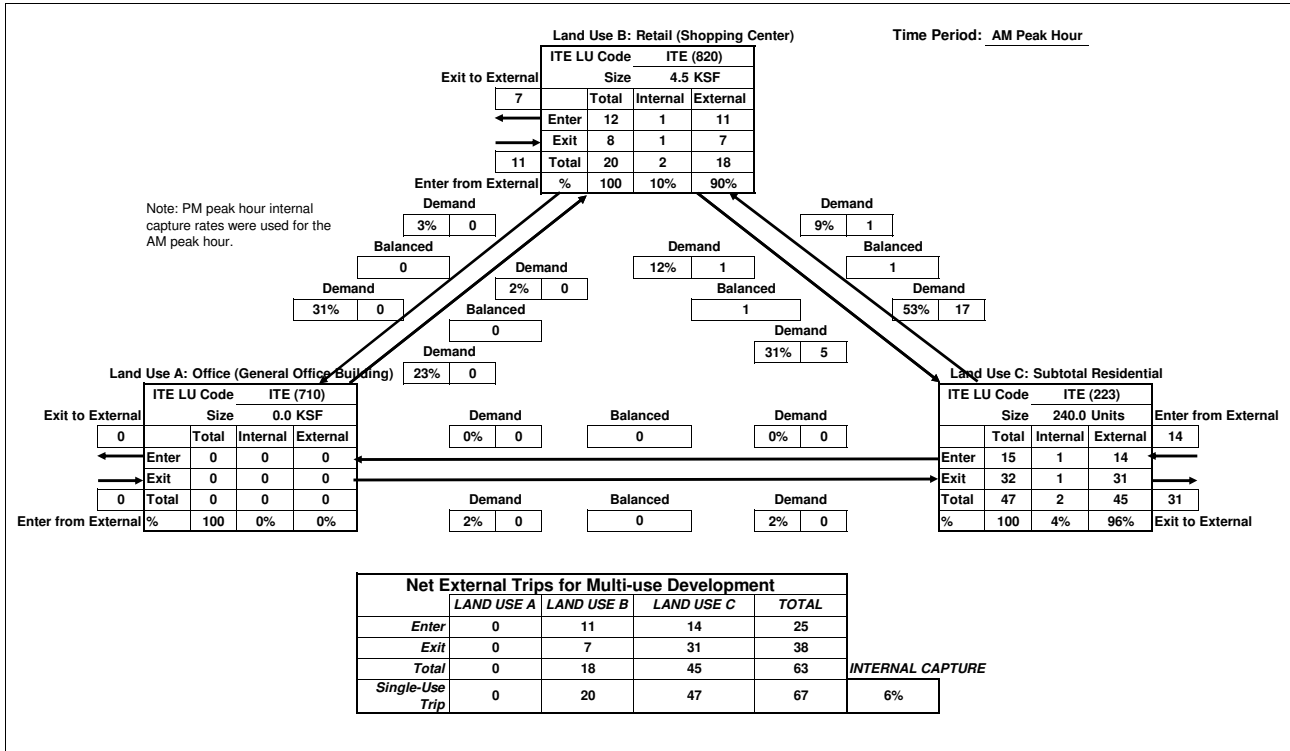


**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 1

Date: 5/14/2014



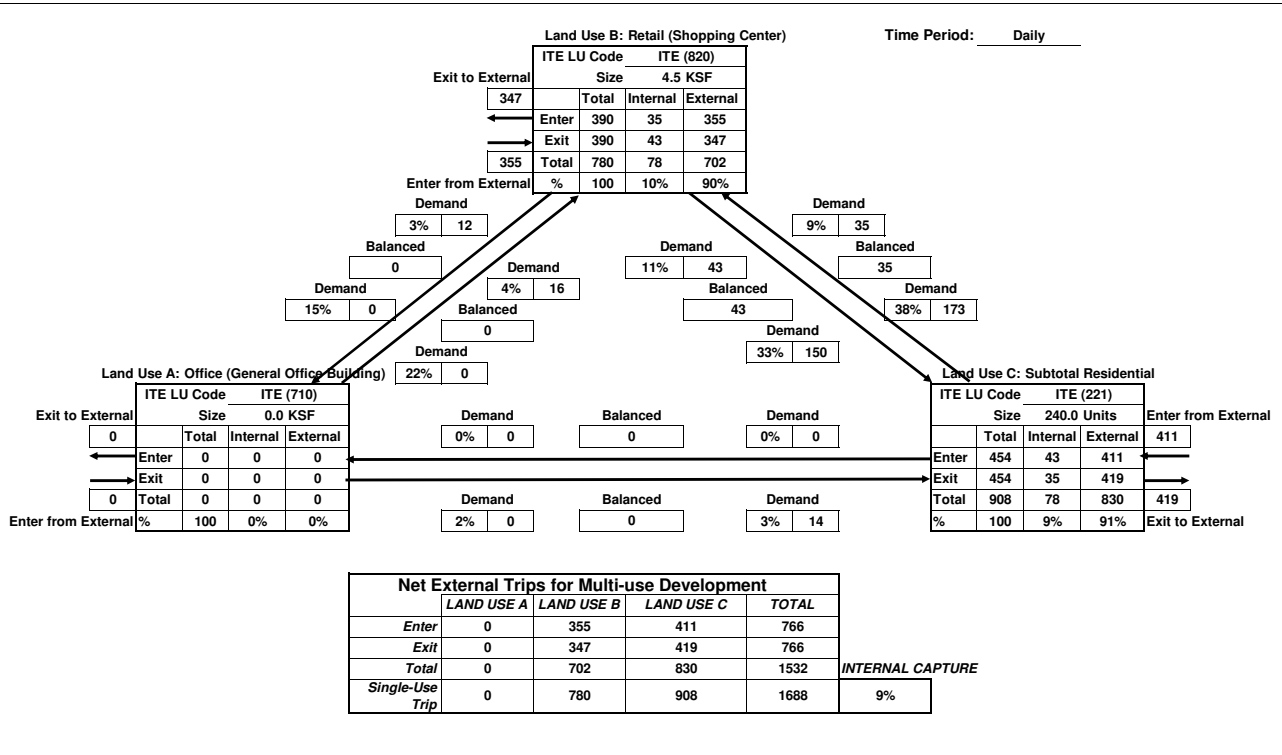
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 1

Date: 5/14/2014

Time Period: Daily

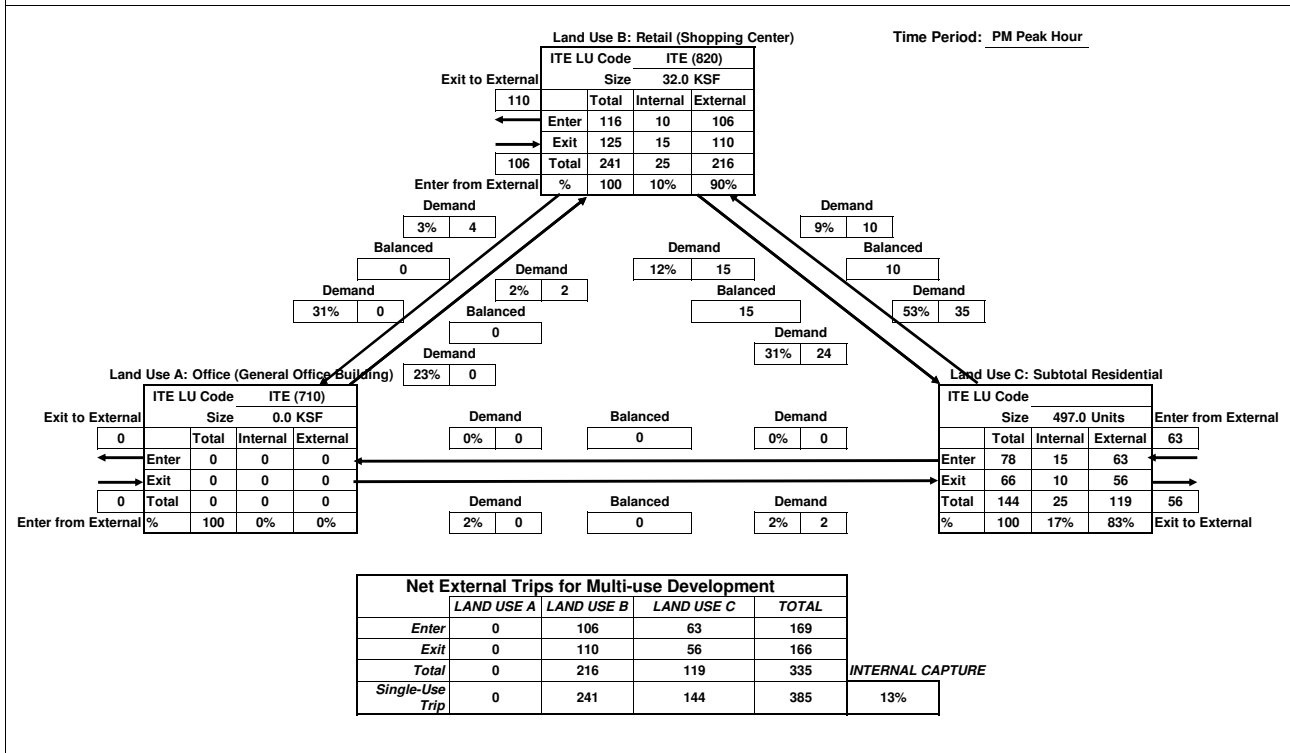
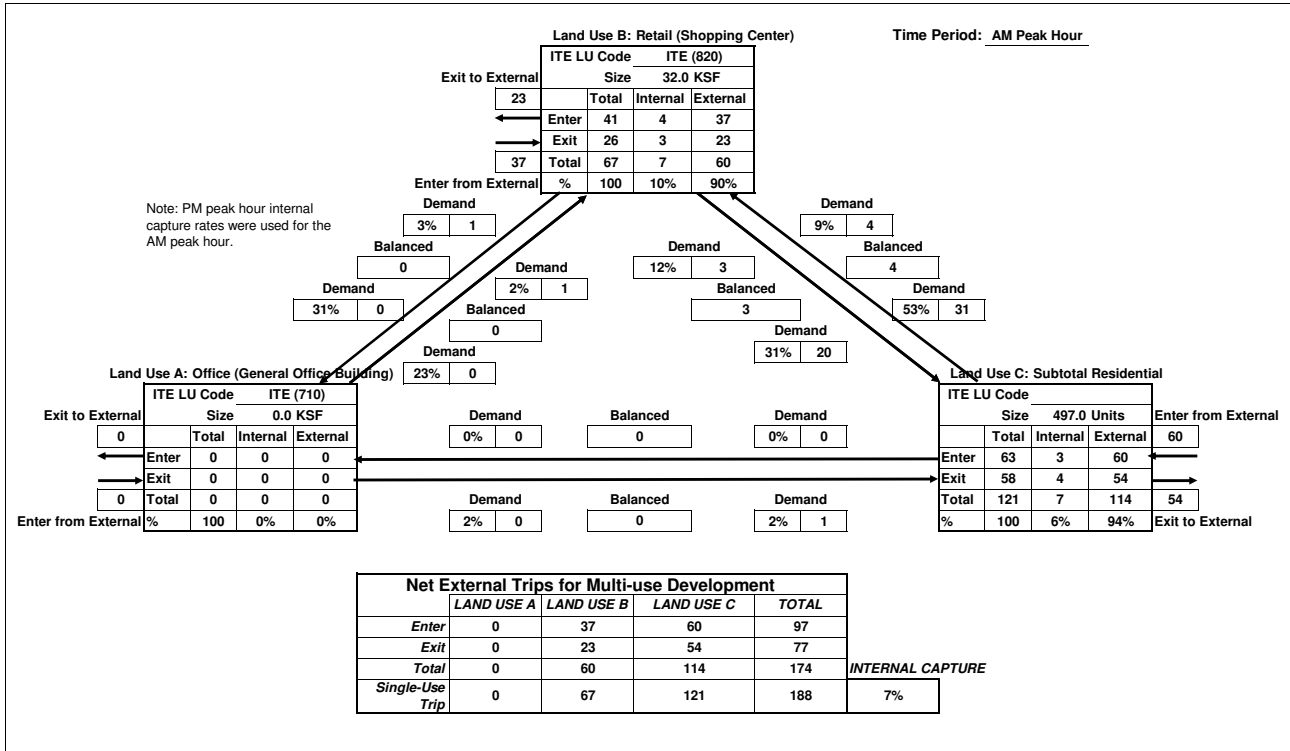


**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**
Parcel 3, 4A, and 4B

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 1

Date: 5/14/2014



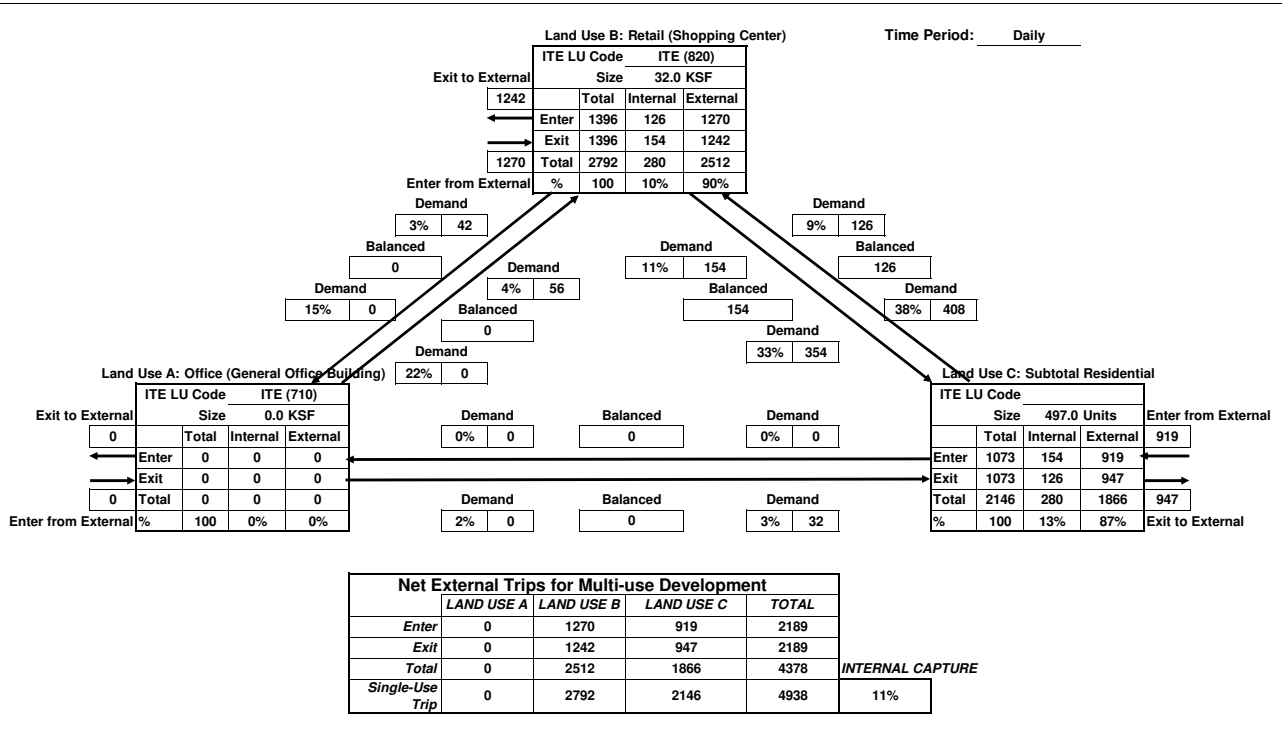
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 3, 4A, and 4B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 1

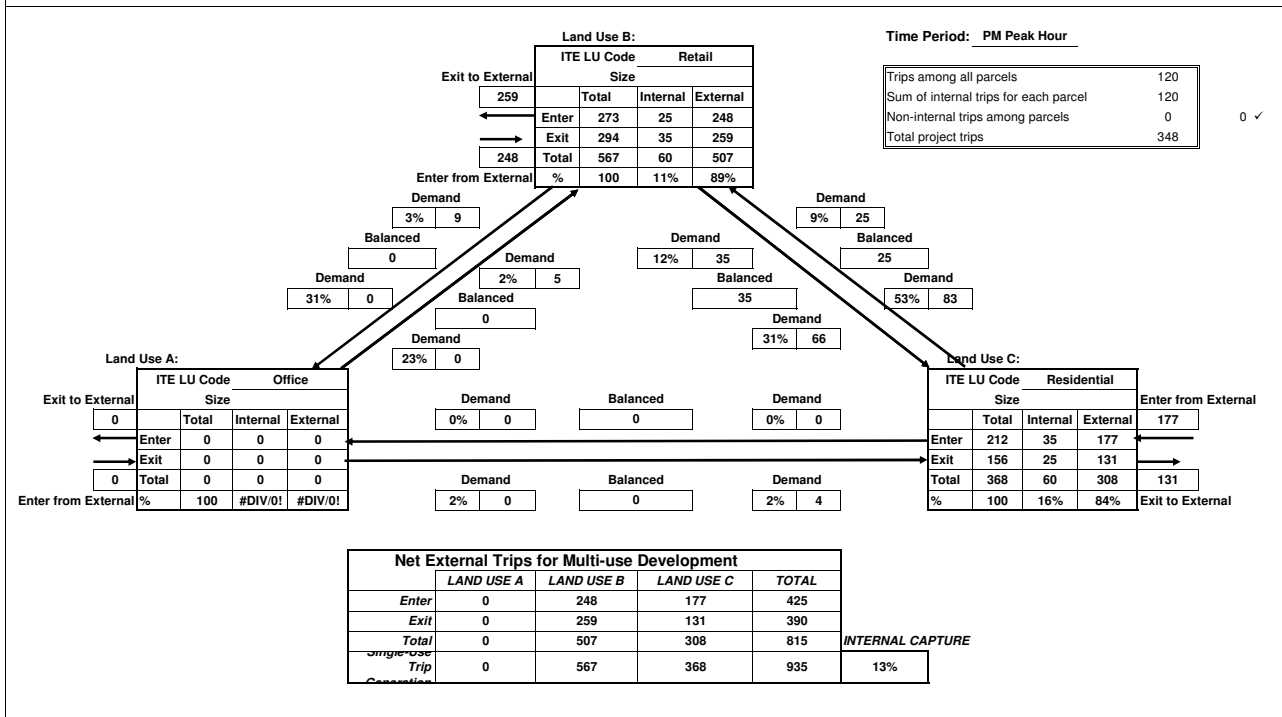
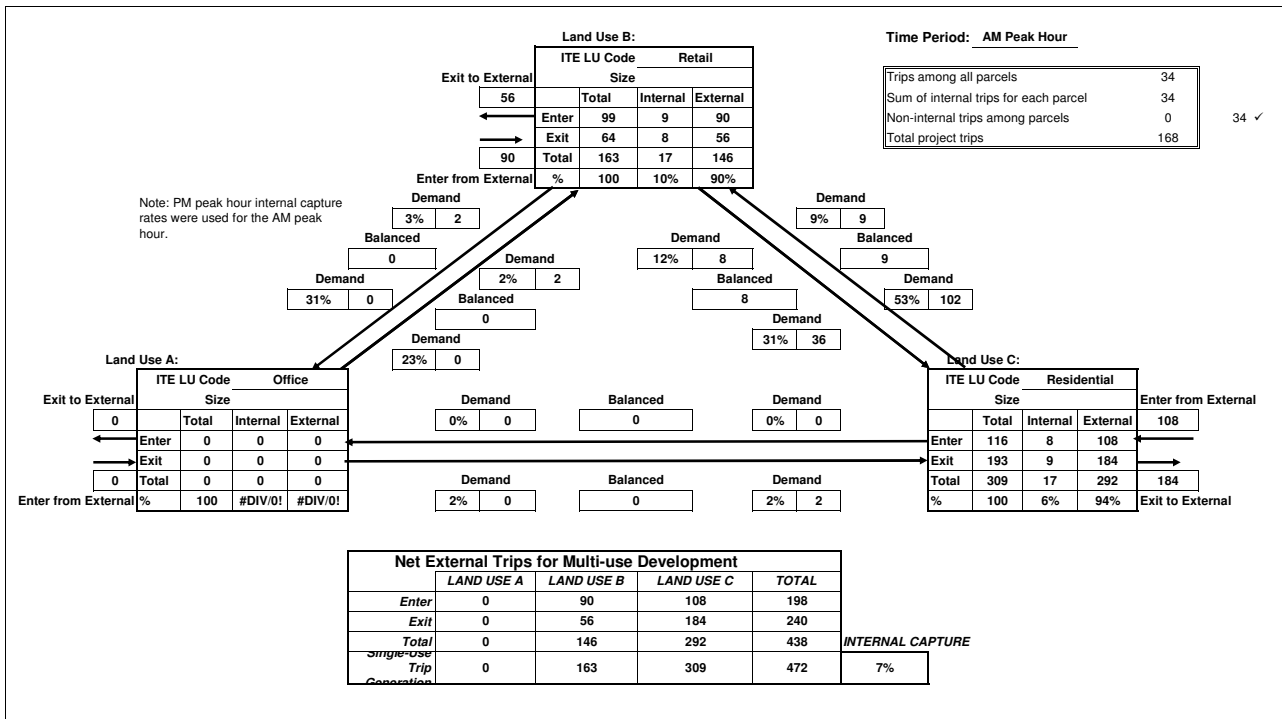
Date: 5/14/2014

Time Period: Daily



MULTI-USE DEVELOPMENT
TRIP GENERATION
TRIPS AMONG ALL PARCELS

Date: 5/14/2014

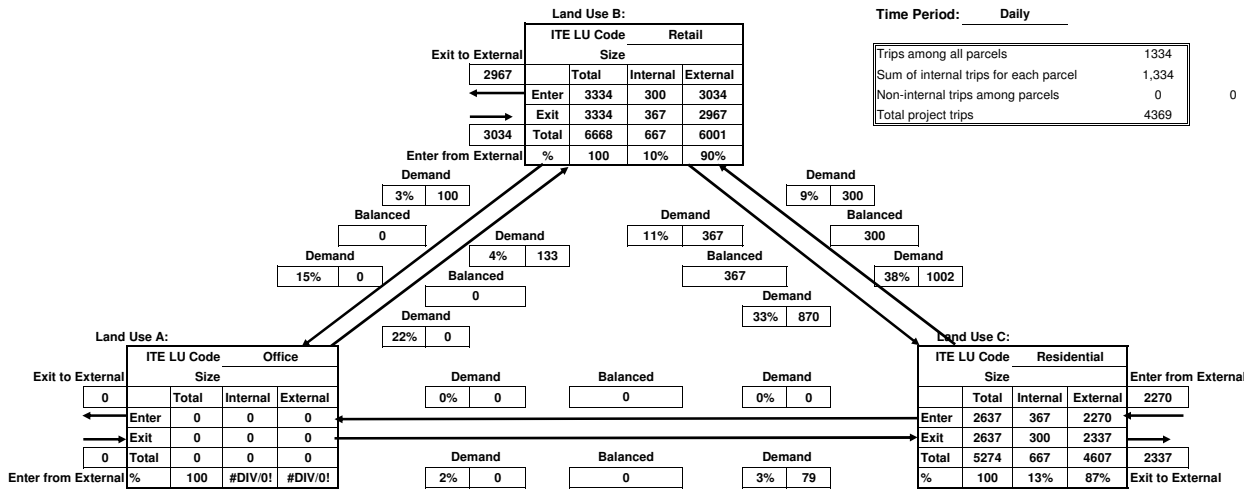


**MULTI-USE DEVELOPMENT
TRIP GENERATION
TRIPS AMONG ALL PARCELS**

Date: 5/14/2014

Time Period: Daily

Trips among all parcels	1334
Sum of internal trips for each parcel	1,334
Non-internal trips among parcels	0
Total project trips	4369



Net External Trips for Multi-use Development					
	LAND USE A	LAND USE B	LAND USE C	TOTAL	
Enter	0	3034	2270	5304	
Exit	0	2967	2337	5304	
Total	0	6001	4607	10608	INTERNAL CAPTURE
Single-Use Trip Generation	0	6668	5274	11942	11%

Proposed Project - Option 2

Trip Generation for Proposed Project - Option 2								
Land Use	Amount	Trips Generated						
		Weekday	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Parcel 1								
Retail (Shopping Center)	24.0 KSF	2,686	40	25	65	110	120	230
High-rise Apartment (Includes Live/Work)	562 Units	2,334	42	127	169	117	75	192
Total Trips for Site		5,020	82	152	234	227	195	422
Transit Adjustments (-3.4%)		-173	-3	-5	-8	-8	-7	-15
Walk, Bike & Other Non-Auto Travel Adjustments (-24.3%)		-1,220	-22	-54	-76	-58	-43	-101
Internal Trips Within This Site (-9.2%)		-462	-6	-6	-12	-21	-21	-42
Trips To-From Other Sites within the Project (0%)		0	0	0	0	-1	-1	-2
Total External Automobile Trips for New Project		3,165	51	87	138	139	123	262
External Automobile Trips for Existing Land Uses		-455	-9	-32	-41	-32	-17	-49
New External Automobile Trips		2,710	42	55	97	107	106	213
Parcel 2A								
Retail (Shopping Center)	4.5 KSF	905	15	9	24	36	39	75
Mid-rise Apartment (Includes Live/Work)	240 Units	1,616	26	59	85	60	44	104
Total Trips for Site		2,521	41	68	109	96	83	179
Transit Adjustments (-3.9%)		-99	-2	-3	-5	-4	-4	-8
Walk, Bike & Other Non-Auto Travel Adjustments (-29.1%)		-734	-12	-25	-37	-27	-22	-49
Internal Trips Within This Site (-6.2%)		-156	-2	-2	-4	-7	-7	-14
Trips To-From Other Sites within the Project (0%)		0	0	0	0	-1	-1	-2
Total External Automobile Trips for New Project		1,532	25	38	63	57	49	106
External Automobile Trips for Existing Land Uses		-224	-5	-18	-23	-17	-9	-26
New External Automobile Trips		1,308	20	20	40	40	40	80
Parcel 2B								
Retail (Shopping Center)	4.5 KSF	905	15	9	24	36	39	75
Mid-rise Apartment (Includes Live/Work)	240 Units	1,616	26	59	85	60	44	104
Total Trips for Site		2,521	41	68	109	96	83	179
Transit Adjustments (-3.9%)		-99	-2	-3	-5	-4	-4	-8
Walk, Bike & Other Non-Auto Travel Adjustments (-29.1%)		-734	-12	-25	-37	-27	-22	-49
Internal Trips Within This Site (-6.2%)		-156	-2	-2	-4	-7	-7	-14
Trips To-From Other Sites within the Project (0%)		0	0	0	0	-1	-1	-2
Total External Automobile Trips for New Project		1,532	25	38	63	57	49	106
External Automobile Trips for Existing Land Uses		-224	-5	-18	-23	-17	-9	-26
New External Automobile Trips		1,308	20	20	40	40	40	80
Parcel 3, 4A, and 4B								
Retail (Shopping Center)	28.0 KSF	2,969	45	27	72	122	133	255
Mid-rise Apartment (Includes Live/Work)	53 rooms	1,534	3	6	9	8	6	14
High-rise Apartment (Includes Live/Work)	224 Units	1,088	17	51	68	51	33	84
Total Trips for Site		5,591	65	84	149	181	172	353
Transit Adjustments (-3.5%)		-193	-2	-3	-5	-6	-5	-11
Walk, Bike & Other Non-Auto Travel Adjustments (-24.4%)		-1,364	-13	-26	-39	-37	-31	-68
Internal Trips Within This Site (-9.2%)		-512	-7	-7	-14	-19	-19	-38
Trips To-From Other Sites within the Project (0%)		0	0	0	0	-1	-1	-2
Total External Automobile Trips for New Project		3,522	43	48	91	118	116	234
External Automobile Trips for Existing Land Uses		-455	-9	-32	-41	-32	-17	-49
New External Automobile Trips		3,067	34	16	50	86	99	185
Total Project Trips								
Retail (Shopping Center)	61.0 KSF	7,465	115	70	185	304	331	635
Mid-rise Apartment (Includes Live/Work)	533 Units	4,766	55	124	179	128	94	222
High-rise Apartment (Includes Live/Work)	786 Units	3,422	59	178	237	168	108	276
Total Project Trips		15,653	229	372	601	600	533	1,133
Transit Adjustments (-3.6%)		-564	-9	-14	-23	-22	-20	-42
Walk, Bike & Other Non-Auto Travel Adjustments (-25.9%)		-4,052	-59	-130	-189	-149	-118	-267
Internal Trips Within This Site (-8.2%)		-1,286	-17	-17	-34	-54	-54	-108
Trips To-From Other Sites within the Project (0%)		0	0	0	0	-4	-4	-8
Total External Automobile Trips for New Project		9,751	144	211	355	371	337	708
External Automobile Trips for Existing Land Uses		-1,358	-28	-100	-128	-98	-52	-150
New External Automobile Trips		8,393	116	111	227	273	285	558

Source: Kittelson & Associates, Inc. 2014

62.3%

59.1%

62.5%

Proposed Project - Option 2

New Transit Trips for Proposed Project - Option 2 (By City Block)							
City Block	Net New Transit Trips						
	Weekday	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Parcel 1	173	3	5	8	9	7	16
Parcel 2A	101	2	2	4	3	4	7
Parcel 2B	101	2	2	4	3	4	7
Parcel 3, 4A, and 4B	196	2	2	4	6	5	11
Net New Transit Trips	571	9	11	20	21	20	41

Source: Kittelson & Associates, Inc. 2014

Sacramento Commons
Adjustments to ITE Trip Generation Rates for High Non-Auto Travel

Shares of Total Trips			
Transit Shares	Work Trips^a	Non-Work Trips^b	Total
Walk Access			
Downtown	7.4%	1.8%	
Suburban	1.4%	0.3%	
Increase Above Suburban Conditions	6.0%	1.5%	
Drive Access			
Downtown	6.2%	1.2%	
Suburban	0.1%	0.3%	
Increase Above Suburban Conditions	6.1%	0.9%	
Walk, Bike & Other Non-Auto Shares			
Downtown	4.5%	18.8%	
Suburban	2.8%	6.5%	
Increase Above Suburban Conditions	1.7%	12.3%	

Capitol Towers Survey Data	
Transit Shares	
AM Peak Hour	5%
PM Peak Hour	6%
Walk Shares	
AM Peak Hour	45%
PM Peak Hour	44%

Adjustments for Higher Transit Use Downtown			
Office¹	10.9%	0.2%	11.1%
Retail²	0.8%	1.4%	2.2%
	Home-Work	Home-Non-Work	Non Home-Based
Residential^{3,c}			Total
AM Peak Hour			4.2%
PM Peak Hour			5.3%
Daily			4.9%

Suburban Transit Shares			
	Home-Work	Home-Non-Work	Non Home-Based
			Total
	0.6%	0.1%	0.0%
	0.5%	0.1%	0.1%
	0.4%	0.1%	0.1%

Adjustments for Higher Walk, Bike & Other Non-Auto Travel Downtown			
Office¹	1.5%	1.2%	2.8%
Retail²	0.1%	11.4%	11.6%
	Home-Work	Home-Non-Work	Non Home-Based
Residential^c			Total
AM Peak Hour			40.0%
PM Peak Hour			38.8%
Daily			38.9%

Suburban Walk, Bike, Other Shares			
	Home-Work	Home-Non-Work	Non Home-Based
			Total
	1.2%	2.9%	0.9%
	1.0%	2.5%	1.8%
	0.7%	3.0%	1.9%

Transit Trips			
	Work Trips	Non-Work Trips	Total
Office¹	12.2%	0.3%	12.5%
Retail²	1.0%	1.7%	2.6%
	Home-Work	Home-Non-Work	Non Home-Based
Residential			Total
AM Peak Hour			5.0%
PM Peak Hour			6.0%
Daily			5.5%

¹ Assumes 90 percent of office trips are work trips.

² Assumes 7 percent of retail trips are work trips. Non-work trips would only include walk trips to transit.

³ Transit adjustments for residential uses only include walk trips to transit.

Source: *Pre-Census Travel Behavior Report: Analysis of the 2000 SACOG Household Travel Survey*, DKS, 2001.

Table references from the source are provided as follows:

^a Table A26

^b Table A27

^c The amount of transit use for each trip purpose is based on the following data from Table A33:

Travel Hours	Home-Work	Home-Non-Work	Non Home-Based	Total
AM Peak Hour	73,190	78,124	25,868	177,182
PM Peak Hour	60,563	67,068	47,784	175,415
Daily	473,704	861,535	557,764	1,893,003

**Sacramento Commons
Proposed Project - Option 2
Parcel 1**

Trip Generation Land Use Category	Amount	Source	Trips Generated									Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak			
				In	Out	Total	In	Out	Total	In	Out	In	Out		
Parcel 1															
Automobile Trips for New Project															
Retail (Shopping Center)	24.0 KSF	ITE (820)	2,686	40	25	65	110	120	230	62%	38%	48%	52%		
Residential															
High-rise Apartment (Includes Live/Work)	562 Units	ITE (222)	2,334	42	127	169	117	75	192	25%	75%	61%	39%		
Subtotal Residential	562 Units		2,334	42	127	169	117	75	192						
Other															
Total Trips for Site			5,020	82	152	234	227	195	422						
Transit Adjustments															
Office (-11.1%)			0	0	0	0	0	0	0						
Retail (-2.2%)			-59	-1	0	-1	-2	-3	-5						
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-114	-2	-5	-7	-6	-4	-10						
Total Transit Adjustments			-173	-3	-5	-8	-8	-7	-15						
Walk, Bike & Other Non-Auto Travel Adjustments															
Office (-2.8%)			0	0	0	0	0	0	0						
Retail (-11.6%)			-312	-5	-3	-8	-13	-14	-27						
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-908	-17	-51	-68	-45	-29	-74						
Total Walk, Bike & Other Non-Auto Travel Adjustments			-1,220	-22	-54	-76	-58	-43	-101						
Internal Trips Within This Site			-462	-6	-6	-12	-21	-21	-42						
Trips To-From Other Sites within the Project			0	0	0	0	-1	-1	-2						
External Automobile Trips for New Project															
Office (General Office Building)				0	0	0	0	0	0						
Retail (Shopping Center)				31	19	50	85	90	176						
Subtotal Residential				20	68	88	54	33	86						
Total External Automobile Trips for New Project			3,165	51	87	138	139	123	262						
External Auto Trips Percent of Total Project Trips			63%	62%	57%	59%	61%	63%	62%						
External Automobile Trips for Existing Land Uses															
Low-rise Apartment	69 Units	ITE (221)	-455	-9	-32	-41	-32	-17	-49	21%	79%	65%	35%		
New External Automobile Trips															
Total			2,710	42	55	97	107	106	213						
Transit Trips															
New Project															
Office (12.5%)			0	0	0	0	0	0	0						
Retail (2.6%)			70	1	1	2	3	3	6						
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			128	2	6	8	7	5	12						
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-25	0	-2	-2	-1	-1	-2						
Total Transit Trips			173	3	5	8	9	7	16						

**Sacramento Commons
Proposed Project - Option 2
Parcel 2A**

Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak	
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 2A													
Automobile Trips for New Project													
Retail (Shopping Center)	4.5 KSF	ITE (820)	905	15	9	24	36	39	75	62%	38%	48%	52%
Residential		ITE (221 - Daily)											
Mid-rise Apartment (Includes Live/Work)	240 Units	(223 - AM/PM)	1,616	26	59	85	60	44	104	31%	69%	58%	42%
Subtotal Residential	240 Units		1,616	26	59	85	60	44	104				
Other													
Total Trips for Site			2,521	41	68	109	96	83	179				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-20	-1	0	-1	-1	-1	-2				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-79	-1	-3	-4	-3	-3	-6				
Total Transit Adjustments			-99	-2	-3	-5	-4	-4	-8				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-105	-2	-1	-3	-4	-5	-9				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-629	-10	-24	-34	-23	-17	-40				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-734	-12	-25	-37	-27	-22	-49				
Internal Trips Within This Site			-156	-2	-2	-4	-7	-7	-14				
Trips To-From Other Sites within the Project			0	0	0	0	-1	-1	-2				
External Automobile Trips for New Project													
Office (General Office Building)			0	0	0	0	0	0	0				
Retail (Shopping Center)			11	7	18	28	28	28	56				
Subtotal Residential			14	31	45	29	21	50					
Total External Automobile Trips for New Project			1,532	25	38	63	57	49	106				
External Auto Trips Percent of Total Project Trips			61%	61%	56%	58%	59%	59%	59%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	34 Units	ITE (221)	-224	-5	-18	-23	-17	-9	-26	21%	79%	65%	35%
New External Automobile Trips													
Total			1,308	20	20	40	40	40	80				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			24	1	0	1	1	1	2				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			89	1	3	4	3	3	6				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-12	0	-1	-1	-1	0	-1				
Total Transit Trips			101	2	2	4	3	4	7				

**Sacramento Commons
Proposed Project - Option 2
Parcel 2B**

Trip Generation Land Use Category	Amount	Source	Trips Generated						Distribution					
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak		
				In	Out	Total	In	Out	Total	In	Out	In	Out	
Parcel 2B														
Automobile Trips for New Project														
Retail (Shopping Center)	4.5 KSF	ITE (820)	905	15	9	24	36	39	75	62%	38%	48%	52%	
Residential		ITE (221 - Daily)												
Mid-rise Apartment (Includes Live/Work)	240 Units	(223 - AM/PM)	1,616	26	59	85	60	44	104	31%	69%	58%	42%	
Subtotal Residential	240 Units		1,616	26	59	85	60	44	104					
Other														
Total Trips for Site			2,521	41	68	109	96	83	179					
Transit Adjustments														
Office (-11.1%)			0	0	0	0	0	0	0					
Retail (-2.2%)			-20	-1	0	-1	-1	-1	-2					
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-79	-1	-3	-4	-3	-3	-6					
Total Transit Adjustments			-99	-2	-3	-5	-4	-4	-8					
Walk, Bike & Other Non-Auto Travel Adjustments														
Office (-2.8%)			0	0	0	0	0	0	0					
Retail (-11.6%)			-105	-2	-1	-3	-4	-5	-9					
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-629	-10	-24	-34	-23	-17	-40					
Total Walk, Bike & Other Non-Auto Travel Adjustments			-734	-12	-25	-37	-27	-22	-49					
Internal Trips Within This Site			-156	-2	-2	-4	-7	-7	-14					
Trips To-From Other Sites within the Project			0	0	0	0	-1	-1	-2					
External Automobile Trips for New Project														
Office (General Office Building)			0	0	0	0	0	0	0					
Retail (Shopping Center)			11	7	18	28	28	28	56					
Subtotal Residential			14	31	45	29	21	50						
Total External Automobile Trips for New Project			1,532	25	38	63	57	49	106					
External Auto Trips Percent of Total Project Trips			61%	61%	56%	58%	59%	59%	59%					
External Automobile Trips for Existing Land Uses														
Low-rise Apartment	34 Units	ITE (221)	-224	-5	-18	-23	-17	-9	-26	21%	79%	65%	35%	
New External Automobile Trips														
Total			1,308	20	20	40	40	40	80					
Transit Trips														
New Project														
Office (12.5%)			0	0	0	0	0	0	0					
Retail (2.6%)			24	1	0	1	1	1	2					
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			89	1	3	4	3	3	6					
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-12	0	-1	-1	-1	0	-1					
Total Transit Trips			101	2	2	4	3	4	7					

**Sacramento Commons
Proposed Project - Option 2
Parcel 3, 4A, and 4B**

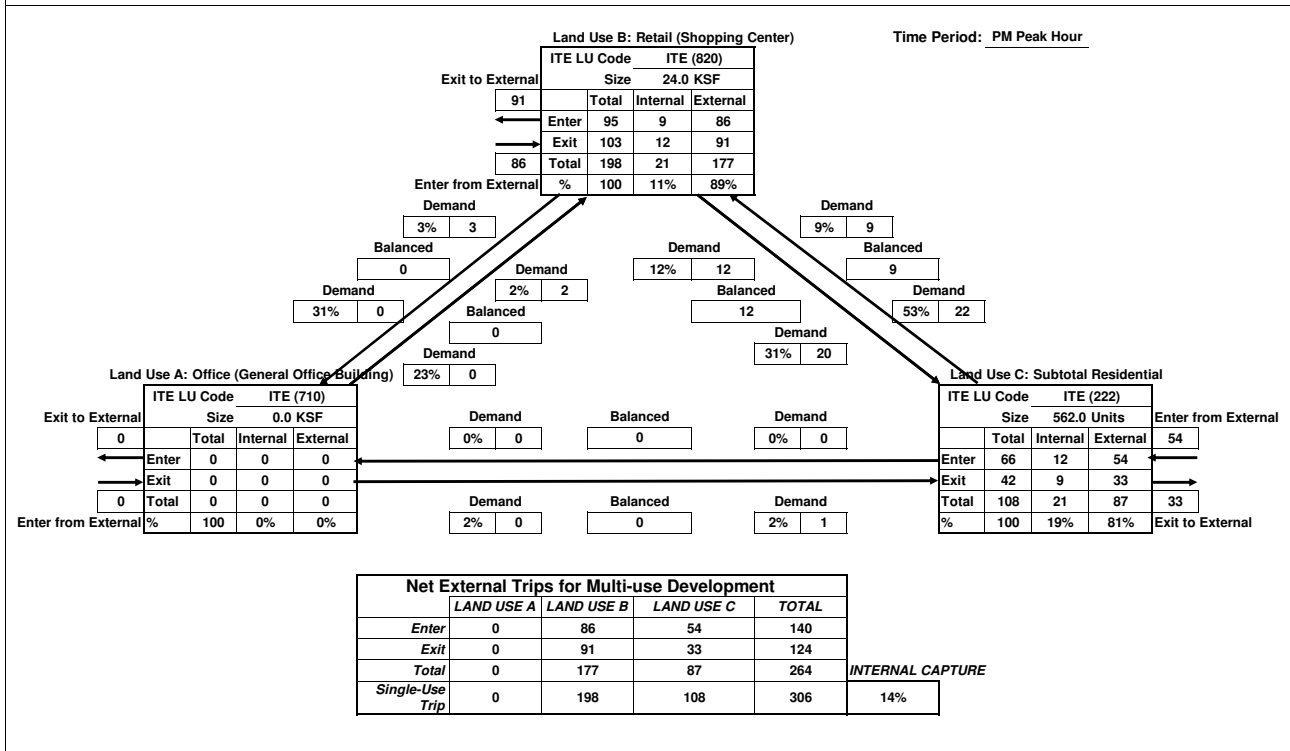
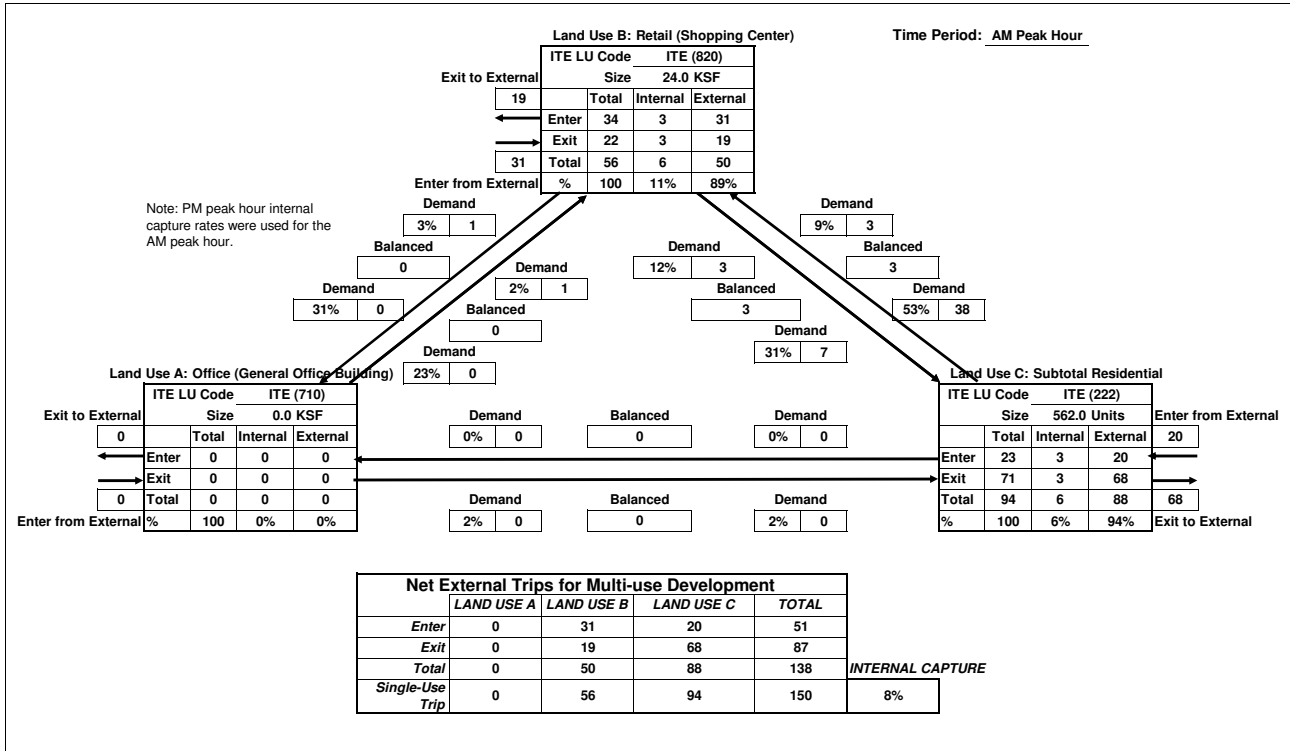
Trip Generation Land Use Category	Amount	Source	Trips Generated							Distribution			
			Weekday	AM Peak Hour			PM Peak Hour			AM Peak		PM Peak	
				In	Out	Total	In	Out	Total	In	Out	In	Out
Parcel 3, 4A, and 4B													
Automobile Trips for New Project													
Retail (Shopping Center)	28.0 KSF	ITE (820)	2,969	45	27	72	122	133	255	62%	38%	48%	52%
Residential		ITE (221 - Daily)											
Mid-rise Apartment (Includes Live/Work)	53 rooms	(223 - AM/PM)	1,534	3	6	9	8	6	14	31%	69%	58%	42%
High-rise Apartment (Includes Live/Work)	224 Units	ITE (222)	1,088	17	51	68	51	33	84	25%	75%	61%	39%
Subtotal Residential	277 Units		2,622	20	57	77	59	39	98				
Other													
Total Trips for Site			5,591	65	84	149	181	172	353				
Transit Adjustments													
Office (-11.1%)			0	0	0	0	0	0	0				
Retail (-2.2%)			-65	-1	-1	-2	-3	-3	-6				
Residential (Daily -4.9%, a.m. -4.2%, p.m. -5.3%)			-128	-1	-2	-3	-3	-2	-5				
Total Transit Adjustments			-193	-2	-3	-5	-6	-5	-11				
Walk, Bike & Other Non-Auto Travel Adjustments													
Office (-2.8%)			0	0	0	0	0	0	0				
Retail (-11.6%)			-344	-5	-3	-8	-14	-16	-30				
Residential (Daily -38.9%, a.m. -40%, p.m. -38.8%)			-1,020	-8	-23	-31	-23	-15	-38				
Total Walk, Bike & Other Non-Auto Travel Adjustments			-1,364	-13	-26	-39	-37	-31	-68				
Internal Trips Within This Site			-512	-7	-7	-14	-19	-19	-38				
Trips To-From Other Sites within the Project			0	0	0	0	-1	-1	-2				
External Automobile Trips for New Project													
Office (General Office Building)				0	0	0	0	0	0				
Retail (Shopping Center)				35	20	55	95	103	198				
Subtotal Residential				8	28	36	23	13	36				
Total External Automobile Trips for New Project			3,522	43	48	91	118	116	234				
External Auto Trips Percent of Total Project Trips			63%	66%	57%	61%	65%	67%	66%				
External Automobile Trips for Existing Land Uses													
Low-rise Apartment	69 Units	ITE (221)	-455	-9	-32	-41	-32	-17	-49	21%	79%	65%	35%
New External Automobile Trips													
Total			3,067	34	16	50	86	99	185				
Transit Trips													
New Project													
Office (12.5%)			0	0	0	0	0	0	0				
Retail (2.6%)			77	1	1	2	3	4	7				
Residential (Daily 5.5%, a.m. 5%, p.m. 6%)			144	1	3	4	4	2	6				
Existing Land Uses (Daily 5.5%, a.m. 5%, p.m. 6%)			-25	0	-2	-2	-1	-1	-2				
Total Transit Trips			196	2	2	4	6	5	11				

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 1**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2

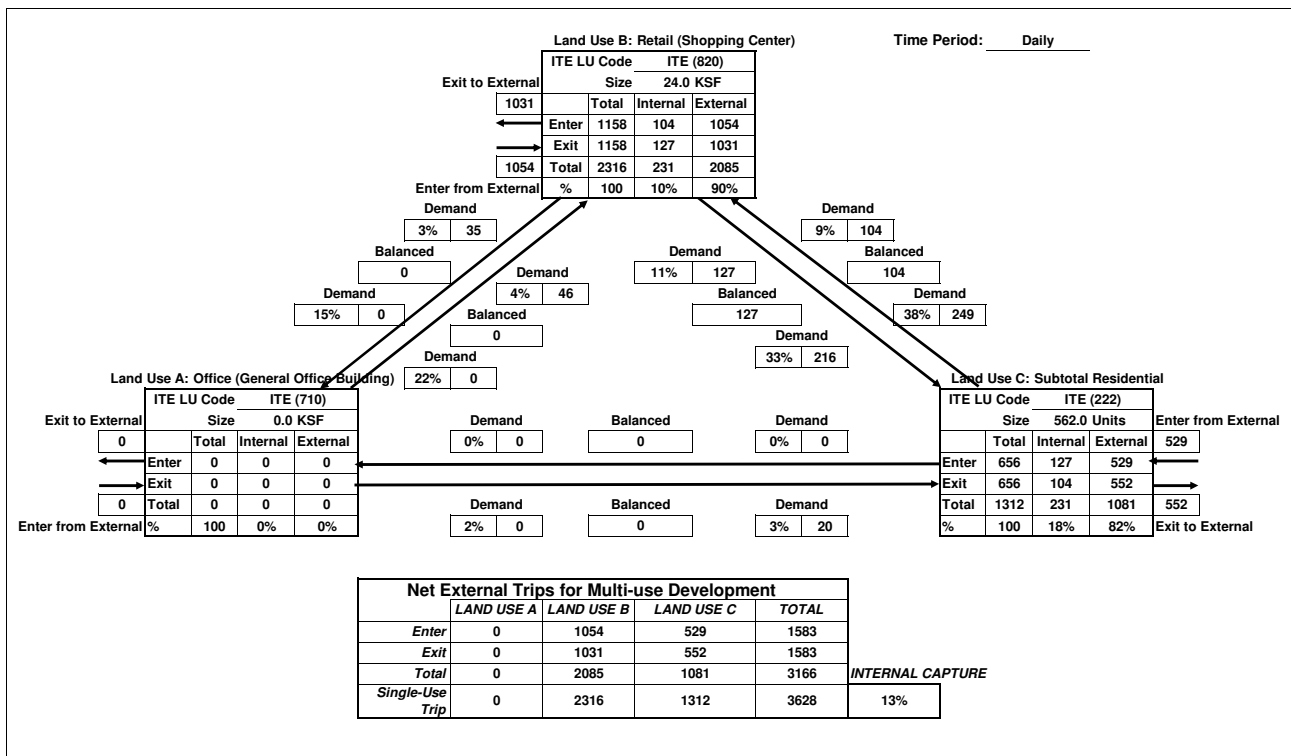
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**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 1**

Date: 5/21/2014

Time Period: Daily

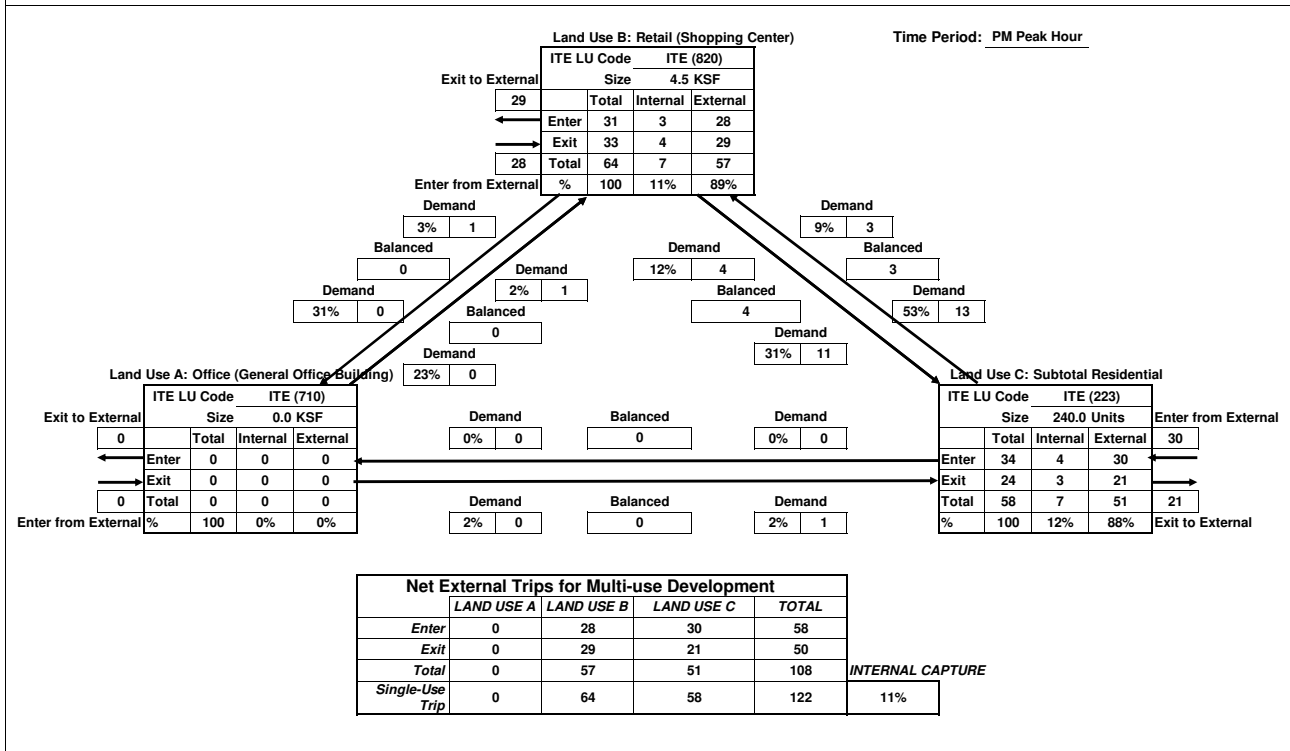
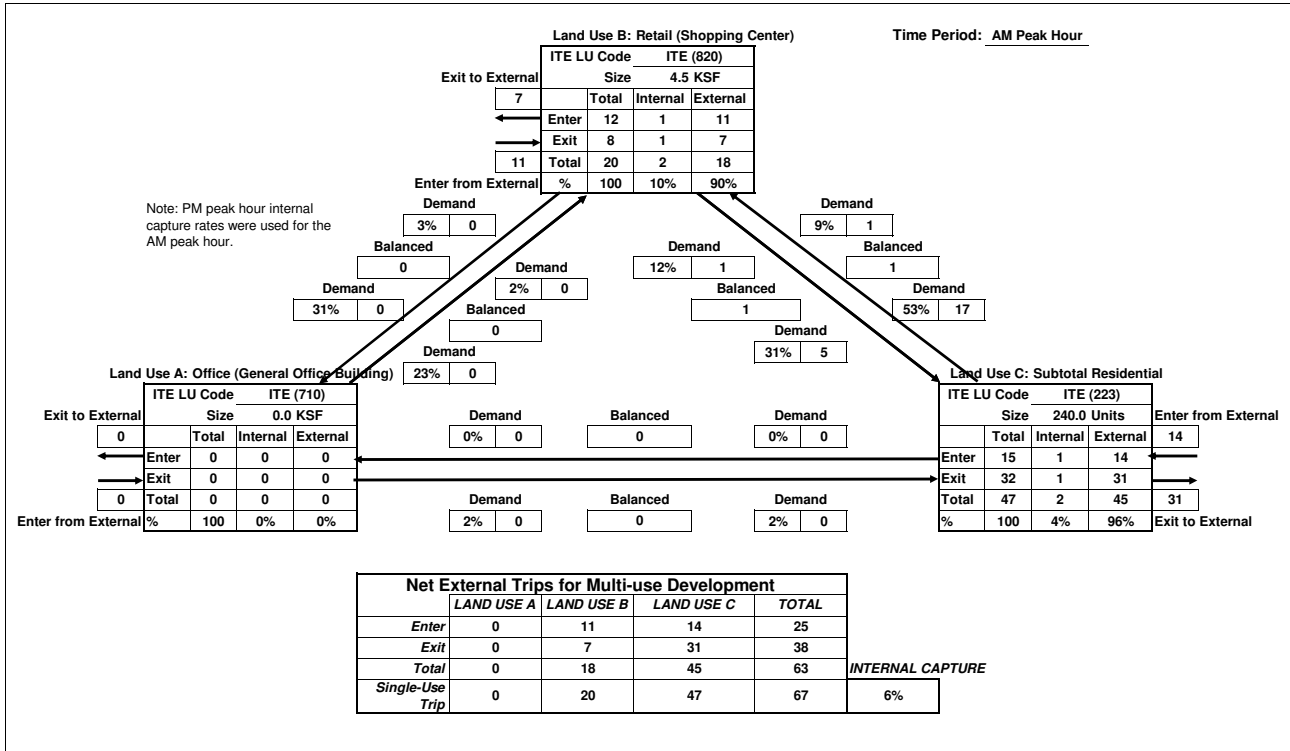


**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2A**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2

Date: 5/21/2014



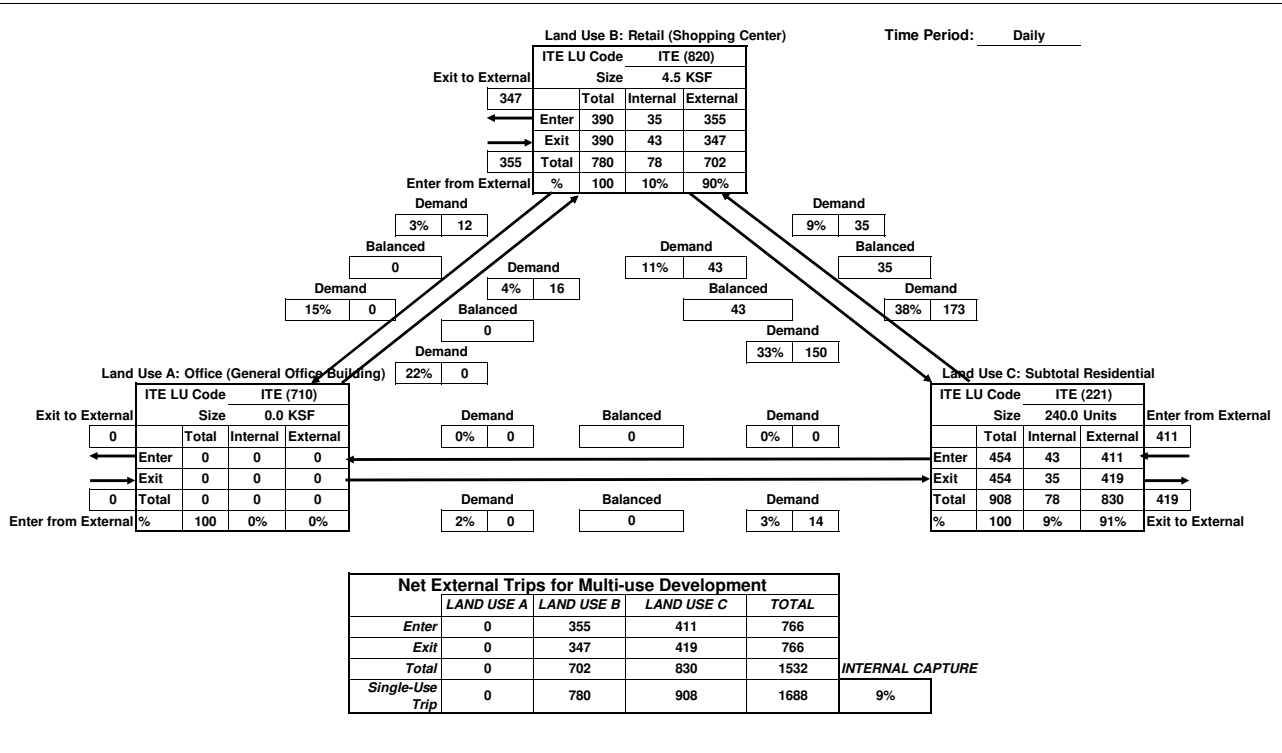
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2A**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2

Date: 5/21/2014

Time Period: Daily

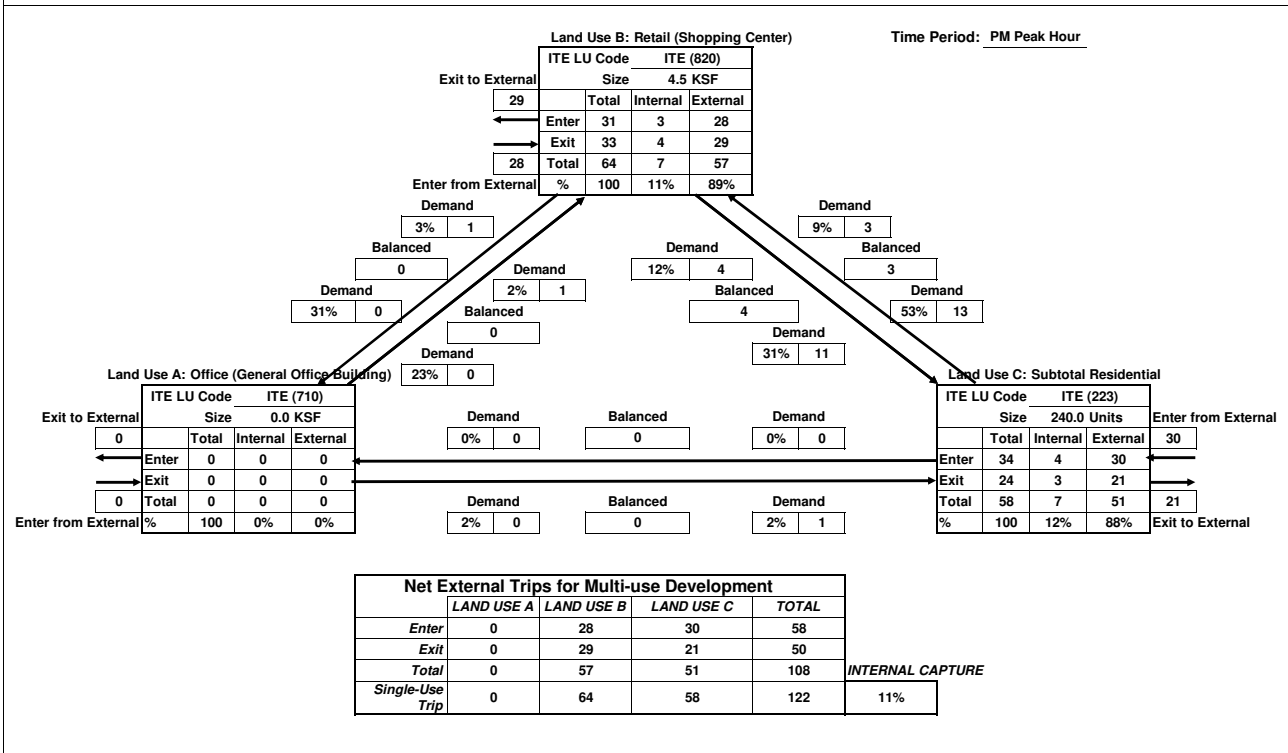
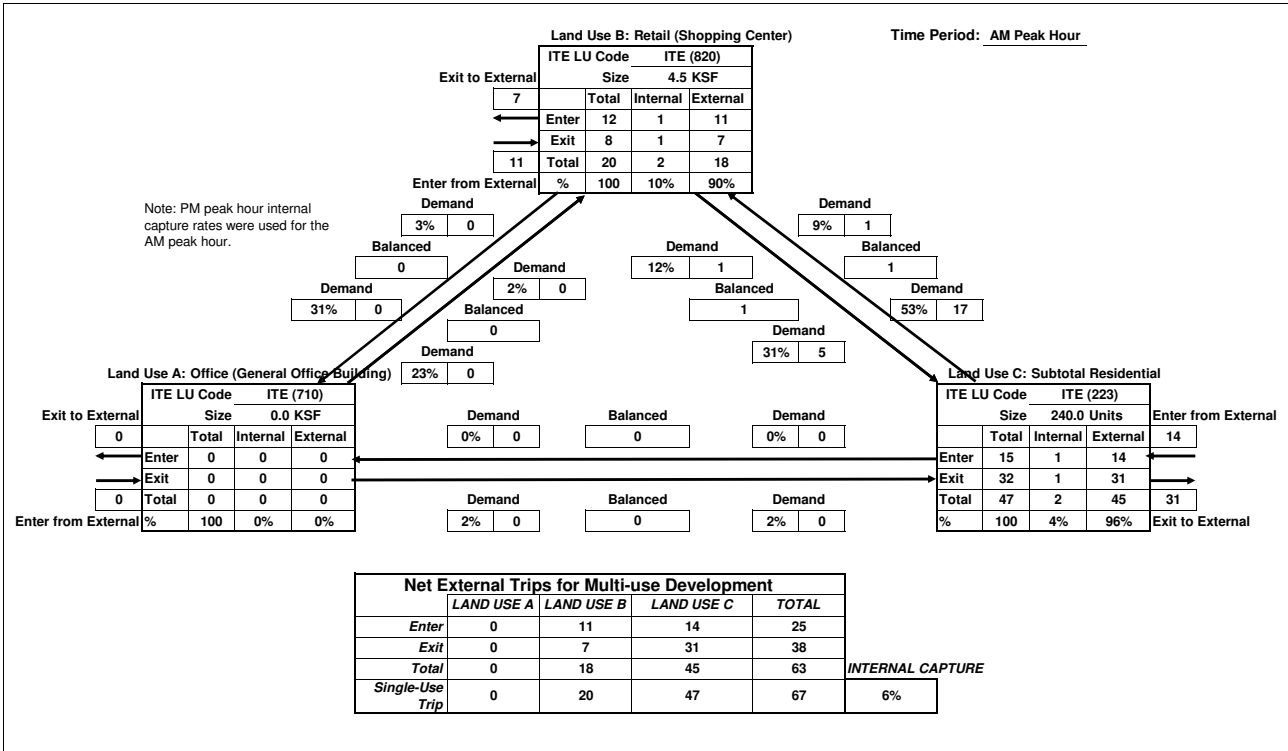


**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2

Date: 5/21/2014



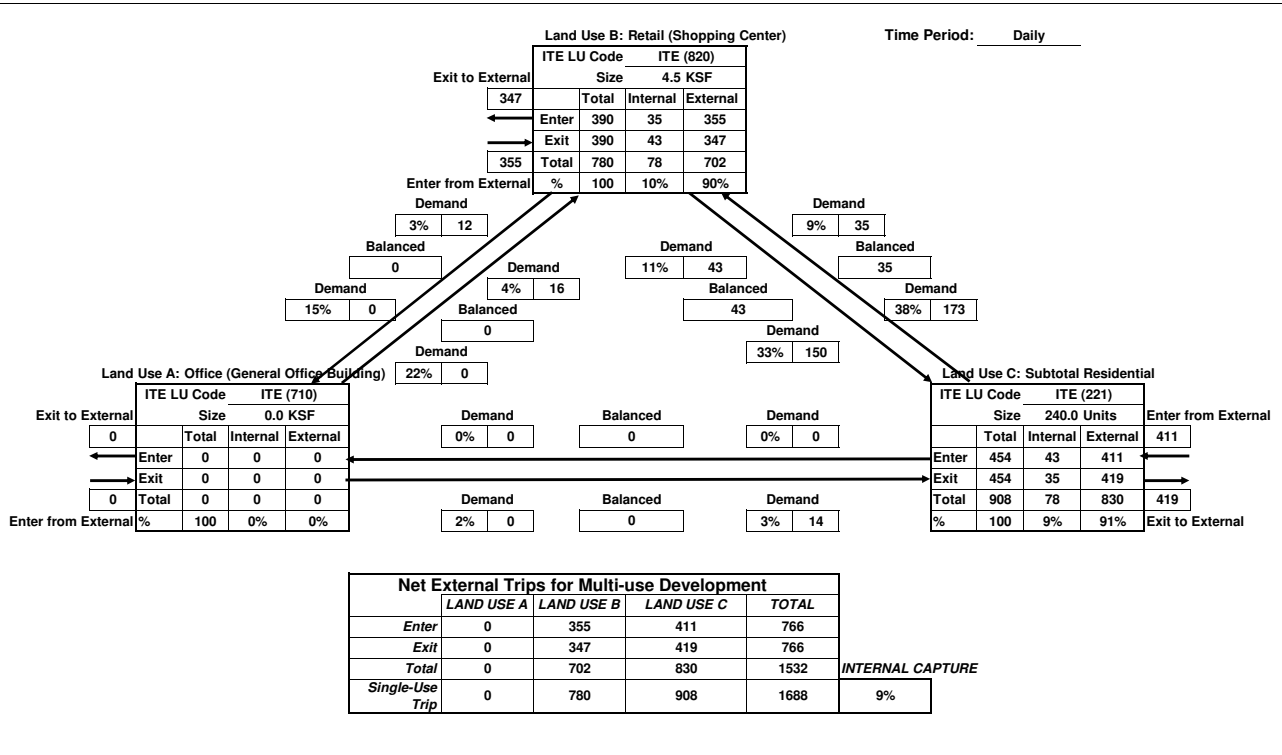
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 2B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2

Date: 5/21/2014

Time Period: Daily

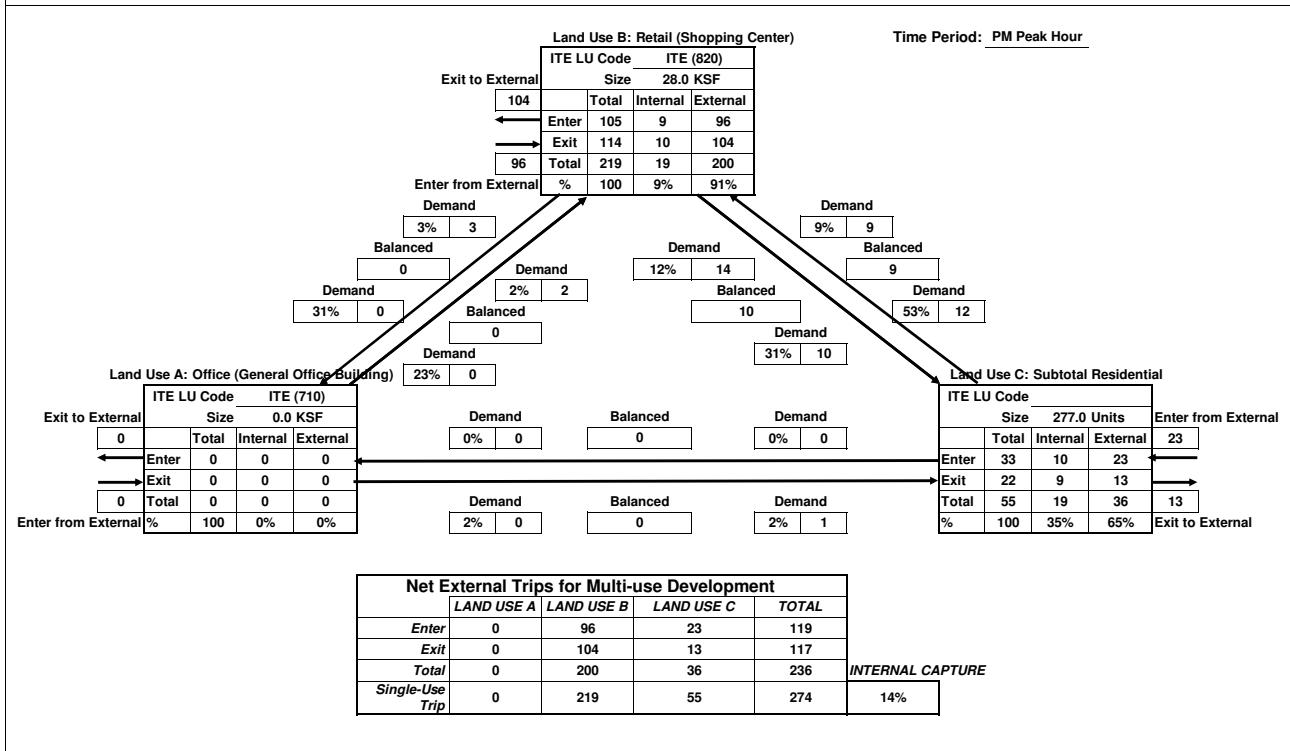
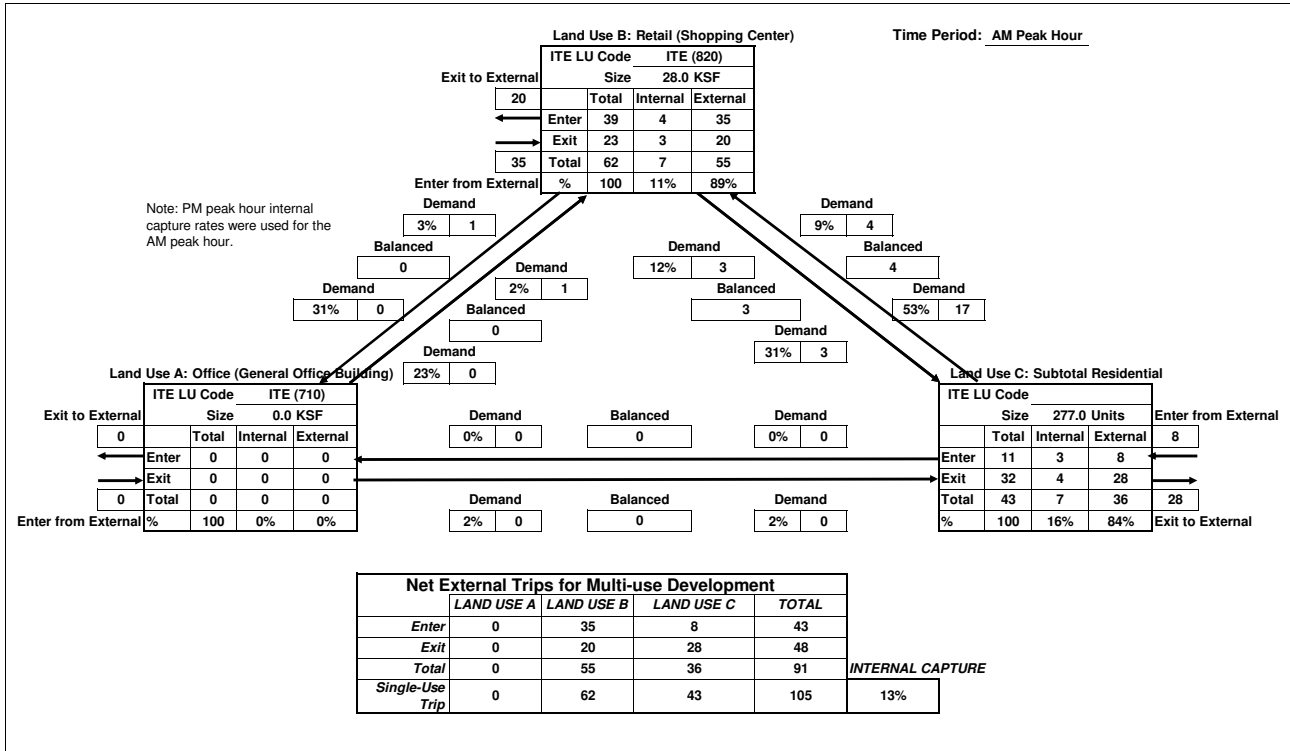


**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**
Parcel 3, 4A, and 4B

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2

Date: 5/21/2014



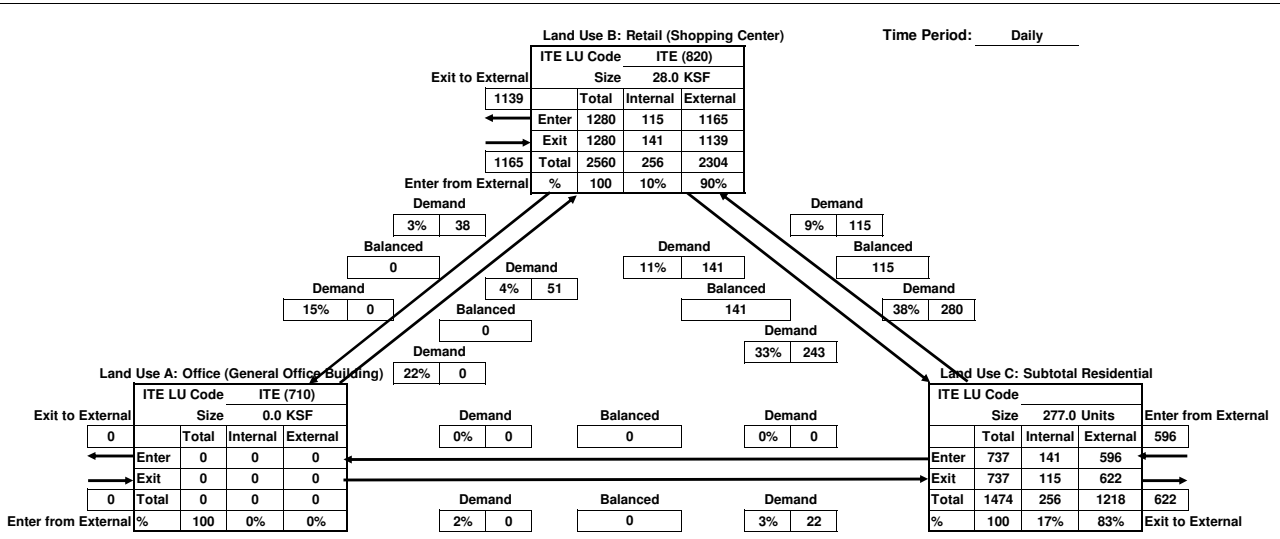
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY
Parcel 3, 4A, and 4B**

Analyst: Kittelson & Associates, Inc.

Name of Development: Sacramento Commons
Proposed Project - Option 2

Date: 5/21/2014

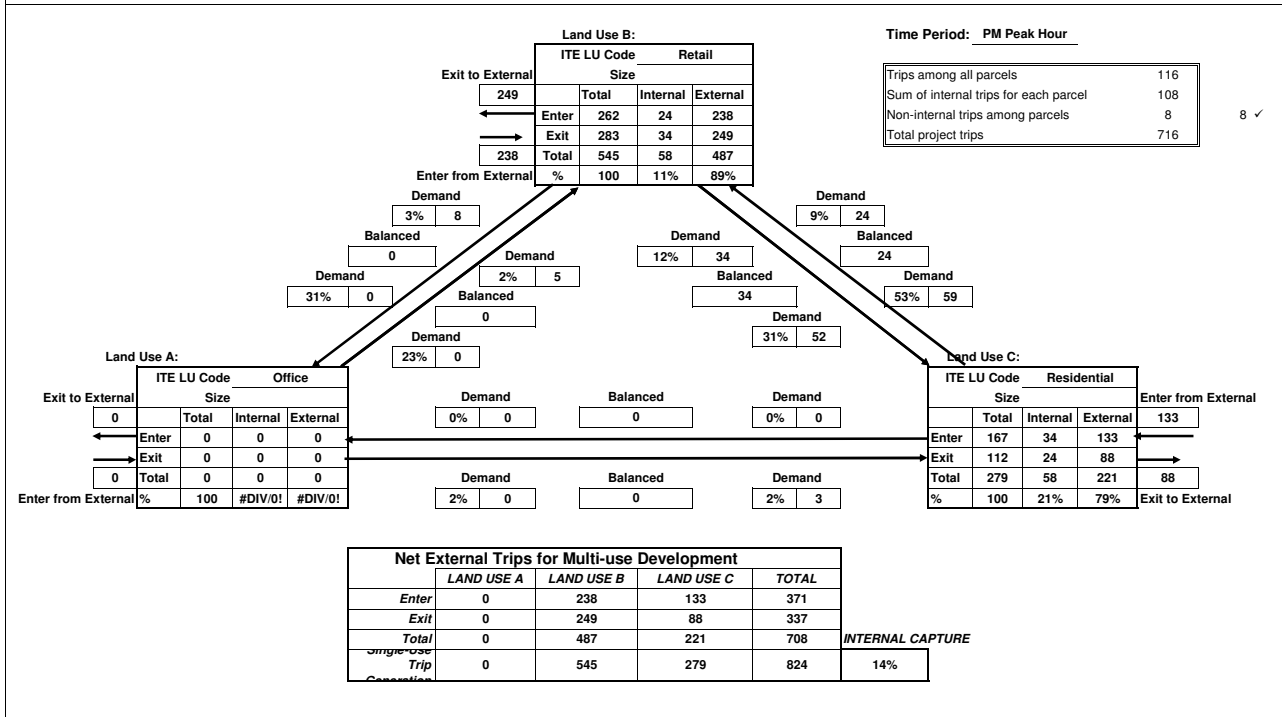
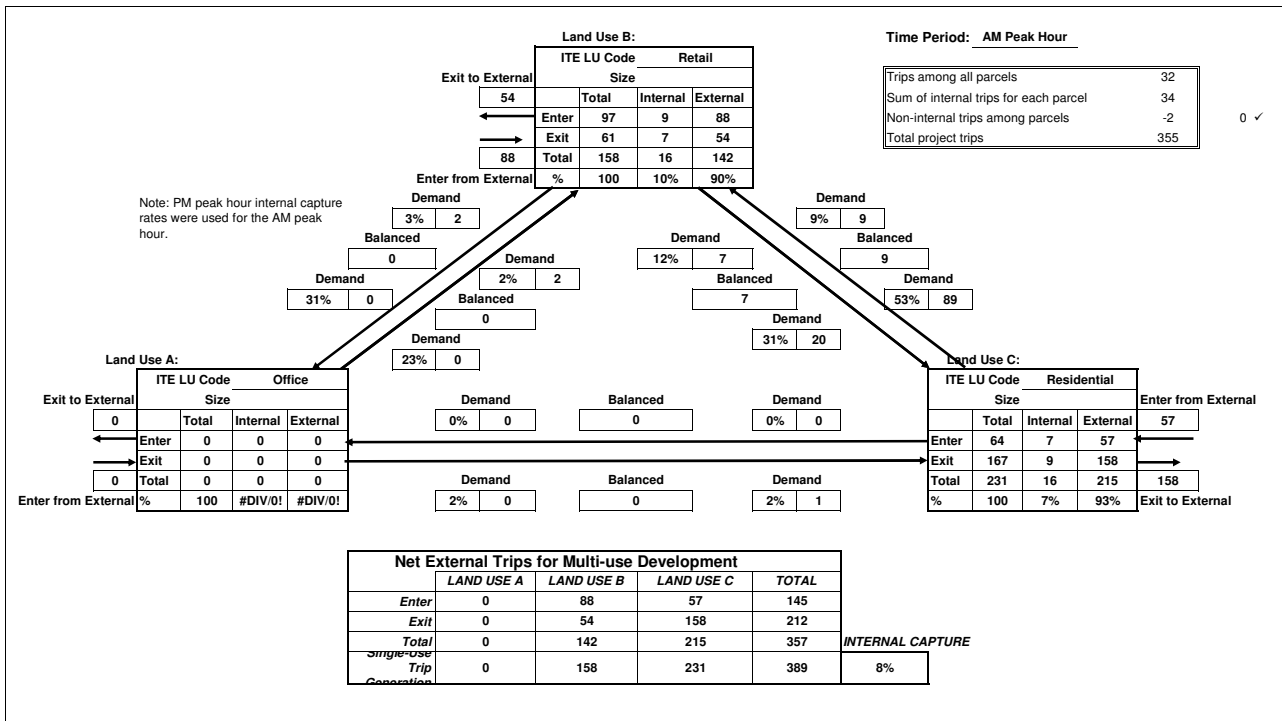
Time Period: Daily



Net External Trips for Multi-use Development					
	LAND USE A	LAND USE B	LAND USE C	TOTAL	
Enter	0	1165	596	1761	
Exit	0	1139	622	1761	
Total	0	2304	1218	3522	
Single-Use Trip	0	2560	1474	4034	INTERNAL CAPTURE 13%

MULTI-USE DEVELOPMENT
TRIP GENERATION
TRIPS AMONG ALL PARCELS

Date: 5/21/2014

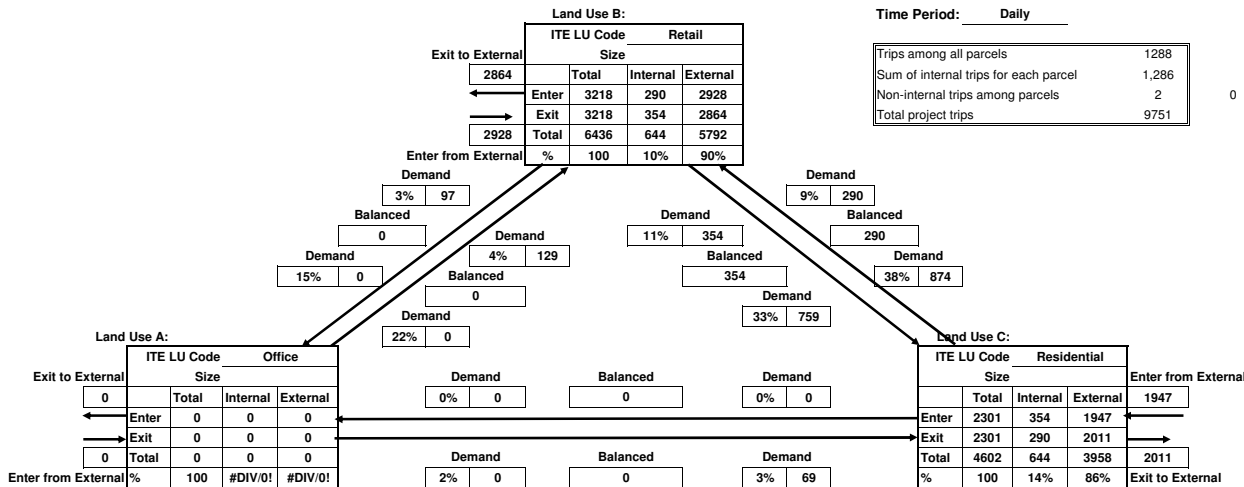


**MULTI-USE DEVELOPMENT
TRIP GENERATION
TRIPS AMONG ALL PARCELS**

Date: 5/21/2014

Time Period: Daily

Trips among all parcels	1288
Sum of internal trips for each parcel	1,286
Non-internal trips among parcels	2
Total project trips	9751



Net External Trips for Multi-use Development					
	LAND USE A	LAND USE B	LAND USE C	TOTAL	
Enter	0	2928	1947	4875	
Exit	0	2864	2011	4875	
Total	0	5792	3958	9750	INTERNAL CAPTURE
Single-Use Trip Generation	0	6436	4602	11038	12%

Appendix B – Supporting Survey Information

Sacramento Commons

May 21, 2014

Capitol Towers Travel Survey Data

Automobile Auto Passenger Auto Picked-up Walk to Bus Walk to LRT Walk Only Automobile Auto Passenger Auto Picked-up Walk to Bus Walk to LRT Walk Only

Trips During Five-Day Workweek

AM Peak Hour	Arrivals							Departures							
	Mode	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
6:00 - 7:00	3	0	0	0	0	0	0	3	28	0	0	5	0	15	48
6:15 - 7:15	3	0	0	0	0	0	0	3	19	0	0	0	0	15	34
6:30 - 7:30	3	0	0	0	0	0	0	3	19	0	0	0	2	20	41
6:45 - 7:45	0	0	0	0	0	0	0	0	34	0	0	0	7	25	66
7:00 - 8:00	0	0	0	0	0	0	0	0	45	0	0	0	7	25	77
7:15 - 8:15	1	0	0	0	0	0	0	1	62	0	0	0	7	54	123
7:30 - 8:30	1	0	0	0	0	0	0	1	66	0	0	0	7	62	135
7:45 - 8:45	1	0	0	0	0	0	0	1	56	0	0	0	2	80	138
8:00 - 9:00	1	0	0	0	0	0	0	1	40	0	2	0	2	75	119
PM Peak Hour	Arrivals							Departures							
	Mode	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
16:00 - 17:00	5	0	0	0	3	25	33	33	4	0	0	0	0	0	4
16:15 - 17:15	20	0	0	0	2	35	57	57	15	0	0	0	0	2	17
16:30 - 17:30	30	0	0	0	2	40	72	72	15	0	0	0	0	2	17
16:45 - 17:45	49	0	0	0	7	59	115	115	11	0	0	0	0	2	13
17:00 - 18:00	59	0	0	0	5	44	108	108	11	0	0	0	0	2	13
17:15 - 18:15	75	0	0	5	5	42	127	127	0	0	0	0	0	0	0
17:30 - 18:30	66	0	0	5	5	42	118	118	0	0	0	0	0	0	0
17:45 - 18:45	47	0	0	5	0	37	89	89	2	2	0	0	0	0	4
18:00 - 19:00	37	0	0	5	3	37	82	82	5	2	0	0	0	0	7

Peak Hour Trips During Auto Peak Hour

During Five-Day Workweek

Mode	Arrivals							Departures							
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
7:30 - 8:30	1	0	0	0	0	0	1	1	66	0	0	0	7	62	135
17:15 - 18:15	75	0	0	5	5	42	127	127	0	0	0	0	0	0	0

During Average Weeday

Mode	Arrivals							Departures							
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
7:30 - 8:30	0.2	0	0	0	0	0	0.2	0.2	13.2	0	0	0	1.4	12.4	27
17:15 - 18:15	15	0	0	1	1	8.4	25.4	25.4	0	0	0	0	0	0	0

Dwelling Units = 79

Peak Auto Trips Per Dwelling Unit During Average Weekday

Mode	Arrivals							Departures							
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total	
7:30 - 8:30	0.00								0.17						
17:15 - 18:15	0.19								0.00						

Capitol Towers Travel Survey Data

Peak Period Trips By Mode During Five-Day Workweek

Mode	Arrivals							Departures						
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
6:00 - 9:00	4	0	0	0	0	0	4	128	0	2	5	9	119	263
16:00 - 19:00	106	2	0	5	11	111	235	20	2	0	0	0	6	28

Peak Period Mode Shares (During Five-Day Workweek)

Mode	1	2	3	4	5	6	Total
6:00 - 9:00	49%	0%	1%	2%	3%	45%	100%
16:00 - 19:00	48%	2%	0%	2%	4%	44%	100%

Peak Period Auto Destinations During Five-Day Workweek

Destination	Arrivals							Departures						
	1	2	3	4	5	6	Total	1	2	3	4	5	6	Total
6:00 - 9:00	1	3	0	0	0	0	4	24	24	53	17	5	5	128
16:00 - 19:00	29	15	48	6	8	0	106	3	11	3	3	0	0	20

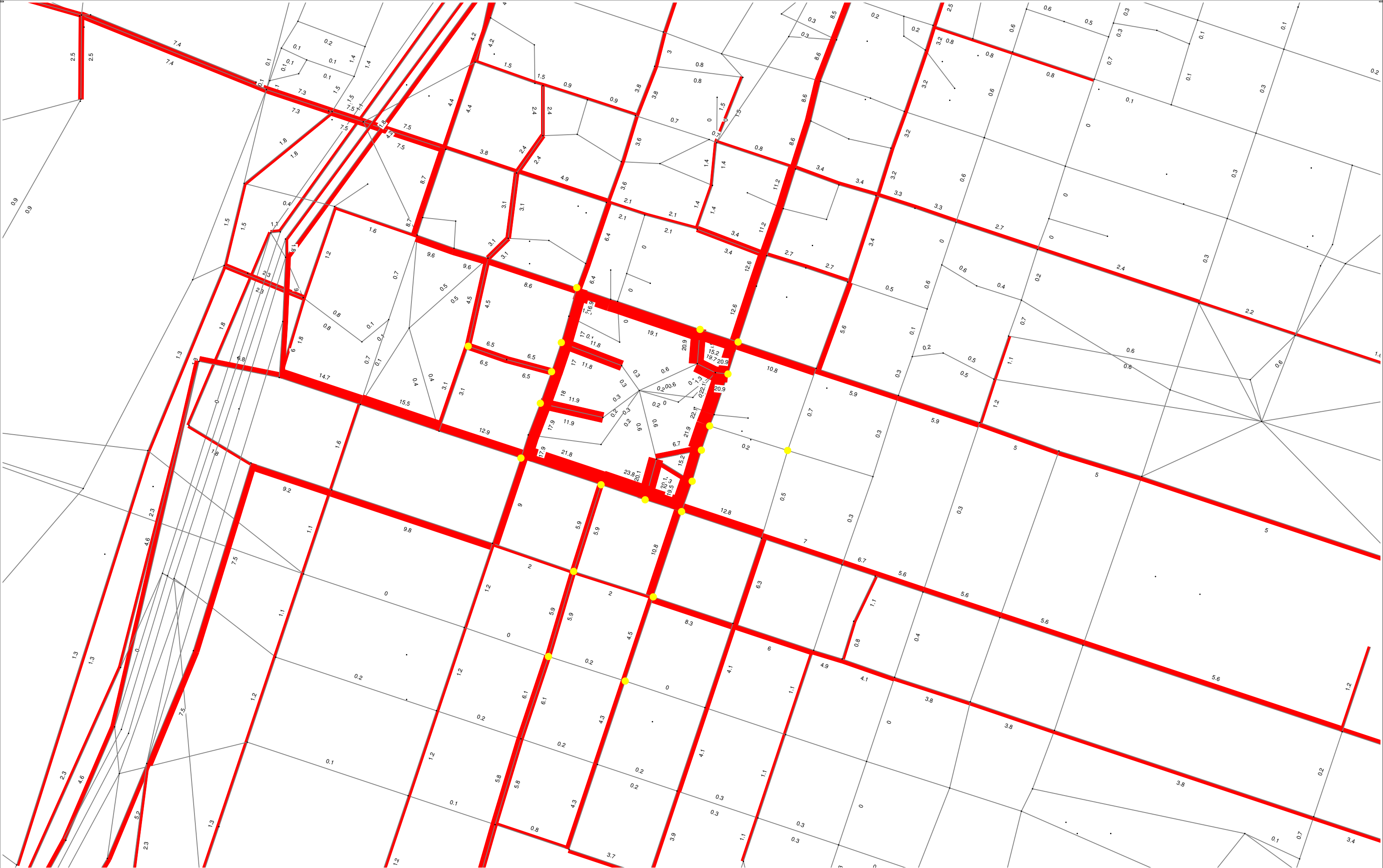
Peak Period Auto Destination Percentages (During Five-Day Workweek)

Destination	1	2	3	4	5	6	Total
6:00 - 9:00	19%	20%	40%	13%	4%	4%	100%
16:00 - 19:00	25%	21%	40%	7%	6%	0%	100%

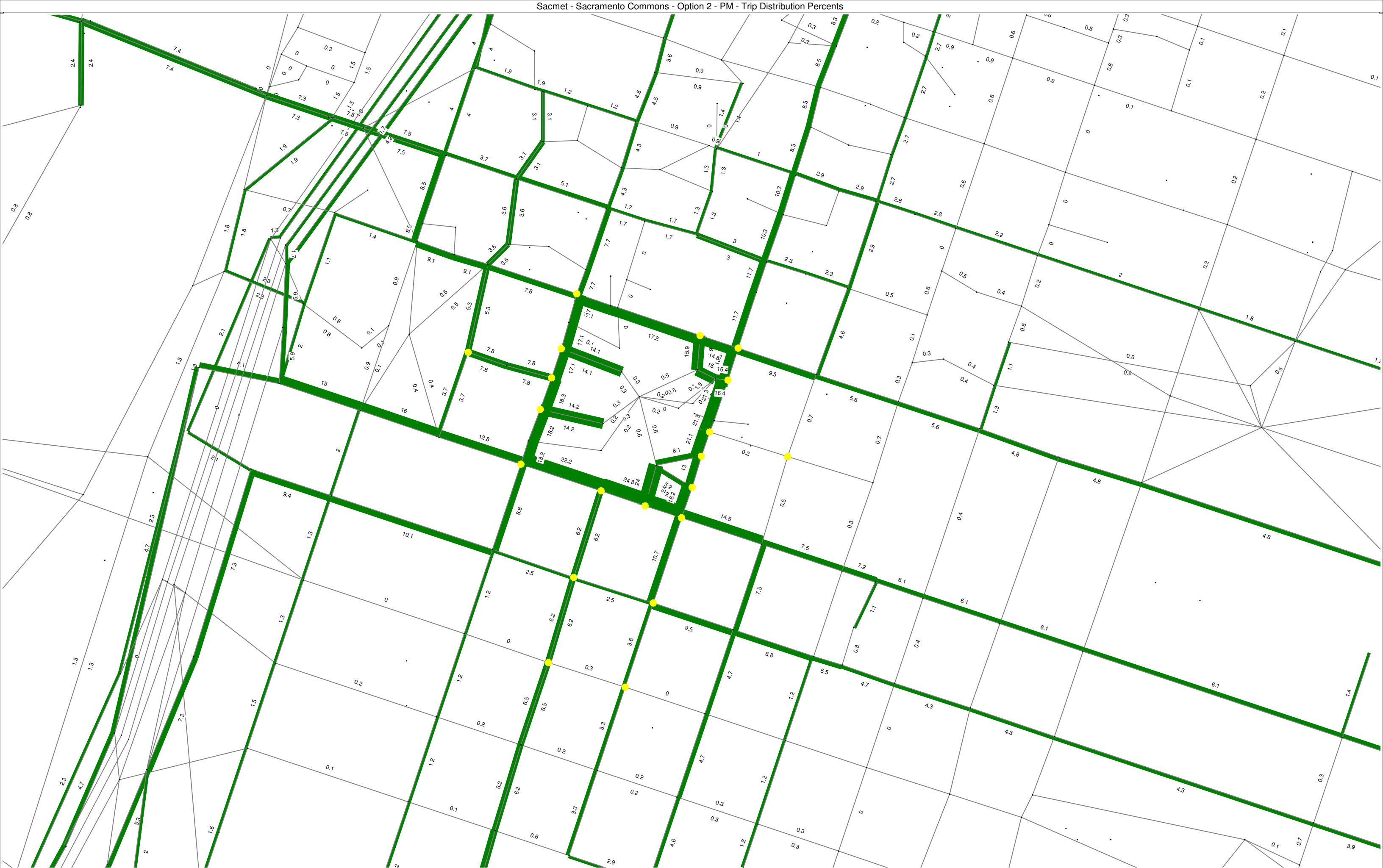
Downtown
 East
 North
 West
 South
 Other

APPENDIX E: SACMET MODEL DISTRIBUTION OUTPUTS

2035 PM Hotel Option Distribution Percentage



2035 PM No Hotel Option Distribution Percentage



APPENDIX F: EXISTING PLUS PROJECT LOS WORKSHEETS

Intersection

Int Delay, s/veh 5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	27	38	35	2	55	51
Conflicting Peds, #/hr	8	12	0	50	50	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	14	0	0	4
Mvmt Flow	27	38	35	2	55	51















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	209	98	0
Stage 1	48	-	-
Stage 2	161	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	784	963	1571
Stage 1	980	-	-
Stage 2	873	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	716	914	1506
Mov Cap-2 Maneuver	716	-	-
Stage 1	970	-	-
Stage 2	805	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	3.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	820	1506	-
HCM Lane V/C Ratio	-	-	0.079	0.037	-
HCM Control Delay (s)	-	-	9.8	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Existing PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	36	465	0	0	0	0	0	670	431	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.91			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1879	0				0	1863	1900			
Adj Flow Rate, veh/h	36	465	0				0	670	431			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	1	1	0				0	2	2			
Cap, veh/h	174	2082	0				0	890	571			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	252	4811	0				0	2083	1276			
Grp Volume(v), veh/h	187	314	0				0	596	505			
Grp Sat Flow(s),veh/h/ln	1798	1556	0				0	1770	1497			
Q Serve(g_s), s	0.0	4.3	0.0				0.0	19.6	19.7			
Cycle Q Clear(g_c), s	4.3	4.3	0.0				0.0	19.6	19.7			
Prop In Lane	0.19		0.00				0.00		0.85			
Lane Grp Cap(c), veh/h	865	1391	0				0	791	669			
V/C Ratio(X)	0.22	0.23	0.00				0.00	0.75	0.76			
Avail Cap(c_a), veh/h	865	1391	0				0	791	669			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	11.9	11.9	0.0				0.0	16.1	16.2			
Incr Delay (d2), s/veh	0.6	0.4	0.0				0.0	6.5	7.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.3	1.9	0.0				0.0	10.9	9.4			
LnGrp Delay(d),s/veh	12.5	12.3	0.0				0.0	22.7	23.9			
LnGrp LOS	B	B						C	C			
Approach Vol, veh/h		501						1101				
Approach Delay, s/veh		12.3						23.2				
Approach LOS		B						C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		6.3		21.7								
Green Ext Time (p_c), s		3.3		5.1								
Intersection Summary												
HCM 2010 Ctrl Delay			19.8									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	20	0	156	1089	0	0
Conflicting Peds, #/hr	14	72	60	0	0	60
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	20	0	156	1089	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	929	132	72 0
Stage 1	72	-	- -
Stage 2	857	-	- -
Critical Hdwy	6.6	6.2	4.1 -
Critical Hdwy Stg 1	5.4	-	- -
Critical Hdwy Stg 2	5.8	-	- -
Follow-up Hdwy	3.5	3.3	2.2 -
Pot Cap-1 Maneuver	284	923	1541 -
Stage 1	956	-	- -
Stage 2	381	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	183	824	1464 -
Mov Cap-2 Maneuver	183	-	- -
Stage 1	899	-	- -
Stage 2	261	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	27.1	1.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1464	-	183	-	-
HCM Lane V/C Ratio	0.107	-	0.109	-	-
HCM Control Delay (s)	7.8	0.8	27.1	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.4	-	0.4	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Existing PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	383	204	185	711	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0	1900	1900	1900	1870	0			
Adj Flow Rate, veh/h				0	383	204	185	711	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1473	681	357	1147	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	3629	1599	602	2778	0			
Grp Volume(v), veh/h				0	383	204	469	427	0			
Grp Sat Flow(s),veh/h/ln				0	1729	1599	1678	1617	0			
Q Serve(g_s), s				0.0	4.9	5.7	9.2	10.3	0.0			
Cycle Q Clear(g_c), s				0.0	4.9	5.7	11.0	10.3	0.0			
Prop In Lane				0.00		1.00	0.39		0.00			
Lane Grp Cap(c), veh/h				0	1473	681	815	689	0			
V/C Ratio(X)				0.00	0.26	0.30	0.57	0.62	0.00			
Avail Cap(c_a), veh/h				0	1473	681	815	689	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	14.5	14.8	11.3	11.2	0.0			
Incr Delay (d2), s/veh				0.0	0.4	1.1	2.9	4.2	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				0.0	2.4	2.7	5.7	5.3	0.0			
LnGrp Delay(d),s/veh				0.0	14.9	15.9	14.3	15.4	0.0			
LnGrp LOS					B	B	B	B				
Approach Vol, veh/h					587			896				
Approach Delay, s/veh					15.2			14.8				
Approach LOS					B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		7.7		13.0								
Green Ext Time (p_c), s		3.3		3.6								
Intersection Summary												
HCM 2010 Ctrl Delay				15.0								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	8	667	26	0
Conflicting Peds, #/hr	0	27	27	0	5	25
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	8	667	26	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	25
Stage 1	-	-	25
Stage 2	-	-	283
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1603
Stage 1	-	-	962
Stage 2	-	-	708
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1567
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	942
Stage 2	-	-	687

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	649	-	-	1567	-
HCM Lane V/C Ratio	0.04	-	-	0.005	-
HCM Control Delay (s)	10.8	-	-	7.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	7	1687	121	0	0	0	0	13	17
Conflicting Peds, #/hr	15	0	25	25	0	15	11	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	14	0	1	0	0	0	0	0	0
Mvmt Flow	7	1687	121	0	0	0	0	13	17

Major/Minor

	Major1			Minor1		
Conflicting Flow All	11	0	0	1788	1784	914
Stage 1	-	-	-	1773	1773	-
Stage 2	-	-	-	15	11	-
Critical Hdwy	-	-	-	5.7	6.5	7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.8	4	3.9
Pot Cap-1 Maneuver	-	-	-	124	83	240
Stage 1	-	-	-	81	137	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	120	0	238
Mov Cap-2 Maneuver	-	-	-	120	0	-
Stage 1	-	-	-	80	0	-
Stage 2	-	-	-	-	0	-

Approach

	EB	NB
HCM Control Delay, s	0	22.3
HCM LOS		C

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	238	-	-	-	-
HCM Lane V/C Ratio	0.126	-	-	-	-
HCM Control Delay (s)	22.3	-	-	-	-
HCM Lane LOS	C	-	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	5	7	0
Conflicting Peds, #/hr	10	0	11
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	5	7	0

Major/Minor **Minor2**

Conflicting Flow All	717	1844	36
Stage 1	11	11	-
Stage 2	706	1833	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	434	76	-
Stage 1	-	-	-
Stage 2	414	128	-
Platoon blocked, %			
Mov Cap-1 Maneuver	426	0	-
Mov Cap-2 Maneuver	426	0	-
Stage 1	-	0	-
Stage 2	410	0	-

Approach **SB**

HCM Control Delay, s

HCM LOS -

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	14	10	14	34	11	10	28	14
Conflicting Peds, #/hr	17	0	16	16	0	17	13	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	14	0	0	0	0	0	0
Mvmt Flow	2	14	10	14	34	11	10	28	14

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	233	217	129	222	219	65	125	0	0
Stage 1	138	138	-	72	72	-	-	-	-
Stage 2	95	79	-	150	147	-	-	-	-
Critical Hdwy	7.1	6.5	6.34	7.1	6.5	6.2	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	3.5	4	3.426	3.5	4	3.3	2.2	-	-
Pot Cap-1 Maneuver	726	685	890	738	683	1005	1474	-	-
Stage 1	870	786	-	943	839	-	-	-	-
Stage 2	917	833	-	857	779	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	665	656	868	692	654	980	1458	-	-
Mov Cap-2 Maneuver	665	656	-	692	654	-	-	-	-
Stage 1	852	769	-	923	821	-	-	-	-
Stage 2	854	815	-	816	762	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	10.2	10.6	1.4
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	725	707	1541	-	-
HCM Lane V/C Ratio	0.007	-	-	0.036	0.083	0.007	-	-
HCM Control Delay (s)	7.5	0	-	10.2	10.6	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	11	90	18
Conflicting Peds, #/hr	5	0	13
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	1	0
Mvmt Flow	11	90	18

Major/Minor Major2

Conflicting Flow All	59	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1558	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1541	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-













Approach SB

HCM Control Delay, s	0.7
HCM LOS	

Minor Lane/Major Mvmt















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Existing PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	396	144	0	0	0	0	0	0	72	285	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0	1859	1900							1900	1803	0
Adj Flow Rate, veh/h	0	396	144							72	285	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	3	3							6	6	0
Cap, veh/h	0	1311	443							461	1646	0
Arrive On Green	0.00	0.36	0.36							0.43	0.43	0.00
Sat Flow, veh/h	0	3816	1232							699	4014	0
Grp Volume(v), veh/h	0	365	175							139	218	0
Grp Sat Flow(s),veh/h/ln	0	1692	1497							1580	1493	0
Q Serve(g_s), s	0.0	2.6	2.8							0.0	1.5	0.0
Cycle Q Clear(g_c), s	0.0	2.6	2.8							1.6	1.5	0.0
Prop In Lane	0.00		0.82							0.52		0.00
Lane Grp Cap(c), veh/h	0	1216	538							836	1271	0
V/C Ratio(X)	0.00	0.30	0.33							0.17	0.17	0.00
Avail Cap(c_a), veh/h	0	1618	716							1416	2391	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.7	7.8							6.0	6.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3							0.4	0.3	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	0.0	1.2	1.2							0.9	0.7	0.0
LnGrp Delay(d),s/veh	0.0	7.8	8.1							6.4	6.2	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		540									357	
Approach Delay, s/veh		7.9									6.3	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.3						15.7				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		3.6						4.8				
Green Ext Time (p_c), s		2.2						2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			7.3									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
 10: 7th St & P St

Existing PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	87	533	0	0	0	0	0	163	129
Number				7	4	14				5	2	12
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				1900	1900	0				0	1744	1900
Adj Flow Rate, veh/h				87	533	0				0	163	129
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	1	1
Cap, veh/h				329	1846	0				0	1365	617
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				540	4490	0				0	3331	1436
Grp Volume(v), veh/h				231	389	0				0	163	129
Grp Sat Flow(s),veh/h/ln				1727	1573	0				0	1587	1436
Q Serve(g_s), s				0.8	4.0	0.0				0.0	1.5	2.8
Cycle Q Clear(g_c), s				4.1	4.0	0.0				0.0	1.5	2.8
Prop In Lane				0.38		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				835	1341	0				0	1365	617
V/C Ratio(X)				0.28	0.29	0.00				0.00	0.12	0.21
Avail Cap(c_a), veh/h				835	1341	0				0	1365	617
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				9.4	9.4	0.0				0.0	8.6	8.9
Incr Delay (d2), s/veh				0.8	0.5	0.0				0.0	0.2	0.8
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	1.8	0.0				0.0	0.7	1.2
LnGrp Delay(d),s/veh				10.2	9.9	0.0				0.0	8.7	9.7
LnGrp LOS				B	A						A	A
Approach Vol, veh/h					620						292	
Approach Delay, s/veh					10.0						9.2	
Approach LOS					B						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		4.8		6.1								
Green Ext Time (p_c), s		1.6		3.5								
Intersection Summary												
HCM 2010 Ctrl Delay				9.8								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Existing PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	1503	171	0	0	0	0	0	0	109	195	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1883	1900							1900	1768	0
Adj Flow Rate, veh/h	0	1503	171							109	195	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							1	1	0
Cap, veh/h	0	1986	226							671	1316	0
Arrive On Green	0.00	0.43	0.43							0.43	0.43	0.00
Sat Flow, veh/h	0	4831	530							1240	3205	0
Grp Volume(v), veh/h	0	1105	569							119	185	0
Grp Sat Flow(s),veh/h/ln	0	1714	1764							1372	1464	0
Q Serve(g_s), s	0.0	13.6	13.7							2.5	1.9	0.0
Cycle Q Clear(g_c), s	0.0	13.6	13.7							2.7	1.9	0.0
Prop In Lane	0.00		0.30							0.91		0.00
Lane Grp Cap(c), veh/h	0	1460	752							728	1259	0
V/C Ratio(X)	0.00	0.76	0.76							0.16	0.15	0.00
Avail Cap(c_a), veh/h	0	1460	752							728	1259	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.2	12.2							8.9	8.7	0.0
Incr Delay (d2), s/veh	0.0	3.7	7.0							0.5	0.2	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	0.0	7.0	8.0							1.1	0.8	0.0
LnGrp Delay(d),s/veh	0.0	15.9	19.2							9.3	8.9	0.0
LnGrp LOS		B	B							A	A	
Approach Vol, veh/h		1674									304	
Approach Delay, s/veh		17.0									9.1	
Approach LOS		B									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		4.7		15.7								
Green Ext Time (p_c), s		1.6		4.4								
Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	32	5	5	17	0	0	0	0
Conflicting Peds, #/hr	22	0	6	6	0	22	26	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	32	5	5	17	0	0	0	0

Major/Minor

	Minor2	Minor1				
Conflicting Flow All	348	339	106	258	359	48
Stage 1	317	317	-	22	22	-
Stage 2	31	22	-	236	337	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.5	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.5	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	-
Pot Cap-1 Maneuver	652	586	793	719	571	-
Stage 1	623	658	-	-	-	-
Stage 2	-	-	-	722	645	-
Platoon blocked, %						
Mov Cap-1 Maneuver	628	0	778	706	0	-
Mov Cap-2 Maneuver	628	0	-	706	0	-
Stage 1	612	0	-	-	0	-
Stage 2	-	0	-	722	0	-

Approach

	EB	WB
HCM Control Delay, s	9.9	
HCM LOS	A	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	778	-	-	-	-
HCM Lane V/C Ratio	0.048	-	-	-	-
HCM Control Delay (s)	9.9	-	-	-	-
HCM Lane LOS	A	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	73	129	40
Conflicting Peds, #/hr	16	0	26
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	1	0
Mvmt Flow	73	129	40

Major/Minor Major2

Conflicting Flow All	22	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

















Approach SB

HCM Control Delay, s	0
HCM LOS	

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Existing PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	11	8	0	0	0	0	0	326	40	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.84			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1809	0				0	1774	1900			
Adj Flow Rate, veh/h	11	8	0				0	326	40			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	12	12	0				0	8	8			
Cap, veh/h	432	257	0				0	1890	221			
Arrive On Green	0.31	0.31	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	735	839	0				0	4459	503			
Grp Volume(v), veh/h	19	0	0				0	241	125			
Grp Sat Flow(s),veh/h/ln	1574	0	0				0	1614	1574			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	1.2	1.3			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	1.2	1.3			
Prop In Lane	0.58		0.00				0.00		0.32			
Lane Grp Cap(c), veh/h	688	0	0				0	1419	692			
V/C Ratio(X)	0.03	0.00	0.00				0.00	0.17	0.18			
Avail Cap(c_a), veh/h	1579	0	0				0	2168	1057			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.7	4.7			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.3	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	0.6	0.7			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	4.9	5.3			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		19						366				
Approach Delay, s/veh		6.7						5.0				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		11.9						15.6				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						3.3				
Green Ext Time (p_c), s		0.0						1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			5.1									
HCM 2010 LOS			A									

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	520	62	0	0	0	20
Conflicting Peds, #/hr	0	89	89	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	0	0	0	0	0
Mvmt Flow	520	62	0	0	0	20

Major/Minor	Major1	Minor1
Conflicting Flow All	0	551
Stage 1	-	551
Stage 2	-	0
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	7.3
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.8
Pot Cap-1 Maneuver	-	469
Stage 1	-	409
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	434
Mov Cap-2 Maneuver	-	434
Stage 1	-	409
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	11.1
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	607	-	-
HCM Lane V/C Ratio	0.033	-	-
HCM Control Delay (s)	11.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	25	0	0	384	26
Conflicting Peds, #/hr	0	0	7	0	0	7
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	25	0	0	384	26

Major/Minor Minor2 Major2

Conflicting Flow All	397	204	-	0
Stage 1	397	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	573	688	-	-
Stage 1	518	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	573	688	-	-
Mov Cap-2 Maneuver	573	-	-	-
Stage 1	518	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 10.4 0
HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	688	-	-
HCM Lane V/C Ratio	0.036	-	-
HCM Control Delay (s)	10.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	14	0	0	384	8
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	0	14	0	0	384	8

Major/Minor

	Minor2		Major2	
Conflicting Flow All	388	195	-	0
Stage 1	388	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	579	697	-	-
Stage 1	526	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	579	697	-	-
Mov Cap-2 Maneuver	579	-	-	-
Stage 1	526	-	-	-
Stage 2	-	-	-	-

Approach

	EB	SB
HCM Control Delay, s	10.3	0
HCM LOS	B	

Minor Lane/Major Mvmt

	EBLn1	SBT	SBR
Capacity (veh/h)	697	-	-
HCM Lane V/C Ratio	0.02	-	-
HCM Control Delay (s)	10.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	14	0	0	278	8
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	0	14	0	0	278	8

Major/Minor Minor2 Major2

Conflicting Flow All	282	142	-	0
Stage 1	282	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	663	753	-	-
Stage 1	618	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	663	753	-	-
Mov Cap-2 Maneuver	663	-	-	-
Stage 1	618	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	9.9	0
HCM LOS	A	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	753	-	-
HCM Lane V/C Ratio	0.019	-	-
HCM Control Delay (s)	9.9	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	649	26	0	27
Conflicting Peds, #/hr	29	0	0	29	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	649	26	0	27

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	11.7
HCM LOS		B

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	567
HCM Lane V/C Ratio	-	-	0.048
HCM Control Delay (s)	-	-	11.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1225	20	0	0
Conflicting Peds, #/hr	0	0	0	22	22	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	20	1225	20	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1235	622	0	0
Stage 1	1235	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	135	434	-	-
Stage 1	190	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	133	434	-	-
Mov Cap-2 Maneuver	133	-	-	-
Stage 1	190	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	13.7	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	434
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	13.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1081	20	0	0
Conflicting Peds, #/hr	0	0	0	52	52	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	20	1081	20	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1091	550	0	0
Stage 1	1091	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	172	484	-	-
Stage 1	233	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	165	484	-	-
Mov Cap-2 Maneuver	165	-	-	-
Stage 1	233	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	12.8	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	484
HCM Lane V/C Ratio	-	-	0.041
HCM Control Delay (s)	-	-	12.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 7.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	184	73	30	7	42	200
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	184	73	30	7	42	200















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	335	92	0
Stage 1	51	-	-
Stage 2	284	-	-
Critical Hdwy	6.4	6.2	4.2
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.29
Pot Cap-1 Maneuver	664	971	1502
Stage 1	977	-	-
Stage 2	769	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	611	925	1451
Mov Cap-2 Maneuver	611	-	-
Stage 1	963	-	-
Stage 2	718	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	676	1451	-
HCM Lane V/C Ratio	-	-	0.38	0.029	-
HCM Control Delay (s)	-	-	13.6	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Existing PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	62	378	0	0	0	0	0	613	208	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1855	0				0	1858	1900			
Adj Flow Rate, veh/h	62	378	0				0	613	208			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	322	1872	0				0	1110	376			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	562	4338	0				0	2575	840			
Grp Volume(v), veh/h	164	276	0				0	435	386			
Grp Sat Flow(s),veh/h/ln	1676	1536	0				0	1765	1557			
Q Serve(g_s), s	0.5	3.8	0.0				0.0	12.7	12.7			
Cycle Q Clear(g_c), s	3.8	3.8	0.0				0.0	12.7	12.7			
Prop In Lane	0.38		0.00				0.00		0.54			
Lane Grp Cap(c), veh/h	820	1374	0				0	789	696			
V/C Ratio(X)	0.20	0.20	0.00				0.00	0.55	0.55			
Avail Cap(c_a), veh/h	820	1374	0				0	789	696			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	11.7	11.8	0.0				0.0	14.2	14.2			
Incr Delay (d2), s/veh	0.5	0.3	0.0				0.0	2.8	3.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.0	1.7	0.0				0.0	6.8	6.1			
LnGrp Delay(d),s/veh	12.3	12.1	0.0				0.0	17.0	17.4			
LnGrp LOS	B	B						B	B			
Approach Vol, veh/h		440						821				
Approach Delay, s/veh		12.2						17.2				
Approach LOS		B						B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		5.8		14.7								
Green Ext Time (p_c), s		2.8		5.1								
Intersection Summary												
HCM 2010 Ctrl Delay			15.4									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	76	0	77	742	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	76	0	77	742	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	578	140	53
Stage 1	53	-	-
Stage 2	525	-	-
Critical Hdwy	6.63	6.2	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.3	2.227
Pot Cap-1 Maneuver	462	913	1546
Stage 1	969	-	-
Stage 2	559	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	384	809	1434
Mov Cap-2 Maneuver	384	-	-
Stage 1	926	-	-
Stage 2	486	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	384	-	-
HCM Lane V/C Ratio	0.054	-	0.198	-	-
HCM Control Delay (s)	7.7	0.3	16.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.7	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Existing PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	1357	180	330	502	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0	1896	1900	1900	1856	0			
Adj Flow Rate, veh/h				0	1357	180	330	502	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1966	261	613	832	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	4787	612	1141	2038	0			
Grp Volume(v), veh/h				0	1014	523	431	401	0			
Grp Sat Flow(s),veh/h/ln				0	1725	1778	1491	1604	0			
Q Serve(g_s), s				0.0	14.0	14.0	11.7	9.6	0.0			
Cycle Q Clear(g_c), s				0.0	14.0	14.0	11.7	9.6	0.0			
Prop In Lane				0.00		0.34	0.77		0.00			
Lane Grp Cap(c), veh/h				0	1470	758	762	683	0			
V/C Ratio(X)				0.00	0.69	0.69	0.57	0.59	0.00			
Avail Cap(c_a), veh/h				0	1470	758	762	683	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	18.3	18.3	11.6	11.0	0.0			
Incr Delay (d2), s/veh				0.0	2.7	5.1	3.0	3.7	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				0.0	7.2	8.0	5.3	4.8	0.0			
LnGrp Delay(d),s/veh				0.0	21.0	23.5	14.6	14.6	0.0			
LnGrp LOS					C	C	B	B				
Approach Vol, veh/h					1537			832				
Approach Delay, s/veh					21.8			14.6				
Approach LOS					C			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		16.0		13.7								
Green Ext Time (p_c), s		4.0		3.1								
Intersection Summary												
HCM 2010 Ctrl Delay				19.3								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	21	1563	68	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	21	1563	68	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	35	702
Stage 1	-	-	35
Stage 2	-	-	667
Critical Hdwy	-	4.1	6.05
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	2.2	3.65
Pot Cap-1 Maneuver	-	1589	424
Stage 1	-	-	953
Stage 2	-	-	447
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1552	361
Mov Cap-2 Maneuver	-	-	361
Stage 1	-	-	925
Stage 2	-	-	392

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	361	-	-	1552	-
HCM Lane V/C Ratio	0.188	-	-	0.014	-
HCM Control Delay (s)	17.3	-	-	7.4	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	13	623	43	0	0	0	0	58	40
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	13	623	43	0	0	0	0	58	40

Major/Minor

	Major1		Minor1		
Conflicting Flow All	18	0	0	716	707 350
Stage 1	-	-	-	689	689 -
Stage 2	-	-	-	27	18 -
Critical Hdwy	-	-	-	5.7	6.5 7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5 -
Critical Hdwy Stg 2	-	-	-	-	- -
Follow-up Hdwy	-	-	-	3.8	4 3.9
Pot Cap-1 Maneuver	-	-	-	435	363 556
Stage 1	-	-	-	377	450 -
Stage 2	-	-	-	-	- -
Platoon blocked, %	-	-	-	-	- -
Mov Cap-1 Maneuver	-	-	-	418	0 548
Mov Cap-2 Maneuver	-	-	-	418	0 -
Stage 1	-	-	-	371	0 -
Stage 2	-	-	-	-	0 -

Approach

	EB	NB
HCM Control Delay, s	0	13
HCM LOS		B

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	548	-	-	-	-
HCM Lane V/C Ratio	0.179	-	-	-	-
HCM Control Delay (s)	13	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	18	0
Conflicting Peds, #/hr	18	0	8
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	6	18	0

Major/Minor

	Minor2		
Conflicting Flow All	340	728	48
Stage 1	18	18	-
Stage 2	322	710	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	658	353	-
Stage 1	-	-	-
Stage 2	653	440	-
Platoon blocked, %			
Mov Cap-1 Maneuver	638	0	-
Mov Cap-2 Maneuver	638	0	-
Stage 1	-	0	-
Stage 2	643	0	-

Approach

HCM Control Delay, s

HCM LOS

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	4	15	19	27	40	13	14	58	3
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	4	15	19	27	40	13	14	58	3

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	239	214	102	230	218	97	98	0	0
Stage 1	97	97	-	116	116	-	-	-	-
Stage 2	142	117	-	114	102	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	719	687	959	729	680	925	1508	-	-
Stage 1	914	819	-	894	800	-	-	-	-
Stage 2	866	803	-	896	811	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	649	648	930	674	642	897	1497	-	-
Mov Cap-2 Maneuver	649	648	-	674	642	-	-	-	-
Stage 1	884	799	-	864	774	-	-	-	-
Stage 2	795	776	-	854	791	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	10	10.9	1.4
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1497	-	-	764	685	1508	-	-
HCM Lane V/C Ratio	0.009	-	-	0.05	0.117	0.001	-	-
HCM Control Delay (s)	7.4	0	-	10	10.9	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	2	60	10
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	2	60	10

Major/Minor Major2

Conflicting Flow All	89	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1519	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1508	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-















Approach SB

HCM Control Delay, s	0.2
HCM LOS	

Minor Lane/Major Mvmt



















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Existing PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	484	221	0	0	0	0	0	0	133	547	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0	1868	1900							1900	1792	0
Adj Flow Rate, veh/h	0	484	221							133	547	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1242	527							448	1605	0
Arrive On Green	0.00	0.37	0.37							0.42	0.42	0.00
Sat Flow, veh/h	0	3569	1444							679	4011	0
Grp Volume(v), veh/h	0	484	221							260	420	0
Grp Sat Flow(s),veh/h/ln	0	1700	1444							1575	1484	0
Q Serve(g_s), s	0.0	3.5	3.8							1.6	3.2	0.0
Cycle Q Clear(g_c), s	0.0	3.5	3.8							3.5	3.2	0.0
Prop In Lane	0.00		1.00							0.51		0.00
Lane Grp Cap(c), veh/h	0	1242	527							820	1232	0
V/C Ratio(X)	0.00	0.39	0.42							0.32	0.34	0.00
Avail Cap(c_a), veh/h	0	1660	705							1440	2427	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.7	7.8							6.6	6.5	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.5							1.0	0.8	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	0.0	1.6	1.6							1.8	1.4	0.0
LnGrp Delay(d),s/veh	0.0	7.9	8.3							7.6	7.3	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		705									680	
Approach Delay, s/veh		8.0									7.4	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.3						15.7				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		5.5						5.8				
Green Ext Time (p_c), s		4.4						3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			7.7									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
 10: 7th St & P St

Existing PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  						  	
Volume (veh/h)	0	0	0	131	1193	0	0	0	0	0	529	330
Number				7	4	14				5	2	12
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				1900	1900	0				0	1823	1900
Adj Flow Rate, veh/h				131	1193	0				0	529	330
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				259	1929	0				0	1427	639
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				393	4684	0				0	3482	1487
Grp Volume(v), veh/h				487	837	0				0	529	330
Grp Sat Flow(s),veh/h/ln				1774	1573	0				0	1659	1487
Q Serve(g_s), s				7.2	10.4	0.0				0.0	5.4	8.1
Cycle Q Clear(g_c), s				10.7	10.4	0.0				0.0	5.4	8.1
Prop In Lane				0.27		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				847	1341	0				0	1427	639
V/C Ratio(X)				0.58	0.62	0.00				0.00	0.37	0.52
Avail Cap(c_a), veh/h				847	1341	0				0	1427	639
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				11.2	11.2	0.0				0.0	9.7	10.4
Incr Delay (d2), s/veh				2.8	2.2	0.0				0.0	0.7	3.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	4.8	0.0				0.0	2.6	3.8
LnGrp Delay(d),s/veh				14.1	13.4	0.0				0.0	10.4	13.4
LnGrp LOS				B	B						B	B
Approach Vol, veh/h					1324						859	
Approach Delay, s/veh					13.7						11.6	
Approach LOS					B						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		10.1		12.7								
Green Ext Time (p_c), s		4.5		5.3								
Intersection Summary												
HCM 2010 Ctrl Delay				12.8								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Existing PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	643	25	0	0	0	0	0	0	254	395	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0	1882	1900							1900	1822	0
Adj Flow Rate, veh/h	0	643	25							254	395	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	2155	83							738	1297	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	5228	196							1381	3166	0
Grp Volume(v), veh/h	0	434	234							254	395	0
Grp Sat Flow(s),veh/h/ln	0	1713	1830							1381	1508	0
Q Serve(g_s), s	0.0	4.2	4.2							8.4	5.9	0.0
Cycle Q Clear(g_c), s	0.0	4.2	4.2							8.4	5.9	0.0
Prop In Lane	0.00		0.11							1.00		0.00
Lane Grp Cap(c), veh/h	0	1459	779							738	1297	0
V/C Ratio(X)	0.00	0.30	0.30							0.34	0.30	0.00
Avail Cap(c_a), veh/h	0	1459	779							738	1297	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.4							15.8	14.7	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0							1.3	0.6	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	0.0	2.0	2.3							3.5	2.6	0.0
LnGrp Delay(d),s/veh	0.0	10.0	10.4							17.1	15.4	0.0
LnGrp LOS		A	B							B	B	
Approach Vol, veh/h		668									649	
Approach Delay, s/veh		10.1									16.0	
Approach LOS		B									B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		10.4		6.2								
Green Ext Time (p_c), s		3.1		3.8								
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	22	5	10	35	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	22	5	10	35	0	0	0	0

Major/Minor

	Minor2			Minor1		
Conflicting Flow All	521	503	240	250	525	38
Stage 1	486	486	-	17	17	-
Stage 2	35	17	-	233	508	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.56	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.56	-
Follow-up Hdwy	3.8	4	3.9	3.8	4.03	-
Pot Cap-1 Maneuver	540	474	653	726	454	-
Stage 1	497	554	-	-	-	-
Stage 2	-	-	-	725	534	-
Platoon blocked, %						
Mov Cap-1 Maneuver	525	0	644	716	0	-
Mov Cap-2 Maneuver	525	0	-	716	0	-
Stage 1	490	0	-	-	0	-
Stage 2	-	0	-	725	0	-

Approach

	EB	WB
HCM Control Delay, s	10.8	
HCM LOS	B	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	644	-	-	-	-
HCM Lane V/C Ratio	0.042	-	-	-	-
HCM Control Delay (s)	10.8	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	22	402	45
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	22	402	45

Major/Minor Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

















Approach SB

HCM Control Delay, s	0
HCM LOS	

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Existing PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	11	9	0	0	0	0	0	325	28	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.86			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1729	0				0	1816	1900			
Adj Flow Rate, veh/h	11	9	0				0	325	28			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	401	260	0				0	2033	169			
Arrive On Green	0.30	0.30	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	653	868	0				0	4759	383			
Grp Volume(v), veh/h	20	0	0				0	231	122			
Grp Sat Flow(s),veh/h/ln	1520	0	0				0	1653	1673			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	1.1	1.2			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	1.1	1.2			
Prop In Lane	0.55		0.00				0.00		0.23			
Lane Grp Cap(c), veh/h	661	0	0				0	1462	740			
V/C Ratio(X)	0.03	0.00	0.00				0.00	0.16	0.17			
Avail Cap(c_a), veh/h	1547	0	0				0	2252	1140			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.5	4.6			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.2	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	0.6	0.6			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	4.8	5.0			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		20						353				
Approach Delay, s/veh		6.7						4.9				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		11.6						15.5				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						3.2				
Green Ext Time (p_c), s		0.0						1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			5.0									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	643	83	0	0	0	62
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	643	83	0	0	0	62

Major/Minor

	Major1	Minor1
Conflicting Flow All	0	685
Stage 1	-	685
Stage 2	-	0
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	7.3
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.8
Pot Cap-1 Maneuver	-	394
Stage 1	-	332
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	366
Mov Cap-2 Maneuver	-	366
Stage 1	-	332
Stage 2	-	-

Approach

	EB	NB
HCM Control Delay, s	0	12.4
HCM LOS		B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR
Capacity (veh/h)	546	-	-
HCM Lane V/C Ratio	0.114	-	-
HCM Control Delay (s)	12.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	87	0	0	721	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	87	0	0	721	54

Major/Minor Minor2 Major2

Conflicting Flow All	748	387	-	0
Stage 1	748	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	362	527	-	-
Stage 1	301	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	362	527	-	-
Mov Cap-2 Maneuver	362	-	-	-
Stage 1	301	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 13.2 0
HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	527	-	-
HCM Lane V/C Ratio	0.165	-	-
HCM Control Delay (s)	13.2	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	26	0	0	762	25
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	26	0	0	762	25

Major/Minor Minor2 Major2

Conflicting Flow All	775	393	-	0
Stage 1	775	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	350	522	-	-
Stage 1	288	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	350	522	-	-
Mov Cap-2 Maneuver	350	-	-	-
Stage 1	288	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	12.3	0
HCM LOS	B	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	522	-	-
HCM Lane V/C Ratio	0.05	-	-
HCM Control Delay (s)	12.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	25	0	0	834	26
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	25	0	0	834	26

Major/Minor Minor2 Major2

Conflicting Flow All	847	429	-	0
Stage 1	847	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	318	495	-	-
Stage 1	257	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	318	495	-	-
Mov Cap-2 Maneuver	318	-	-	-
Stage 1	257	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	12.7	0
HCM LOS	B	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	495	-	-
HCM Lane V/C Ratio	0.051	-	-
HCM Control Delay (s)	12.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	1529	57	0	56
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	1529	57	0	56

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	20.5
HCM LOS		C

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	288
HCM Lane V/C Ratio	-	-	0.194
HCM Control Delay (s)	-	-	20.5
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.7

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	41	778	41	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	41	778	41	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	799	409	0	0
Stage 1	799	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	280	597	-	-
Stage 1	350	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	270	597	-	-
Mov Cap-2 Maneuver	270	-	-	-
Stage 1	350	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	11.5	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	597
HCM Lane V/C Ratio	-	-	0.069
HCM Control Delay (s)	-	-	11.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	41	780	41	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	41	780	41	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	801	410	0	0
Stage 1	801	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	279	596	-	-
Stage 1	349	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	256	596	-	-
Mov Cap-2 Maneuver	256	-	-	-
Stage 1	349	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	11.5	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	596
HCM Lane V/C Ratio	-	-	0.069
HCM Control Delay (s)	-	-	11.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	27	39	35	2	55	51
Conflicting Peds, #/hr	8	12	0	50	50	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	14	0	0	4
Mvmt Flow	27	39	35	2	55	51















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	209	98	0
Stage 1	48	-	-
Stage 2	161	-	-
Critical Hdwy	6.4	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	784	963	1571
Stage 1	980	-	-
Stage 2	873	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	716	914	1506
Mov Cap-2 Maneuver	716	-	-
Stage 1	970	-	-
Stage 2	805	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	3.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	821	1506	-
HCM Lane V/C Ratio	-	-	0.08	0.037	-
HCM Control Delay (s)	-	-	9.8	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Existing PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	36	436	0	0	0	0	0	678	409	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.91			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	187.8	0.0				0.0	186.3	190.0			
Adj Flow Rate, veh/h	36	436	0				0	678	409			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	1	1	0				0	2	2			
Cap, veh/h	184	2070	0				0	915	551			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	273	4784	0				0	2140	1232			
Grp Volume(v), veh/h	176	296	0				0	586	501			
Grp Sat Flow(s),veh/h/ln	1791	1555	0				0	1770	1510			
Q Serve(g_s), s	0.0	4.1	0.0				0.0	19.2	19.2			
Cycle Q Clear(g_c), s	4.0	4.1	0.0				0.0	19.2	19.2			
Prop In Lane	0.20		0.00				0.00		0.82			
Lane Grp Cap(c), veh/h	863	1391	0				0	791	675			
V/C Ratio(X)	0.20	0.21	0.00				0.00	0.74	0.74			
Avail Cap(c_a), veh/h	863	1391	0				0	791	675			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	11.8	11.8	0.0				0.0	16.0	16.0			
Incr Delay (d2), s/veh	0.5	0.3	0.0				0.0	6.2	7.2			
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	1.8	0.0				0.0	10.6	9.3			
LnGrp Delay(d),s/veh	12.3	12.2	0.0				0.0	22.2	23.2			
LnGrp LOS	B	B						C	C			
Approach Vol, veh/h		472						1087				
Approach Delay, s/veh		12.2						22.7				
Approach LOS		B						C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		6.1		21.2								
Green Ext Time (p_c), s		3.1		5.2								
Intersection Summary												
HCM 2010 Ctrl Delay			19.5									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	20	0	157	1075	0	0
Conflicting Peds, #/hr	14	72	60	0	0	60
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	2	0	0
Mvmt Flow	20	0	157	1075	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	924	132	72
Stage 1	72	-	-
Stage 2	852	-	-
Critical Hdwy	6.6	6.2	4.1
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.8	-	-
Follow-up Hdwy	3.5	3.3	2.2
Pot Cap-1 Maneuver	286	923	1541
Stage 1	956	-	-
Stage 2	383	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	185	824	1464
Mov Cap-2 Maneuver	185	-	-
Stage 1	899	-	-
Stage 2	264	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.8	1.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1464	-	185	-	-
HCM Lane V/C Ratio	0.107	-	0.108	-	-
HCM Control Delay (s)	7.8	0.8	26.8	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.4	-	0.4	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Existing PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	370	198	186	704	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0.0	190.0	190.0	190.0	187.0	0.0			
Adj Flow Rate, veh/h				0	370	198	186	704	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1473	681	360	1143	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	3629	1599	609	2769	0			
Grp Volume(v), veh/h				0	370	198	465	425	0			
Grp Sat Flow(s),veh/h/ln				0	1729	1599	1676	1617	0			
Q Serve(g_s), s				0.0	4.8	5.5	9.2	10.2	0.0			
Cycle Q Clear(g_c), s				0.0	4.8	5.5	10.9	10.2	0.0			
Prop In Lane				0.00		1.00	0.40		0.00			
Lane Grp Cap(c), veh/h				0	1473	681	815	689	0			
V/C Ratio(X)				0.00	0.25	0.29	0.57	0.62	0.00			
Avail Cap(c_a), veh/h				0	1473	681	815	689	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	14.4	14.7	11.3	11.2	0.0			
Incr Delay (d2), s/veh				0.0	0.4	1.1	2.9	4.1	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				0.0	2.4	2.7	5.7	5.3	0.0			
LnGrp Delay(d),s/veh				0.0	14.8	15.8	14.2	15.3	0.0			
LnGrp LOS					B	B	B	B				
Approach Vol, veh/h					568			890				
Approach Delay, s/veh					15.1			14.7				
Approach LOS					B			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		7.5		12.9								
Green Ext Time (p_c), s		3.2		3.6								
Intersection Summary												
HCM 2010 Ctrl Delay				14.9								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	8	648	26	0
Conflicting Peds, #/hr	0	27	27	0	5	25
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	8	648	26	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	25
Stage 1	-	-	25
Stage 2	-	-	275
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1603
Stage 1	-	-	962
Stage 2	-	-	715
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1567
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	942
Stage 2	-	-	693

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	656	-	-	1567	-
HCM Lane V/C Ratio	0.04	-	-	0.005	-
HCM Control Delay (s)	10.7	-	-	7.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	7	1687	121	0	0	0	0	13	17
Conflicting Peds, #/hr	15	0	25	25	0	15	11	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	14	0	1	0	0	0	0	0	0
Mvmt Flow	7	1687	121	0	0	0	0	13	17

Major/Minor

	Major1			Minor1		
Conflicting Flow All	11	0	0	1788	1784	914
Stage 1	-	-	-	1773	1773	-
Stage 2	-	-	-	15	11	-
Critical Hdwy	-	-	-	5.7	6.5	7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.8	4	3.9
Pot Cap-1 Maneuver	-	-	-	124	83	240
Stage 1	-	-	-	81	137	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	120	0	238
Mov Cap-2 Maneuver	-	-	-	120	0	-
Stage 1	-	-	-	80	0	-
Stage 2	-	-	-	-	0	-

Approach

	EB	NB
HCM Control Delay, s	0	22.3
HCM LOS		C

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	238	-	-	-	-
HCM Lane V/C Ratio	0.126	-	-	-	-
HCM Control Delay (s)	22.3	-	-	-	-
HCM Lane LOS	C	-	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	5	7	0
Conflicting Peds, #/hr	10	0	11
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	5	7	0

Major/Minor **Minor2**

Conflicting Flow All	717	1844	36
Stage 1	11	11	-
Stage 2	706	1833	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	434	76	-
Stage 1	-	-	-
Stage 2	414	128	-
Platoon blocked, %			
Mov Cap-1 Maneuver	426	0	-
Mov Cap-2 Maneuver	426	0	-
Stage 1	-	0	-
Stage 2	410	0	-

Approach **SB**

HCM Control Delay, s

HCM LOS -

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	2	14	8	14	34	11	10	28	14
Conflicting Peds, #/hr	17	0	16	16	0	17	13	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	14	0	0	0	0	0	0
Mvmt Flow	2	14	8	14	34	11	10	28	14

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	233	217	129	221	219	65	125	0	0
Stage 1	138	138	-	72	72	-	-	-	-
Stage 2	95	79	-	149	147	-	-	-	-
Critical Hdwy	7.1	6.5	6.34	7.1	6.5	6.2	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-
Follow-up Hdwy	3.5	4	3.426	3.5	4	3.3	2.2	-	-
Pot Cap-1 Maneuver	726	685	890	739	683	1005	1474	-	-
Stage 1	870	786	-	943	839	-	-	-	-
Stage 2	917	833	-	858	779	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	665	656	868	694	654	980	1458	-	-
Mov Cap-2 Maneuver	665	656	-	694	654	-	-	-	-
Stage 1	852	769	-	923	821	-	-	-	-
Stage 2	854	815	-	819	762	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	10.2	10.5	1.4
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	715	708	1541	-	-
HCM Lane V/C Ratio	0.007	-	-	0.034	0.083	0.007	-	-
HCM Control Delay (s)	7.5	0	-	10.2	10.5	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	11	90	18
Conflicting Peds, #/hr	5	0	13
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	1	0
Mvmt Flow	11	90	18

Major/Minor Major2

Conflicting Flow All	59	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1558	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1541	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-













Approach SB

HCM Control Delay, s	0.7
HCM LOS	

Minor Lane/Major Mvmt















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Existing PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	369	148	0	0	0	0	0	0	72	279	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0.0	186.0	190.0							190.0	180.3	0.0
Adj Flow Rate, veh/h	0	369	148							72	279	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	3	3							6	6	0
Cap, veh/h	0	1276	470							467	1639	0
Arrive On Green	0.00	0.36	0.36							0.43	0.43	0.00
Sat Flow, veh/h	0	3720	1308							712	3998	0
Grp Volume(v), veh/h	0	350	167							137	214	0
Grp Sat Flow(s),veh/h/ln	0	1693	1476							1576	1493	0
Q Serve(g_s), s	0.0	2.5	2.7							0.0	1.5	0.0
Cycle Q Clear(g_c), s	0.0	2.5	2.7							1.6	1.5	0.0
Prop In Lane	0.00		0.89							0.53		0.00
Lane Grp Cap(c), veh/h	0	1216	530							835	1271	0
V/C Ratio(X)	0.00	0.29	0.32							0.16	0.17	0.00
Avail Cap(c_a), veh/h	0	1619	706							1414	2392	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.7	7.7							6.0	5.9	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3							0.4	0.3	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	0.0	1.1	1.2							0.9	0.6	0.0
LnGrp Delay(d),s/veh	0.0	7.8	8.1							6.4	6.2	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		517									351	
Approach Delay, s/veh		7.9									6.3	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.3						15.7				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		3.6						4.7				
Green Ext Time (p_c), s		2.2						2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			7.2									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
10: 7th St & P St

Existing PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	87	519	0	0	0	0	0	159	122
Number				7	4	14				5	2	12
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				190.0	190.0	0.0				0.0	174.6	190.0
Adj Flow Rate, veh/h				87	519	0				0	159	122
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	1	1
Cap, veh/h				336	1838	0				0	1366	618
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				555	4470	0				0	3335	1437
Grp Volume(v), veh/h				226	380	0				0	159	122
Grp Sat Flow(s),veh/h/ln				1723	1573	0				0	1589	1437
Q Serve(g_s), s				0.8	3.9	0.0				0.0	1.5	2.6
Cycle Q Clear(g_c), s				4.0	3.9	0.0				0.0	1.5	2.6
Prop In Lane				0.39		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				834	1341	0				0	1366	618
V/C Ratio(X)				0.27	0.28	0.00				0.00	0.12	0.20
Avail Cap(c_a), veh/h				834	1341	0				0	1366	618
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				9.4	9.4	0.0				0.0	8.6	8.9
Incr Delay (d2), s/veh				0.8	0.5	0.0				0.0	0.2	0.7
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	1.8	0.0				0.0	0.7	1.2
LnGrp Delay(d),s/veh				10.2	9.9	0.0				0.0	8.7	9.6
LnGrp LOS				B	A						A	A
Approach Vol, veh/h					606						281	
Approach Delay, s/veh					10.0						9.1	
Approach LOS					A						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		4.6		6.0								
Green Ext Time (p_c), s		1.6		3.4								
Intersection Summary												
HCM 2010 Ctrl Delay				9.7								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Existing PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	1503	171	0	0	0	0	0	0	110	190	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0.0	188.3	190.0							190.0	176.6	0.0
Adj Flow Rate, veh/h	0	1503	171							110	190	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							1	1	0
Cap, veh/h	0	1986	226							681	1302	0
Arrive On Green	0.00	0.43	0.43							0.43	0.43	0.00
Sat Flow, veh/h	0	4831	530							1261	3172	0
Grp Volume(v), veh/h	0	1105	569							118	182	0
Grp Sat Flow(s),veh/h/ln	0	1714	1764							1363	1462	0
Q Serve(g_s), s	0.0	13.6	13.7							2.5	1.9	0.0
Cycle Q Clear(g_c), s	0.0	13.6	13.7							2.7	1.9	0.0
Prop In Lane	0.00		0.30							0.93		0.00
Lane Grp Cap(c), veh/h	0	1460	752							725	1258	0
V/C Ratio(X)	0.00	0.76	0.76							0.16	0.14	0.00
Avail Cap(c_a), veh/h	0	1460	752							725	1258	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.2	12.2							8.9	8.7	0.0
Incr Delay (d2), s/veh	0.0	3.7	7.0							0.5	0.2	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	0.0	7.0	8.0							1.1	0.8	0.0
LnGrp Delay(d),s/veh	0.0	15.9	19.2							9.3	8.9	0.0
LnGrp LOS		B	B							A	A	
Approach Vol, veh/h		1674									300	
Approach Delay, s/veh		17.0									9.1	
Approach LOS		B									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		4.7		15.7								
Green Ext Time (p_c), s		1.6		4.4								
Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	32	5	5	17	0	0	0	0
Conflicting Peds, #/hr	22	0	6	6	0	22	26	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	32	5	5	17	0	0	0	0

Major/Minor

	Minor2			Minor1		
Conflicting Flow All	343	334	103	256	354	48
Stage 1	312	312	-	22	22	-
Stage 2	31	22	-	234	332	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.5	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.5	-
Follow-up Hdwy	3.8	4	3.9	3.8	4	-
Pot Cap-1 Maneuver	656	589	796	721	574	-
Stage 1	628	661	-	-	-	-
Stage 2	-	-	-	724	648	-
Platoon blocked, %						
Mov Cap-1 Maneuver	632	0	781	708	0	-
Mov Cap-2 Maneuver	632	0	-	708	0	-
Stage 1	616	0	-	-	0	-
Stage 2	-	0	-	724	0	-

Approach

	EB	WB
HCM Control Delay, s	9.8	
HCM LOS	A	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	781	-	-	-	-
HCM Lane V/C Ratio	0.047	-	-	-	-
HCM Control Delay (s)	9.8	-	-	-	-
HCM Lane LOS	A	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	73	124	40
Conflicting Peds, #/hr	16	0	26
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	1	0
Mvmt Flow	73	124	40

Major/Minor Major2

Conflicting Flow All	22	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

















HCM Control Delay, s 0

HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Existing PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	11	12	0	0	0	0	0	326	40	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.84			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	178.8	0.0				0.0	177.4	190.0			
Adj Flow Rate, veh/h	11	12	0				0	326	40			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	12	12	0				0	8	8			
Cap, veh/h	367	323	0				0	1882	220			
Arrive On Green	0.31	0.31	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	565	1043	0				0	4459	502			
Grp Volume(v), veh/h	23	0	0				0	241	125			
Grp Sat Flow(s),veh/h/ln	1608	0	0				0	1614	1574			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	1.3	1.3			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	1.3	1.3			
Prop In Lane	0.48		0.00				0.00		0.32			
Lane Grp Cap(c), veh/h	690	0	0				0	1413	689			
V/C Ratio(X)	0.03	0.00	0.00				0.00	0.17	0.18			
Avail Cap(c_a), veh/h	1582	0	0				0	2157	1052			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.7	4.8			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.3	0.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	0.6	0.7			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	5.0	5.3			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		23						366				
Approach Delay, s/veh		6.7						5.1				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		12.1						15.6				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						3.3				
Green Ext Time (p_c), s		0.0						1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			5.2									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	511	20	0	0	0	6
Conflicting Peds, #/hr	0	89	89	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	0	0	0	0	0
Mvmt Flow	511	20	0	0	0	6

Major/Minor

	Major1	Minor1
Conflicting Flow All	0	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	EB	NB
HCM Control Delay, s	0	10.8
HCM LOS		B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR
Capacity (veh/h)	630	-	-
HCM Lane V/C Ratio	0.01	-	-
HCM Control Delay (s)	10.8	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	10	0	0	394	14
Conflicting Peds, #/hr	0	0	7	0	0	7
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	10	0	0	394	14

Major/Minor Minor2 Major2

Conflicting Flow All	401	203	-	0
Stage 1	401	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	570	689	-	-
Stage 1	515	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	570	689	-	-
Mov Cap-2 Maneuver	570	-	-	-
Stage 1	515	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 10.3 0
HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	689	-	-
HCM Lane V/C Ratio	0.015	-	-
HCM Control Delay (s)	10.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	14	0	0	374	9
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	0	14	0	0	374	9

Major/Minor Minor2 Major2

Conflicting Flow All	379	191	-	0
Stage 1	379	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	586	701	-	-
Stage 1	533	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	586	701	-	-
Mov Cap-2 Maneuver	586	-	-	-
Stage 1	533	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	10.2	0
HCM LOS	B	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	701	-	-
HCM Lane V/C Ratio	0.02	-	-
HCM Control Delay (s)	10.2	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	14	0	0	267	9
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	1	0
Mvmt Flow	0	14	0	0	267	9

Major/Minor Minor2 Major2

Conflicting Flow All	272	137	-	0
Stage 1	272	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	672	758	-	-
Stage 1	628	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	672	758	-	-
Mov Cap-2 Maneuver	672	-	-	-
Stage 1	628	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 9.8 0
HCM LOS A

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	758	-	-
HCM Lane V/C Ratio	0.018	-	-
HCM Control Delay (s)	9.8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	630	24	0	27
Conflicting Peds, #/hr	29	0	0	29	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	630	24	0	27

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	11.6
HCM LOS		B

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	576
HCM Lane V/C Ratio	-	-	0.047
HCM Control Delay (s)	-	-	11.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1212	20	0	0
Conflicting Peds, #/hr	0	0	0	22	22	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	20	1212	20	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1222	615	0	0
Stage 1	1222	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	138	439	-	-
Stage 1	194	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	135	439	-	-
Mov Cap-2 Maneuver	135	-	-	-
Stage 1	194	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	13.6	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	439
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	13.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1067	20	0	0
Conflicting Peds, #/hr	0	0	0	52	52	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	20	1067	20	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1077	543	0	0
Stage 1	1077	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	176	489	-	-
Stage 1	237	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	168	489	-	-
Mov Cap-2 Maneuver	168	-	-	-
Stage 1	237	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	12.7	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	489
HCM Lane V/C Ratio	-	-	0.041
HCM Control Delay (s)	-	-	12.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh 7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	186	77	27	7	43	200
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	186	77	27	7	43	200















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	334	89	0
Stage 1	48	-	-
Stage 2	286	-	-
Critical Hdwy	6.4	6.2	4.2
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.29
Pot Cap-1 Maneuver	665	975	1505
Stage 1	980	-	-
Stage 2	767	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	612	928	1454
Mov Cap-2 Maneuver	612	-	-
Stage 1	966	-	-
Stage 2	716	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	680	1454	-
HCM Lane V/C Ratio	-	-	0.387	0.03	-
HCM Control Delay (s)	-	-	13.6	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0.1	-

HCM 2010 Signalized Intersection Summary
 2: 5th St & N St

Existing PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	62	366	0	0	0	0	0	633	200	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	185.5	0.0				0.0	185.8	190.0			
Adj Flow Rate, veh/h	62	366	0				0	633	200			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	330	1862	0				0	1134	358			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	578	4316	0				0	2630	800			
Grp Volume(v), veh/h	159	269	0				0	440	393			
Grp Sat Flow(s),veh/h/ln	1670	1536	0				0	1765	1572			
Q Serve(g_s), s	0.6	3.7	0.0				0.0	12.8	12.9			
Cycle Q Clear(g_c), s	3.7	3.7	0.0				0.0	12.8	12.9			
Prop In Lane	0.39		0.00				0.00		0.51			
Lane Grp Cap(c), veh/h	818	1374	0				0	789	703			
V/C Ratio(X)	0.19	0.20	0.00				0.00	0.56	0.56			
Avail Cap(c_a), veh/h	818	1374	0				0	789	703			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	11.7	11.7	0.0				0.0	14.2	14.3			
Incr Delay (d2), s/veh	0.5	0.3	0.0				0.0	2.8	3.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.0	1.6	0.0				0.0	6.9	6.2			
LnGrp Delay(d),s/veh	12.2	12.0	0.0				0.0	17.1	17.5			
LnGrp LOS	B	B						B	B			
Approach Vol, veh/h		428						833				
Approach Delay, s/veh		12.1						17.3				
Approach LOS		B						B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		5.7		14.9								
Green Ext Time (p_c), s		2.8		5.2								
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	77	0	83	753	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	77	0	83	753	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	596	140	53
Stage 1	53	-	-
Stage 2	543	-	-
Critical Hdwy	6.63	6.2	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.3	2.227
Pot Cap-1 Maneuver	450	913	1546
Stage 1	969	-	-
Stage 2	547	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	370	809	1434
Mov Cap-2 Maneuver	370	-	-
Stage 1	926	-	-
Stage 2	471	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	370	-	-
HCM Lane V/C Ratio	0.058	-	0.208	-	-
HCM Control Delay (s)	7.7	0.3	17.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Existing PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	1327	211	336	488	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0.0	189.5	190.0	190.0	185.5	0.0			
Adj Flow Rate, veh/h				0	1327	211	336	488	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1914	304	625	818	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	4663	714	1166	2005	0			
Grp Volume(v), veh/h				0	1019	519	427	397	0			
Grp Sat Flow(s),veh/h/ln				0	1724	1758	1483	1604	0			
Q Serve(g_s), s				0.0	14.1	14.1	11.6	9.4	0.0			
Cycle Q Clear(g_c), s				0.0	14.1	14.1	11.6	9.4	0.0			
Prop In Lane				0.00		0.41	0.79		0.00			
Lane Grp Cap(c), veh/h				0	1469	749	760	683	0			
V/C Ratio(X)				0.00	0.69	0.69	0.56	0.58	0.00			
Avail Cap(c_a), veh/h				0	1469	749	760	683	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	18.4	18.4	11.6	10.9	0.0			
Incr Delay (d2), s/veh				0.0	2.7	5.2	3.0	3.6	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				0.0	7.3	7.9	5.3	4.8	0.0			
LnGrp Delay(d),s/veh				0.0	21.1	23.6	14.6	14.5	0.0			
LnGrp LOS					C	C	B	B				
Approach Vol, veh/h					1538			824				
Approach Delay, s/veh					21.9			14.5				
Approach LOS					C			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		16.1		13.6								
Green Ext Time (p_c), s		4.0		3.1								
Intersection Summary												
HCM 2010 Ctrl Delay				19.4								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	21	1564	68	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	21	1564	68	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	35	703
Stage 1	-	-	35
Stage 2	-	-	668
Critical Hdwy	-	4.1	6.05
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	2.2	3.65
Pot Cap-1 Maneuver	-	1589	423
Stage 1	-	-	953
Stage 2	-	-	446
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1552	360
Mov Cap-2 Maneuver	-	-	360
Stage 1	-	-	925
Stage 2	-	-	391

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	360	-	-	1552	-
HCM Lane V/C Ratio	0.189	-	-	0.014	-
HCM Control Delay (s)	17.3	-	-	7.4	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	13	626	43	0	0	0	0	58	40
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	13	626	43	0	0	0	0	58	40

Major/Minor

	Major1			Minor1		
Conflicting Flow All	18	0	0	719	710	352
Stage 1	-	-	-	692	692	-
Stage 2	-	-	-	27	18	-
Critical Hdwy	-	-	-	5.7	6.5	7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.8	4	3.9
Pot Cap-1 Maneuver	-	-	-	433	361	555
Stage 1	-	-	-	375	448	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	416	0	547
Mov Cap-2 Maneuver	-	-	-	416	0	-
Stage 1	-	-	-	369	0	-
Stage 2	-	-	-	-	0	-

Approach

	EB	NB
HCM Control Delay, s	0	13
HCM LOS		B

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	547	-	-	-	-
HCM Lane V/C Ratio	0.179	-	-	-	-
HCM Control Delay (s)	13	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.6	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	18	0
Conflicting Peds, #/hr	18	0	8
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	6	18	0

Major/Minor

Minor2

Conflicting Flow All	341	731	48
Stage 1	18	18	-
Stage 2	323	713	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	657	351	-
Stage 1	-	-	-
Stage 2	653	438	-
Platoon blocked, %			
Mov Cap-1 Maneuver	637	0	-
Mov Cap-2 Maneuver	637	0	-
Stage 1	-	0	-
Stage 2	643	0	-

Approach

SB

HCM Control Delay, s

HCM LOS

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	4	15	19	29	40	13	22	58	3
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	4	15	19	29	40	13	22	58	3

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	255	230	102	246	234	97	98	0	0
Stage 1	97	97	-	132	132	-	-	-	-
Stage 2	158	133	-	114	102	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	702	673	959	712	666	925	1508	-	-
Stage 1	914	819	-	876	787	-	-	-	-
Stage 2	849	790	-	896	811	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	630	632	930	656	625	897	1497	-	-
Mov Cap-2 Maneuver	630	632	-	656	625	-	-	-	-
Stage 1	879	799	-	843	757	-	-	-	-
Stage 2	775	760	-	854	791	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	10	11.1	2
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1497	-	-	752	668	1508	-	-
HCM Lane V/C Ratio	0.015	-	-	0.051	0.123	0.001	-	-
HCM Control Delay (s)	7.4	0	-	10	11.1	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	2	60	10
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	2	60	10

Major/Minor Major2

Conflicting Flow All	89	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1519	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1508	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-













Approach SB

HCM Control Delay, s	0.2
HCM LOS	

Minor Lane/Major Mvmt



















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Existing PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	475	221	0	0	0	0	0	0	129	548	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0.0	186.9	190.0							190.0	179.2	0.0
Adj Flow Rate, veh/h	0	475	221							129	548	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1242	527							438	1615	0
Arrive On Green	0.00	0.37	0.37							0.42	0.42	0.00
Sat Flow, veh/h	0	3569	1444							658	4037	0
Grp Volume(v), veh/h	0	475	221							259	418	0
Grp Sat Flow(s),veh/h/ln	0	1700	1444							1581	1484	0
Q Serve(g_s), s	0.0	3.4	3.8							1.5	3.1	0.0
Cycle Q Clear(g_c), s	0.0	3.4	3.8							3.5	3.1	0.0
Prop In Lane	0.00		1.00							0.50		0.00
Lane Grp Cap(c), veh/h	0	1242	527							821	1232	0
V/C Ratio(X)	0.00	0.38	0.42							0.31	0.34	0.00
Avail Cap(c_a), veh/h	0	1660	705							1443	2427	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.7	7.8							6.6	6.5	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.5							1.0	0.7	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	0.0	1.6	1.6							1.8	1.4	0.0
LnGrp Delay(d),s/veh	0.0	7.9	8.3							7.6	7.3	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		696									677	
Approach Delay, s/veh		8.0									7.4	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.3						15.7				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		5.5						5.8				
Green Ext Time (p_c), s		4.4						3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			7.7									
HCM 2010 LOS			A									















HCM 2010 Signalized Intersection Summary
 10: 7th St & P St

Existing PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  					  		
Volume (veh/h)	0	0	0	161	1207	0	0	0	0	0	533	315
Number				7	4	14				5	2	12
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				190.0	190.0	0.0				0.0	182.5	190.0
Adj Flow Rate, veh/h				161	1207	0				0	533	315
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				304	1874	0				0	1429	640
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				491	4554	0				0	3487	1489
Grp Volume(v), veh/h				501	867	0				0	533	315
Grp Sat Flow(s),veh/h/ln				1743	1573	0				0	1661	1489
Q Serve(g_s), s				9.0	10.9	0.0				0.0	5.4	7.6
Cycle Q Clear(g_c), s				11.4	10.9	0.0				0.0	5.4	7.6
Prop In Lane				0.32		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				838	1341	0				0	1429	640
V/C Ratio(X)				0.60	0.65	0.00				0.00	0.37	0.49
Avail Cap(c_a), veh/h				838	1341	0				0	1429	640
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				11.4	11.4	0.0				0.0	9.7	10.3
Incr Delay (d2), s/veh				3.1	2.4	0.0				0.0	0.7	2.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	5.2	0.0				0.0	2.6	3.5
LnGrp Delay(d),s/veh				14.6	13.8	0.0				0.0	10.4	13.0
LnGrp LOS				B	B						B	B
Approach Vol, veh/h					1368						848	
Approach Delay, s/veh					14.1						11.4	
Approach LOS					B						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		9.6		13.4								
Green Ext Time (p_c), s		4.5		5.1								
Intersection Summary												
HCM 2010 Ctrl Delay				13.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Existing PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	643	28	0	0	0	0	0	0	236	447	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0.0	188.2	190.0							190.0	183.0	0.0
Adj Flow Rate, veh/h	0	643	28							236	447	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	2143	93							696	1355	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	5201	218							1296	3302	0
Grp Volume(v), veh/h	0	436	235							255	428	0
Grp Sat Flow(s),veh/h/ln	0	1713	1824							1416	1516	0
Q Serve(g_s), s	0.0	4.2	4.2							8.0	6.3	0.0
Cycle Q Clear(g_c), s	0.0	4.2	4.2							8.2	6.3	0.0
Prop In Lane	0.00		0.12							0.92		0.00
Lane Grp Cap(c), veh/h	0	1459	777							748	1304	0
V/C Ratio(X)	0.00	0.30	0.30							0.34	0.33	0.00
Avail Cap(c_a), veh/h	0	1459	777							748	1304	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.5							15.7	15.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0							1.2	0.7	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	0.0	2.0	2.3							3.5	2.8	0.0
LnGrp Delay(d),s/veh	0.0	10.0	10.5							17.0	15.6	0.0
LnGrp LOS		A	B							B	B	
Approach Vol, veh/h		671									683	
Approach Delay, s/veh		10.1									16.1	
Approach LOS		B									B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		10.2		6.2								
Green Ext Time (p_c), s		3.3		3.8								
Intersection Summary												
HCM 2010 Ctrl Delay			13.2									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	22	5	10	35	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	22	5	10	35	0	0	0	0

Major/Minor

	Minor2	Minor1				
Conflicting Flow All	575	557	267	271	580	38
Stage 1	540	540	-	17	17	-
Stage 2	35	17	-	254	563	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.56	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.56	-
Follow-up Hdwy	3.8	4	3.9	3.8	4.03	-
Pot Cap-1 Maneuver	508	442	628	709	422	-
Stage 1	462	524	-	-	-	-
Stage 2	-	-	-	707	505	-
Platoon blocked, %						
Mov Cap-1 Maneuver	494	0	619	699	0	-
Mov Cap-2 Maneuver	494	0	-	699	0	-
Stage 1	455	0	-	-	0	-
Stage 2	-	0	-	707	0	-

Approach

	EB	WB
HCM Control Delay, s	11.1	
HCM LOS	B	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	619	-	-	-	-
HCM Lane V/C Ratio	0.044	-	-	-	-
HCM Control Delay (s)	11.1	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	22	455	47
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	22	455	47

Major/Minor Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

















HCM Control Delay, s 0

HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Existing PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	11	9	0	0	0	0	0	325	28	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.86			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	172.9	0.0				0.0	181.6	190.0			
Adj Flow Rate, veh/h	11	9	0				0	325	28			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	401	260	0				0	2033	169			
Arrive On Green	0.30	0.30	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	653	868	0				0	4759	383			
Grp Volume(v), veh/h	20	0	0				0	231	122			
Grp Sat Flow(s),veh/h/ln	1520	0	0				0	1653	1673			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	1.1	1.2			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	1.1	1.2			
Prop In Lane	0.55		0.00				0.00		0.23			
Lane Grp Cap(c), veh/h	661	0	0				0	1462	740			
V/C Ratio(X)	0.03	0.00	0.00				0.00	0.16	0.17			
Avail Cap(c_a), veh/h	1547	0	0				0	2252	1140			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.5	4.6			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.2	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	0.6	0.6			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	4.8	5.0			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		20						353				
Approach Delay, s/veh		6.7						4.9				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		11.6						15.5				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						3.2				
Green Ext Time (p_c), s		0.0						1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			5.0									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	657	49	0	0	0	39
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	657	49	0	0	0	39

Major/Minor

	Major1	Minor1
Conflicting Flow All	0	682
Stage 1	-	682
Stage 2	-	0
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	7.3
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.8
Pot Cap-1 Maneuver	-	395
Stage 1	-	333
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	367
Mov Cap-2 Maneuver	-	367
Stage 1	-	333
Stage 2	-	-

Approach

	EB	NB
HCM Control Delay, s	0	12
HCM LOS		B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR
Capacity (veh/h)	555	-	-
HCM Lane V/C Ratio	0.07	-	-
HCM Control Delay (s)	12	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	60	0	0	739	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	60	0	0	739	37

Major/Minor Minor2 Major2

Conflicting Flow All	758	387	-	0
Stage 1	758	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	358	527	-	-
Stage 1	296	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	358	527	-	-
Mov Cap-2 Maneuver	358	-	-	-
Stage 1	296	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 12.7 0
HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	527	-	-
HCM Lane V/C Ratio	0.114	-	-
HCM Control Delay (s)	12.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	24	0	0	752	26
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	24	0	0	752	26

Major/Minor Minor2 Major2

Conflicting Flow All	765	388	-	0
Stage 1	765	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	354	526	-	-
Stage 1	293	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	354	526	-	-
Mov Cap-2 Maneuver	354	-	-	-
Stage 1	293	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 12.2 0
 HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	526	-	-
HCM Lane V/C Ratio	0.046	-	-
HCM Control Delay (s)	12.2	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	25	0	0	823	25
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	25	0	0	823	25

Major/Minor Minor2 Major2

Conflicting Flow All	836	423	-	0
Stage 1	836	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	323	500	-	-
Stage 1	262	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	323	500	-	-
Mov Cap-2 Maneuver	323	-	-	-
Stage 1	262	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 12.6 0
HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	500	-	-
HCM Lane V/C Ratio	0.05	-	-
HCM Control Delay (s)	12.6	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	1529	56	0	57
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	1529	56	0	57

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	20.6
HCM LOS		C

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	288
HCM Lane V/C Ratio	-	-	0.198
HCM Control Delay (s)	-	-	20.6
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.7

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	796	40	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	40	796	40	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	816	417	0	0
Stage 1	816	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	272	590	-	-
Stage 1	341	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	263	590	-	-
Mov Cap-2 Maneuver	263	-	-	-
Stage 1	341	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	11.5	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	590
HCM Lane V/C Ratio	-	-	0.068
HCM Control Delay (s)	-	-	11.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	793	40	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	40	793	40	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	813	416	0	0
Stage 1	813	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	274	591	-	-
Stage 1	343	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	252	591	-	-
Mov Cap-2 Maneuver	252	-	-	-
Stage 1	343	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	11.5	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	591
HCM Lane V/C Ratio	-	-	0.068
HCM Control Delay (s)	-	-	11.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

APPENDIX G: CUMULATIVE 2035 NO PROJECT LOS WORKSHEETS

Intersection

Int Delay, s/veh 4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	25	33	35	2	51	47
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	25	33	35	2	51	47


















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	202	94	0 0 54 0
Stage 1	53	-	- - - -
Stage 2	149	-	- - - -
Critical Hdwy	6.4	6.2	- - 4.2 -
Critical Hdwy Stg 1	5.4	-	- - - -
Critical Hdwy Stg 2	5.4	-	- - - -
Follow-up Hdwy	3.5	3.3	- - 2.29 -
Pot Cap-1 Maneuver	791	968	- - 1502 -
Stage 1	975	-	- - - -
Stage 2	884	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	726	922	- - 1451 -
Mov Cap-2 Maneuver	726	-	- - - -
Stage 1	961	-	- - - -
Stage 2	823	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	3.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	826	1451	-
HCM Lane V/C Ratio	-	-	0.07	0.035	-
HCM Control Delay (s)	-	-	9.7	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Cumulative AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						 				
Volume (veh/h)	337	410	0	0	0	0	0	968	405	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	183.8	0.0				0.0	185.7	190.0			
Adj Flow Rate, veh/h	337	410	0				0	968	405			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	726	1361	0				0	1041	425			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	1393	3195	0				0	2422	952			
Grp Volume(v), veh/h	337	410	0				0	728	645			
Grp Sat Flow(s),veh/h/ln	1393	1522	0				0	1765	1516			
Q Serve(g_s), s	12.3	6.0	0.0				0.0	27.2	28.7			
Cycle Q Clear(g_c), s	12.3	6.0	0.0				0.0	27.2	28.7			
Prop In Lane	1.00		0.00				0.00		0.63			
Lane Grp Cap(c), veh/h	726	1361	0				0	789	678			
V/C Ratio(X)	0.46	0.30	0.00				0.00	0.92	0.95			
Avail Cap(c_a), veh/h	726	1361	0				0	789	678			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.1	12.4	0.0				0.0	18.2	18.6			
Incr Delay (d2), s/veh	2.1	0.6	0.0				0.0	17.9	24.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.1	2.6	0.0				0.0	17.1	16.5			
LnGrp Delay(d),s/veh	16.2	12.9	0.0				0.0	36.1	43.2			
LnGrp LOS	B	B						D	D			
Approach Vol, veh/h		747						1373				
Approach Delay, s/veh		14.4						39.5				
Approach LOS		B						D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		14.3		30.7								
Green Ext Time (p_c), s		4.5		0.5								
Intersection Summary												
HCM 2010 Ctrl Delay			30.6									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	16	0	149	1358	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	16	0	149	1358	0	0













Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1030	140	53
Stage 1	53	-	-
Stage 2	977	-	-
Critical Hdwy	6.63	6.2	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.3	2.227
Pot Cap-1 Maneuver	244	913	1546
Stage 1	969	-	-
Stage 2	326	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	129	809	1434
Mov Cap-2 Maneuver	129	-	-
Stage 1	926	-	-
Stage 2	180	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.8	2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	129	-	-
HCM Lane V/C Ratio	0.104	-	0.124	-	-
HCM Control Delay (s)	7.8	1.4	36.8	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Cumulative AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑			↑↑				
Volume (veh/h)	0	0	0	0	737	300	294	880	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0.0	188.9	190.0	190.0	185.8	0.0			
Adj Flow Rate, veh/h				0	737	300	294	880	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1534	617	437	1040	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	3771	1449	776	2526	0			
Grp Volume(v), veh/h				0	703	334	610	564	0			
Grp Sat Flow(s),veh/h/ln				0	1719	1612	1610	1606	0			
Q Serve(g_s), s				0.0	9.4	9.6	17.5	15.5	0.0			
Cycle Q Clear(g_c), s				0.0	9.4	9.6	17.5	15.5	0.0			
Prop In Lane				0.00		0.90	0.48		0.00			
Lane Grp Cap(c), veh/h				0	1465	687	793	684	0			
V/C Ratio(X)				0.00	0.48	0.49	0.77	0.82	0.00			
Avail Cap(c_a), veh/h				0	1465	687	793	684	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	16.4	16.4	13.3	12.7	0.0			
Incr Delay (d2), s/veh				0.0	1.1	2.5	7.1	10.8	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				0.0	4.7	4.7	9.2	8.8	0.0			
LnGrp Delay(d),s/veh				0.0	17.5	18.9	20.4	23.5	0.0			
LnGrp LOS					B	B	C	C				
Approach Vol, veh/h					1037			1174				
Approach Delay, s/veh					18.0			21.9				
Approach LOS					B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		11.6		19.5								
Green Ext Time (p_c), s		4.8		1.2								
Intersection Summary												
HCM 2010 Ctrl Delay				20.0								
HCM 2010 LOS				C								

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	41	936	208	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	41	936	208	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	35
Stage 1	-	-	35
Stage 2	-	-	456
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1589
Stage 1	-	-	953
Stage 2	-	-	576
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1552
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	925
Stage 2	-	-	532

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	492	-	-	1552	-
HCM Lane V/C Ratio	0.423	-	-	0.026	-
HCM Control Delay (s)	17.6	-	-	7.4	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.1	-

Intersection

Int Delay, s/veh 8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	12	1687	128	0	0	0	0	189	21
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	12	1687	128	0	0	0	0	189	21

Major/Minor

	Major1	Minor1
Conflicting Flow All	18	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	EB	NB
HCM Control Delay, s	0	81.5
HCM LOS		F

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	232	-	-	-	-
HCM Lane V/C Ratio	0.905	-	-	-	-
HCM Control Delay (s)	81.5	-	-	-	-
HCM Lane LOS	F	-	-	-	-
HCM 95th %tile Q(veh)	7.6	-	-	-	-

Notes

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

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	5	40	0
Conflicting Peds, #/hr	18	0	8
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	5	40	0

Major/Minor **Minor2**

Conflicting Flow All	829	1875	48
Stage 1	18	18	-
Stage 2	811	1857	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	383	73	-
Stage 1	-	-	-
Stage 2	365	125	-
Platoon blocked, %			
Mov Cap-1 Maneuver	372	0	-
Mov Cap-2 Maneuver	372	0	-
Stage 1	-	0	-
Stage 2	360	0	-

Approach **SB**

HCM Control Delay, s

HCM LOS -

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	12	23	19	14	34	11	10	198	7
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	12	23	19	14	34	11	10	198	7

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	462	443	175	461	449	239	175	0	0
Stage 1	190	190	-	250	250	-	-	-	-
Stage 2	272	253	-	211	199	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	513	512	874	514	505	769	1414	-	-
Stage 1	816	747	-	759	700	-	-	-	-
Stage 2	738	701	-	796	736	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	457	480	847	463	473	745	1403	-	-
Mov Cap-2 Maneuver	457	480	-	463	473	-	-	-	-
Stage 1	791	722	-	735	678	-	-	-	-
Stage 2	680	679	-	740	712	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	12.1	13.1	0.4
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1403	-	-	559	505	1336	-	-
HCM Lane V/C Ratio	0.007	-	-	0.097	0.117	0.009	-	-
HCM Control Delay (s)	7.6	0	-	12.1	13.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	12	129	18
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	12	129	18

Major/Minor Major2

Conflicting Flow All	233	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1346	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1336	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-













Approach SB

HCM Control Delay, s	0.6
HCM LOS	

Minor Lane/Major Mvmt



















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Cumulative AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	369	128	0	0	0	0	0	0	101	556	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0.0	186.7	190.0							190.0	178.9	0.0
Adj Flow Rate, veh/h	0	369	128							101	556	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1354	434							364	1699	0
Arrive On Green	0.00	0.36	0.36							0.42	0.42	0.00
Sat Flow, veh/h	0	3889	1194							505	4231	0
Grp Volume(v), veh/h	0	335	162							250	407	0
Grp Sat Flow(s),veh/h/ln	0	1699	1516							1627	1481	0
Q Serve(g_s), s	0.0	2.3	2.5							0.3	3.0	0.0
Cycle Q Clear(g_c), s	0.0	2.3	2.5							3.1	3.0	0.0
Prop In Lane	0.00		0.79							0.40		0.00
Lane Grp Cap(c), veh/h	0	1237	552							831	1232	0
V/C Ratio(X)	0.00	0.27	0.29							0.30	0.33	0.00
Avail Cap(c_a), veh/h	0	1663	742							1471	2428	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.3	7.4							6.5	6.5	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3							0.9	0.7	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	0.0	1.1	1.1							1.7	1.3	0.0
LnGrp Delay(d),s/veh	0.0	7.5	7.7							7.4	7.2	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		497									657	
Approach Delay, s/veh		7.5									7.3	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.4						15.6				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		5.1						4.5				
Green Ext Time (p_c), s		4.3						2.5				
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
10: 7th St & P St

Cumulative AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  					  		
Volume (veh/h)	0	0	0	149	749	0	0	0	0	0	316	215
Number				7	4	14				5	2	12
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				190.0	190.0	0.0				0.0	181.9	190.0
Adj Flow Rate, veh/h				149	749	0				0	316	215
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				388	1776	0				0	1424	638
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				665	4325	0				0	3474	1484
Grp Volume(v), veh/h				330	568	0				0	316	215
Grp Sat Flow(s),veh/h/ln				1688	1573	0				0	1655	1484
Q Serve(g_s), s				4.3	6.3	0.0				0.0	3.0	4.8
Cycle Q Clear(g_c), s				6.7	6.3	0.0				0.0	3.0	4.8
Prop In Lane				0.45		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				823	1341	0				0	1424	638
V/C Ratio(X)				0.40	0.42	0.00				0.00	0.22	0.34
Avail Cap(c_a), veh/h				823	1341	0				0	1424	638
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				10.1	10.1	0.0				0.0	9.0	9.5
Incr Delay (d2), s/veh				1.5	1.0	0.0				0.0	0.4	1.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.5	2.9	0.0				0.0	1.4	2.2
LnGrp Delay(d),s/veh				11.5	11.0	0.0				0.0	9.3	10.9
LnGrp LOS				B	B						A	B
Approach Vol, veh/h					898						531	
Approach Delay, s/veh					11.2						10.0	
Approach LOS					B						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		6.8		8.7								
Green Ext Time (p_c), s		3.1		4.8								
Intersection Summary												
HCM 2010 Ctrl Delay				10.8								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
11: 7th St & Q St

Cumulative AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	1503	171	0	0	0	0	0	0	137	337	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0.0	188.3	190.0							190.0	184.1	0.0
Adj Flow Rate, veh/h	0	1503	171							137	337	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	1977	225							599	1480	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	4811	527							1098	3594	0
Grp Volume(v), veh/h	0	1109	565							179	295	0
Grp Sat Flow(s),veh/h/ln	0	1714	1742							1491	1525	0
Q Serve(g_s), s	0.0	13.7	13.8							4.6	4.3	0.0
Cycle Q Clear(g_c), s	0.0	13.7	13.8							5.3	4.3	0.0
Prop In Lane	0.00		0.30							0.76		0.00
Lane Grp Cap(c), veh/h	0	1460	742							768	1311	0
V/C Ratio(X)	0.00	0.76	0.76							0.23	0.22	0.00
Avail Cap(c_a), veh/h	0	1460	742							768	1311	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.2	12.2							14.4	14.1	0.0
Incr Delay (d2), s/veh	0.0	3.8	7.2							0.7	0.4	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	0.0	7.1	7.9							2.4	1.9	0.0
LnGrp Delay(d),s/veh	0.0	15.9	19.4							15.1	14.5	0.0
LnGrp LOS		B	B							B	B	
Approach Vol, veh/h		1674									474	
Approach Delay, s/veh		17.1									14.7	
Approach LOS		B									B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		7.3		15.8								
Green Ext Time (p_c), s		2.5		4.4								
Intersection Summary												
HCM 2010 Ctrl Delay			16.6									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	28	12	5	17	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	28	12	5	17	0	0	0	0

Major/Minor

	Minor2			Minor1		
Conflicting Flow All	475	466	162	309	486	38
Stage 1	449	449	-	17	17	-
Stage 2	26	17	-	292	469	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.56	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.56	-
Follow-up Hdwy	3.8	4	3.9	3.8	4.03	-
Pot Cap-1 Maneuver	568	497	731	681	478	-
Stage 1	522	576	-	-	-	-
Stage 2	-	-	-	677	556	-
Platoon blocked, %						
Mov Cap-1 Maneuver	552	0	721	671	0	-
Mov Cap-2 Maneuver	552	0	-	671	0	-
Stage 1	515	0	-	-	0	-
Stage 2	-	0	-	677	0	-

Approach

	EB	WB
HCM Control Delay, s	10.3	
HCM LOS	B	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	721	-	-	-	-
HCM Lane V/C Ratio	0.055	-	-	-	-
HCM Control Delay (s)	10.3	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	80	252	40
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	80	252	40

Major/Minor Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

















HCM Control Delay, s 0

HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Cumulative AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	22	16	0	0	0	0	0	680	60	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.85			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	173.9	0.0				0.0	181.7	190.0			
Adj Flow Rate, veh/h	22	16	0				0	680	60			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	428	252	0				0	1984	172			
Arrive On Green	0.31	0.31	0.00				0.00	0.43	0.43			
Sat Flow, veh/h	711	800	0				0	4738	398			
Grp Volume(v), veh/h	38	0	0				0	489	251			
Grp Sat Flow(s),veh/h/ln	1512	0	0				0	1653	1666			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	2.7	2.8			
Cycle Q Clear(g_c), s	0.4	0.0	0.0				0.0	2.7	2.8			
Prop In Lane	0.58		0.00				0.00		0.24			
Lane Grp Cap(c), veh/h	680	0	0				0	1434	722			
V/C Ratio(X)	0.06	0.00	0.00				0.00	0.34	0.35			
Avail Cap(c_a), veh/h	1513	0	0				0	2202	1110			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	5.2	5.2			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.6	1.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0				0.0	1.4	1.5			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	5.9	6.6			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		38						740				
Approach Delay, s/veh		6.7						6.1				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		12.2						15.5				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.4						4.8				
Green Ext Time (p_c), s		0.1						2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			6.1									
HCM 2010 LOS			A									

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	497	0	0	0	0	0
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	497	0	0	0	0	0

Major/Minor	Major1	Minor1
Conflicting Flow All	0	497
Stage 1	-	497
Stage 2	-	0
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	7.3
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.8
Pot Cap-1 Maneuver	-	503
Stage 1	-	444
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	467
Mov Cap-2 Maneuver	-	467
Stage 1	-	444
Stage 2	-	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	653	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	0	0	0	653	0

Major/Minor Minor2 Major2

Conflicting Flow All	653	326	-	0
Stage 1	653	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	411	576	-	-
Stage 1	349	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	411	576	-	-
Mov Cap-2 Maneuver	411	-	-	-
Stage 1	349	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 0 0
HCM LOS A

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h) - - -
HCM Lane V/C Ratio - - -
HCM Control Delay (s) 0 - -
HCM Lane LOS A - -
HCM 95th %tile Q(veh) - - -

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	616	0
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	616	0

Major/Minor Minor2 Major2

Conflicting Flow All	616	307	-	0
Stage 1	616	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	431	592	-	-
Stage 1	369	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	431	592	-	-
Mov Cap-2 Maneuver	431	-	-	-
Stage 1	369	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 0 0
 HCM LOS A

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	504	0
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	504	0

Major/Minor Minor2 Major2

Conflicting Flow All	504	251	-	0
Stage 1	504	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	499	643	-	-
Stage 1	440	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	499	643	-	-
Mov Cap-2 Maneuver	499	-	-	-
Stage 1	440	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	978	0	0	0
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	978	0	0	0

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	1503	0	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	0	1503	0	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1503	751	0	0
Stage 1	1503	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	85	358	-	-
Stage 1	130	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	82	358	-	-
Mov Cap-2 Maneuver	82	-	-	-
Stage 1	130	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	1368	0	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	0	1368	0	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1368	683	0	0
Stage 1	1368	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	108	396	-	-
Stage 1	157	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	99	396	-	-
Mov Cap-2 Maneuver	99	-	-	-
Stage 1	157	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 6.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	174	73	20	6	29	200
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	174	73	20	6	29	200















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	298	81	43
Stage 1	40	-	-
Stage 2	258	-	-
Critical Hdwy	6.4	6.2	4.2
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.29
Pot Cap-1 Maneuver	698	985	1516
Stage 1	988	-	-
Stage 2	790	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	650	938	1464
Mov Cap-2 Maneuver	650	-	-
Stage 1	974	-	-
Stage 2	746	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	715	1464	-
HCM Lane V/C Ratio	-	-	0.345	0.02	-
HCM Control Delay (s)	-	-	12.7	7.5	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Cumulative PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	353	346	0	0	0	0	0	757	144	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	183.5	0.0				0.0	186.0	190.0			
Adj Flow Rate, veh/h	353	346	0				0	757	144			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	725	1359	0				0	1289	245			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	1391	3190	0				0	2975	548			
Grp Volume(v), veh/h	353	346	0				0	464	437			
Grp Sat Flow(s),veh/h/ln	1391	1520	0				0	1767	1663			
Q Serve(g_s), s	13.2	5.0	0.0				0.0	13.8	13.8			
Cycle Q Clear(g_c), s	13.2	5.0	0.0				0.0	13.8	13.8			
Prop In Lane	1.00		0.00				0.00		0.33			
Lane Grp Cap(c), veh/h	725	1359	0				0	790	744			
V/C Ratio(X)	0.49	0.25	0.00				0.00	0.59	0.59			
Avail Cap(c_a), veh/h	725	1359	0				0	790	744			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.3	12.1	0.0				0.0	14.5	14.5			
Incr Delay (d2), s/veh	2.3	0.5	0.0				0.0	3.2	3.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.5	2.2	0.0				0.0	7.4	7.0			
LnGrp Delay(d),s/veh	16.7	12.5	0.0				0.0	17.7	17.9			
LnGrp LOS	B	B						B	B			
Approach Vol, veh/h		699						901				
Approach Delay, s/veh		14.6						17.8				
Approach LOS		B						B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		15.2		15.8								
Green Ext Time (p_c), s		4.1		5.4								
Intersection Summary												
HCM 2010 Ctrl Delay			16.4									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	63	0	67	799	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	63	0	67	799	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	587	140	53
Stage 1	53	-	-
Stage 2	534	-	-
Critical Hdwy	6.63	6.2	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.3	2.227
Pot Cap-1 Maneuver	456	913	1546
Stage 1	969	-	-
Stage 2	553	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	382	809	1434
Mov Cap-2 Maneuver	382	-	-
Stage 1	926	-	-
Stage 2	484	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	382	-	-
HCM Lane V/C Ratio	0.047	-	0.165	-	-
HCM Control Delay (s)	7.6	0.3	16.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Cumulative PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	1485	191	392	517	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0.0	189.6	190.0	190.0	185.5	0.0			
Adj Flow Rate, veh/h				0	1485	191	392	517	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1975	254	651	788	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	4807	596	1220	1934	0			
Grp Volume(v), veh/h				0	1105	571	471	438	0			
Grp Sat Flow(s),veh/h/ln				0	1725	1782	1465	1604	0			
Q Serve(g_s), s				0.0	15.4	15.4	13.6	10.8	0.0			
Cycle Q Clear(g_c), s				0.0	15.4	15.4	13.6	10.8	0.0			
Prop In Lane				0.00		0.33	0.83		0.00			
Lane Grp Cap(c), veh/h				0	1470	759	756	683	0			
V/C Ratio(X)				0.00	0.75	0.75	0.62	0.64	0.00			
Avail Cap(c_a), veh/h				0	1470	759	756	683	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	18.9	19.0	12.1	11.3	0.0			
Incr Delay (d2), s/veh				0.0	3.6	6.8	3.8	4.6	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				0.0	8.1	9.0	6.2	5.6	0.0			
LnGrp Delay(d),s/veh				0.0	22.5	25.8	16.0	15.9	0.0			
LnGrp LOS					C	C	B	B				
Approach Vol, veh/h					1676			909				
Approach Delay, s/veh					23.6			15.9				
Approach LOS					C			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		17.4		15.6								
Green Ext Time (p_c), s		3.2		2.8								
Intersection Summary												
HCM 2010 Ctrl Delay				20.9								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 9.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	71	1575	196	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	71	1575	196	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	35
Stage 1	-	-	35
Stage 2	-	-	772
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1589
Stage 1	-	-	953
Stage 2	-	-	393
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1552
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	925
Stage 2	-	-	243

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	77.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	224	-	-	1552	-
HCM Lane V/C Ratio	0.875	-	-	0.046	-
HCM Control Delay (s)	77.3	-	-	7.4	0.8
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	7	-	-	0.1	-

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	13	623	52	0	0	0	0	185	40
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	13	623	52	0	0	0	0	185	40

Major/Minor

	Major1	Minor1
Conflicting Flow All	18	745 711 355
Stage 1	-	693 693 -
Stage 2	-	52 18 -
Critical Hdwy	-	5.7 6.5 7.1
Critical Hdwy Stg 1	-	6.6 5.5 -
Critical Hdwy Stg 2	-	- - -
Follow-up Hdwy	-	3.8 4 3.9
Pot Cap-1 Maneuver	-	421 361 552
Stage 1	-	375 448 -
Stage 2	-	- - -
Platoon blocked, %	-	- - -
Mov Cap-1 Maneuver	-	404 0 544
Mov Cap-2 Maneuver	-	404 0 -
Stage 1	-	369 0 -
Stage 2	-	- 0 -

Approach

	EB	NB
HCM Control Delay, s	0	16.2
HCM LOS		C

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	544	-	-	-	-
HCM Lane V/C Ratio	0.414	-	-	-	-
HCM Control Delay (s)	16.2	-	-	-	-
HCM Lane LOS	C	-	-	-	-
HCM 95th %tile Q(veh)	2	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	68	0
Conflicting Peds, #/hr	18	0	8
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	6	68	0

Major/Minor **Minor2**

Conflicting Flow All	404	737	48
Stage 1	18	18	-
Stage 2	386	719	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	614	348	-
Stage 1	-	-	-
Stage 2	606	436	-
Platoon blocked, %			
Mov Cap-1 Maneuver	596	0	-
Mov Cap-2 Maneuver	596	0	-
Stage 1	-	0	-
Stage 2	597	0	-

Approach **SB**

HCM Control Delay, s	
HCM LOS	-

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	4	15	19	24	40	13	12	187	3
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	4	15	19	24	40	13	12	187	3

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	424	399	162	415	403	226	158	0	0
Stage 1	157	157	-	241	241	-	-	-	-
Stage 2	267	242	-	174	162	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	544	542	888	551	536	782	1434	-	-
Stage 1	850	772	-	767	706	-	-	-	-
Stage 2	743	709	-	833	764	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	483	511	861	506	506	758	1423	-	-
Mov Cap-2 Maneuver	483	511	-	506	506	-	-	-	-
Stage 1	823	752	-	742	683	-	-	-	-
Stage 2	676	686	-	791	745	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	11	12.8	0.4
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1423	-	-	636	536	1354	-	-
HCM Lane V/C Ratio	0.008	-	-	0.06	0.144	0.001	-	-
HCM Control Delay (s)	7.6	0	-	11	12.8	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.5	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	2	120	10
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	2	120	10

Major/Minor Major2

Conflicting Flow All	218	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1364	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1354	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB













HCM Control Delay, s 0.1

HCM LOS

Minor Lane/Major Mvmt













HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Cumulative PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	449	181	0	0	0	0	0	0	150	1167	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90							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	0.0	186.8	190.0							190.0	178.5	0.0
Adj Flow Rate, veh/h	0	449	181							150	1167	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1109	416							326	2107	0
Arrive On Green	0.00	0.31	0.31							0.50	0.50	0.00
Sat Flow, veh/h	0	3698	1325							409	4348	0
Grp Volume(v), veh/h	0	431	199							486	831	0
Grp Sat Flow(s),veh/h/ln	0	1700	1454							1655	1478	0
Q Serve(g_s), s	0.0	3.9	4.2							4.2	7.6	0.0
Cycle Q Clear(g_c), s	0.0	3.9	4.2							7.8	7.6	0.0
Prop In Lane	0.00		0.91							0.31		0.00
Lane Grp Cap(c), veh/h	0	1068	457							950	1482	0
V/C Ratio(X)	0.00	0.40	0.43							0.51	0.56	0.00
Avail Cap(c_a), veh/h	0	1393	596							1251	2030	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	10.5	10.6							6.7	6.7	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.7							2.0	1.5	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	0.0	1.8	1.7							4.0	3.3	0.0
LnGrp Delay(d),s/veh	0.0	10.8	11.3							8.7	8.3	0.0
LnGrp LOS		B	B							A	A	
Approach Vol, veh/h		630									1317	
Approach Delay, s/veh		10.9									8.4	
Approach LOS		B									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.0						16.0				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		9.8						6.2				
Green Ext Time (p_c), s		8.5						3.0				
Intersection Summary												
HCM 2010 Ctrl Delay			9.2									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
 10: 7th St & P St

Cumulative PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑						↑↑↑	
Volume (veh/h)	0	0	0	130	1198	0	0	0	0	0	1018	385
Number				7	4	14				5	2	12
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				190.0	190.0	0.0				0.0	184.4	190.0
Adj Flow Rate, veh/h				130	1198	0				0	1018	385
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				257	1932	0				0	1528	578
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				388	4690	0				0	3720	1344
Grp Volume(v), veh/h				489	839	0				0	962	441
Grp Sat Flow(s),veh/h/ln				1776	1573	0				0	1678	1541
Q Serve(g_s), s				7.2	10.4	0.0				0.0	11.4	11.4
Cycle Q Clear(g_c), s				10.7	10.4	0.0				0.0	11.4	11.4
Prop In Lane				0.27		0.00				0.00		0.87
Lane Grp Cap(c), veh/h				848	1341	0				0	1443	662
V/C Ratio(X)				0.58	0.63	0.00				0.00	0.67	0.67
Avail Cap(c_a), veh/h				848	1341	0				0	1443	662
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				11.2	11.2	0.0				0.0	11.4	11.4
Incr Delay (d2), s/veh				2.9	2.2	0.0				0.0	2.4	5.2
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	4.8	0.0				0.0	5.7	5.7
LnGrp Delay(d),s/veh				14.1	13.4	0.0				0.0	13.8	16.6
LnGrp LOS				B	B						B	B
Approach Vol, veh/h					1328						1403	
Approach Delay, s/veh					13.7						14.7	
Approach LOS					B						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		13.4		12.7								
Green Ext Time (p_c), s		5.4		5.3								
Intersection Summary												
HCM 2010 Ctrl Delay				14.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Cumulative PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	643	25	0	0	0	0	0	0	259	860	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0.0	188.2	190.0							190.0	185.3	0.0
Adj Flow Rate, veh/h	0	643	25							259	860	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	2155	83							535	1566	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	5228	196							969	3794	0
Grp Volume(v), veh/h	0	434	234							404	715	0
Grp Sat Flow(s),veh/h/ln	0	1713	1830							1543	1534	0
Q Serve(g_s), s	0.0	4.2	4.2							11.9	10.8	0.0
Cycle Q Clear(g_c), s	0.0	4.2	4.2							12.3	10.8	0.0
Prop In Lane	0.00		0.11							0.64		0.00
Lane Grp Cap(c), veh/h	0	1459	779							782	1320	0
V/C Ratio(X)	0.00	0.30	0.30							0.52	0.54	0.00
Avail Cap(c_a), veh/h	0	1459	779							782	1320	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.4							17.5	16.9	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0							2.4	1.6	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	0.0	2.0	2.3							5.8	4.9	0.0
LnGrp Delay(d),s/veh	0.0	10.0	10.4							19.9	18.5	0.0
LnGrp LOS		A	B							B	B	
Approach Vol, veh/h		668									1119	
Approach Delay, s/veh		10.1									19.0	
Approach LOS		B									B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		14.3		6.2								
Green Ext Time (p_c), s		4.0		3.8								
Intersection Summary												
HCM 2010 Ctrl Delay			15.7									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	22	5	10	35	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	22	5	10	35	0	0	0	0

Major/Minor

	Minor2	Minor1	
Conflicting Flow All	976	958	467
Stage 1	941	941	-
Stage 2	35	17	-
Critical Hdwy	5.7	6.5	7.1
Critical Hdwy Stg 1	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	3.8	4	3.9
Pot Cap-1 Maneuver	324	259	468
Stage 1	266	345	-
Stage 2	-	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	315	0	461
Mov Cap-2 Maneuver	315	0	-
Stage 1	262	0	-
Stage 2	-	0	-

Approach

	EB	WB
HCM Control Delay, s	13.3	
HCM LOS	B	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	461	-	-	-	-
HCM Lane V/C Ratio	0.059	-	-	-	-
HCM Control Delay (s)	13.3	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	22	859	42
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	22	859	42

Major/Minor Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

















HCM Control Delay, s 0

HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Cumulative PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	8	9	0	0	0	0	0	576	28	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.86			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	170.2	0.0				0.0	181.4	190.0			
Adj Flow Rate, veh/h	8	9	0				0	576	28			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	349	303	0				0	2130	102			
Arrive On Green	0.30	0.30	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	516	1020	0				0	4961	231			
Grp Volume(v), veh/h	17	0	0				0	394	210			
Grp Sat Flow(s),veh/h/ln	1537	0	0				0	1650	1727			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	2.0	2.1			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	2.0	2.1			
Prop In Lane	0.47		0.00				0.00		0.13			
Lane Grp Cap(c), veh/h	653	0	0				0	1465	767			
V/C Ratio(X)	0.03	0.00	0.00				0.00	0.27	0.27			
Avail Cap(c_a), veh/h	1553	0	0				0	2258	1182			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.7	4.8			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.5	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	1.0	1.2			
LnGrp Delay(d),s/veh	6.8	0.0	0.0				0.0	5.2	5.6			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		17						604				
Approach Delay, s/veh		6.8						5.4				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		11.5						15.5				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						4.1				
Green Ext Time (p_c), s		0.0						2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			5.4									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	630	0	0	0	0	0
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	630	0	0	0	0	0

Major/Minor

	Major1	Minor1
Conflicting Flow All	0	630
Stage 1	-	630
Stage 2	-	0
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	7.3
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.8
Pot Cap-1 Maneuver	-	423
Stage 1	-	362
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	393
Mov Cap-2 Maneuver	-	393
Stage 1	-	362
Stage 2	-	-

Approach

	EB	NB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	1344	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	0	0	0	1344	0

Major/Minor Minor2 Major2

Conflicting Flow All	1344	671	-	0
Stage 1	1344	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	163	346	-	-
Stage 1	116	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	163	346	-	-
Mov Cap-2 Maneuver	163	-	-	-
Stage 1	116	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 0 0
 HCM LOS A

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	1328	0
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	1328	0

Major/Minor Minor2 Major2

Conflicting Flow All	1328	663	-	0
Stage 1	1328	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	166	350	-	-
Stage 1	119	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	166	350	-	-
Mov Cap-2 Maneuver	166	-	-	-
Stage 1	119	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 0 0
 HCM LOS A

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	0	0	0	1400	0
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	0	0	0	1400	0

Major/Minor Minor2 Major2

Conflicting Flow All	1400	699	-	0
Stage 1	1400	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	151	332	-	-
Stage 1	106	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	151	332	-	-
Mov Cap-2 Maneuver	151	-	-	-
Stage 1	106	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 0 0
HCM LOS A

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	1646	0	0	0
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	1646	0	0	0

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	852	0	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	0	852	0	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	852	425	0	0
Stage 1	852	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	256	583	-	-
Stage 1	325	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	247	583	-	-
Mov Cap-2 Maneuver	247	-	-	-
Stage 1	325	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	0	879	0	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	0	879	0	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	879	439	0	0
Stage 1	879	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	245	571	-	-
Stage 1	313	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	225	571	-	-
Mov Cap-2 Maneuver	225	-	-	-
Stage 1	313	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	0	0
HCM LOS	A	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	-	0
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	-

APPENDIX H: CUMULATIVE 2035 PLUS PROJECT LOS WORKSHEETS

Intersection

Int Delay, s/veh 5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	27	38	35	2	55	51
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	27	38	35	2	55	51



















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	214	94	0
Stage 1	53	-	-
Stage 2	161	-	-
Critical Hdwy	6.4	6.2	4.2
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.29
Pot Cap-1 Maneuver	779	968	1502
Stage 1	975	-	-
Stage 2	873	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	713	922	1451
Mov Cap-2 Maneuver	713	-	-
Stage 1	961	-	-
Stage 2	810	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	3.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	822	1451	-
HCM Lane V/C Ratio	-	-	0.079	0.038	-
HCM Control Delay (s)	-	-	9.8	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Cumulative PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						  				
Volume (veh/h)	337	469	0	0	0	0	0	976	431	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1840	0				0	1857	1900			
Adj Flow Rate, veh/h	337	469	0				0	976	431			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	726	1363	0				0	1023	439			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	1395	3198	0				0	2381	981			
Grp Volume(v), veh/h	337	469	0				0	746	661			
Grp Sat Flow(s),veh/h/ln	1395	1524	0				0	1764	1505			
Q Serve(g_s), s	12.3	7.0	0.0				0.0	28.3	30.3			
Cycle Q Clear(g_c), s	12.3	7.0	0.0				0.0	28.3	30.3			
Prop In Lane	1.00		0.00				0.00		0.65			
Lane Grp Cap(c), veh/h	726	1363	0				0	789	673			
V/C Ratio(X)	0.46	0.34	0.00				0.00	0.95	0.98			
Avail Cap(c_a), veh/h	726	1363	0				0	789	673			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.1	12.6	0.0				0.0	18.5	19.1			
Incr Delay (d2), s/veh	2.1	0.7	0.0				0.0	21.2	30.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.1	3.1	0.0				0.0	18.3	18.2			
LnGrp Delay(d),s/veh	16.2	13.3	0.0				0.0	39.7	49.7			
LnGrp LOS	B	B						D	D			
Approach Vol, veh/h		806						1407				
Approach Delay, s/veh		14.5						44.4				
Approach LOS		B						D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		14.3		32.3								
Green Ext Time (p_c), s		4.9		0.0								
Intersection Summary												
HCM 2010 Ctrl Delay			33.5									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	20	0	156	1388	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	20	0	156	1388	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1059	140	53
Stage 1	53	-	-
Stage 2	1006	-	-
Critical Hdwy	6.63	6.2	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.3	2.227
Pot Cap-1 Maneuver	234	913	1546
Stage 1	969	-	-
Stage 2	315	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	112	809	1434
Mov Cap-2 Maneuver	112	-	-
Stage 1	926	-	-
Stage 2	158	-	-

Approach	EB	NB	SB
HCM Control Delay, s	44	2.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	112	-	-
HCM Lane V/C Ratio	0.109	-	0.179	-	-
HCM Control Delay (s)	7.8	1.5	44	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Cumulative PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	762	321	294	896	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0	1889	1900	1900	1858	0			
Adj Flow Rate, veh/h				0	762	321	294	896	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1516	632	433	1045	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	3728	1484	766	2538	0			
Grp Volume(v), veh/h				0	736	347	619	571	0			
Grp Sat Flow(s),veh/h/ln				0	1719	1604	1613	1606	0			
Q Serve(g_s), s				0.0	9.9	10.0	17.9	15.8	0.0			
Cycle Q Clear(g_c), s				0.0	9.9	10.0	17.9	15.8	0.0			
Prop In Lane				0.00		0.93	0.47		0.00			
Lane Grp Cap(c), veh/h				0	1464	683	794	684	0			
V/C Ratio(X)				0.00	0.50	0.51	0.78	0.83	0.00			
Avail Cap(c_a), veh/h				0	1464	683	794	684	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	16.6	16.6	13.4	12.8	0.0			
Incr Delay (d2), s/veh				0.0	1.2	2.7	7.5	11.5	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				0.0	5.0	4.9	9.4	9.0	0.0			
LnGrp Delay(d),s/veh				0.0	17.8	19.3	20.9	24.2	0.0			
LnGrp LOS					B	B	C	C				
Approach Vol, veh/h					1083			1190				
Approach Delay, s/veh					18.3			22.5				
Approach LOS					B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		12.0		19.9								
Green Ext Time (p_c), s		4.8		1.0								
Intersection Summary												
HCM 2010 Ctrl Delay				20.5								
HCM 2010 LOS				C								

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	41	982	208	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	41	982	208	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	35	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1589	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1552	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	18.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	479	-	-	1552	-
HCM Lane V/C Ratio	0.434	-	-	0.026	-
HCM Control Delay (s)	18.2	-	-	7.4	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.2	-	-	0.1	-

Intersection

Int Delay, s/veh 8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	12	1687	128	0	0	0	0	189	21
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	12	1687	128	0	0	0	0	189	21

Major/Minor

	Major1			Minor1		
Conflicting Flow All	18	0	0	1831	1811	925
Stage 1	-	-	-	1793	1793	-
Stage 2	-	-	-	38	18	-
Critical Hdwy	-	-	-	5.7	6.5	7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.8	4	3.9
Pot Cap-1 Maneuver	-	-	-	118	~ 79	236
Stage 1	-	-	-	79	~ 134	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	113	0	232
Mov Cap-2 Maneuver	-	-	-	113	0	-
Stage 1	-	-	-	78	0	-
Stage 2	-	-	-	-	0	-

Approach

	EB	NB
HCM Control Delay, s	0	81.5
HCM LOS		F

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	232	-	-	-	-
HCM Lane V/C Ratio	0.905	-	-	-	-
HCM Control Delay (s)	81.5	-	-	-	-
HCM Lane LOS	F	-	-	-	-
HCM 95th %tile Q(veh)	7.6	-	-	-	-

Notes

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

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	5	40	0
Conflicting Peds, #/hr	18	0	8
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	5	40	0

Major/Minor

	Minor2		
Conflicting Flow All	829	1875	48
Stage 1	18	18	-
Stage 2	811	1857	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	383	73	-
Stage 1	-	-	-
Stage 2	365	125	-
Platoon blocked, %			
Mov Cap-1 Maneuver	372	0	-
Mov Cap-2 Maneuver	372	0	-
Stage 1	-	0	-
Stage 2	360	0	-

Approach

	SB
HCM Control Delay, s	
HCM LOS	-

Minor Lane/Major Mvmt

Intersection									
Int Delay, s/veh	3.3								

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	12	23	22	14	34	11	10	198	17
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	12	23	22	14	34	11	10	198	17

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	467	453	175	468	454	244	175	0	0
Stage 1	190	190	-	255	255	-	-	-	-
Stage 2	277	263	-	213	199	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	509	506	874	509	502	764	1414	-	-
Stage 1	816	747	-	754	696	-	-	-	-
Stage 2	734	694	-	794	736	-	-	-	-
Platoon blocked, %	-								
Mov Cap-1 Maneuver	453	474	847	456	470	741	1403	-	-
Mov Cap-2 Maneuver	453	474	-	456	470	-	-	-	-
Stage 1	791	722	-	731	674	-	-	-	-
Stage 2	676	672	-	736	712	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	12.1	13.2	0.3
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1403	-	-	564	500	1325	-	-
HCM Lane V/C Ratio	0.007	-	-	0.101	0.118	0.009	-	-
HCM Control Delay (s)	7.6	0	-	12.1	13.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	12	129	18
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	12	129	18

Major/Minor Major2

Conflicting Flow All	243	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1335	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1325	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB













HCM Control Delay, s 0.6

HCM LOS

Minor Lane/Major Mvmt



















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Cumulative PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	396	144	0	0	0	0	0	0	101	577	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0	1868	1900							1900	1788	0
Adj Flow Rate, veh/h	0	396	144							101	577	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1335	451							355	1708	0
Arrive On Green	0.00	0.36	0.36							0.42	0.42	0.00
Sat Flow, veh/h	0	3833	1237							485	4256	0
Grp Volume(v), veh/h	0	365	175							258	420	0
Grp Sat Flow(s),veh/h/ln	0	1700	1503							1633	1481	0
Q Serve(g_s), s	0.0	2.5	2.7							0.3	3.2	0.0
Cycle Q Clear(g_c), s	0.0	2.5	2.7							3.3	3.2	0.0
Prop In Lane	0.00		0.82							0.39		0.00
Lane Grp Cap(c), veh/h	0	1238	548							832	1231	0
V/C Ratio(X)	0.00	0.29	0.32							0.31	0.34	0.00
Avail Cap(c_a), veh/h	0	1662	735							1473	2425	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.4	7.5							6.5	6.5	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3							1.0	0.8	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	0.0	1.2	1.2							1.8	1.4	0.0
LnGrp Delay(d),s/veh	0.0	7.5	7.8							7.5	7.3	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		540									678	
Approach Delay, s/veh		7.6									7.4	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.4						15.6				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		5.3						4.7				
Green Ext Time (p_c), s		4.4						2.7				
Intersection Summary												
HCM 2010 Ctrl Delay			7.5									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
10: 7th St & P St

Cumulative PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  					  		
Volume (veh/h)	0	0	0	149	779	0	0	0	0	0	346	230
Number				7	4	14				5	2	12
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				1900	1900	0				0	1820	1900
Adj Flow Rate, veh/h				149	779	0				0	346	230
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				377	1790	0				0	1424	638
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				641	4356	0				0	3476	1484
Grp Volume(v), veh/h				341	587	0				0	346	230
Grp Sat Flow(s),veh/h/ln				1695	1573	0				0	1656	1484
Q Serve(g_s), s				4.4	6.6	0.0				0.0	3.3	5.2
Cycle Q Clear(g_c), s				6.9	6.6	0.0				0.0	3.3	5.2
Prop In Lane				0.44		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				826	1341	0				0	1424	638
V/C Ratio(X)				0.41	0.44	0.00				0.00	0.24	0.36
Avail Cap(c_a), veh/h				826	1341	0				0	1424	638
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				10.1	10.1	0.0				0.0	9.1	9.6
Incr Delay (d2), s/veh				1.5	1.0	0.0				0.0	0.4	1.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.7	3.0	0.0				0.0	1.6	2.4
LnGrp Delay(d),s/veh				11.7	11.2	0.0				0.0	9.5	11.2
LnGrp LOS				B	B						A	B
Approach Vol, veh/h					928						576	
Approach Delay, s/veh					11.4						10.2	
Approach LOS					B						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		7.2		8.9								
Green Ext Time (p_c), s		3.3		4.9								
Intersection Summary												
HCM 2010 Ctrl Delay				10.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Cumulative PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	1503	171	0	0	0	0	0	0	160	344	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0	1883	1900							1900	1836	0
Adj Flow Rate, veh/h	0	1503	171							160	344	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	1977	225							645	1421	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	4811	527							1192	3454	0
Grp Volume(v), veh/h	0	1109	565							191	313	0
Grp Sat Flow(s),veh/h/ln	0	1714	1742							1455	1520	0
Q Serve(g_s), s	0.0	13.7	13.8							5.4	4.6	0.0
Cycle Q Clear(g_c), s	0.0	13.7	13.8							5.8	4.6	0.0
Prop In Lane	0.00		0.30							0.84		0.00
Lane Grp Cap(c), veh/h	0	1460	742							758	1307	0
V/C Ratio(X)	0.00	0.76	0.76							0.25	0.24	0.00
Avail Cap(c_a), veh/h	0	1460	742							758	1307	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.2	12.2							14.7	14.2	0.0
Incr Delay (d2), s/veh	0.0	3.8	7.2							0.8	0.4	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	0.0	7.1	7.9							2.5	2.0	0.0
LnGrp Delay(d),s/veh	0.0	15.9	19.4							15.5	14.6	0.0
LnGrp LOS		B	B							B	B	
Approach Vol, veh/h		1674									504	
Approach Delay, s/veh		17.1									14.9	
Approach LOS		B									B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		7.8		15.8								
Green Ext Time (p_c), s		2.6		4.4								
Intersection Summary												
HCM 2010 Ctrl Delay			16.6									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	38	12	5	17	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	38	12	5	17	0	0	0	0

Major/Minor

	Minor2			Minor1		
Conflicting Flow All	482	473	166	317	493	38
Stage 1	456	456	-	17	17	-
Stage 2	26	17	-	300	476	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.56	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.56	-
Follow-up Hdwy	3.8	4	3.9	3.8	4.03	-
Pot Cap-1 Maneuver	563	493	727	675	473	-
Stage 1	517	572	-	-	-	-
Stage 2	-	-	-	670	552	-
Platoon blocked, %						
Mov Cap-1 Maneuver	547	0	717	665	0	-
Mov Cap-2 Maneuver	547	0	-	665	0	-
Stage 1	510	0	-	-	0	-
Stage 2	-	0	-	670	0	-

Approach

	EB	WB
HCM Control Delay, s	10.4	
HCM LOS	B	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	717	-	-	-	-
HCM Lane V/C Ratio	0.07	-	-	-	-
HCM Control Delay (s)	10.4	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	80	259	40
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	80	259	40

Major/Minor Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

















HCM Control Delay, s 0

HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Cumulative PP Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	25	16	0	0	0	0	0	680	60	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.85			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1750	0				0	1817	1900			
Adj Flow Rate, veh/h	25	16	0				0	680	60			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	450	234	0				0	1978	172			
Arrive On Green	0.32	0.32	0.00				0.00	0.43	0.43			
Sat Flow, veh/h	765	740	0				0	4738	398			
Grp Volume(v), veh/h	41	0	0				0	489	251			
Grp Sat Flow(s),veh/h/ln	1505	0	0				0	1653	1666			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	2.7	2.8			
Cycle Q Clear(g_c), s	0.5	0.0	0.0				0.0	2.7	2.8			
Prop In Lane	0.61		0.00				0.00		0.24			
Lane Grp Cap(c), veh/h	684	0	0				0	1429	720			
V/C Ratio(X)	0.06	0.00	0.00				0.00	0.34	0.35			
Avail Cap(c_a), veh/h	1508	0	0				0	2194	1106			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	5.3	5.3			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.7	1.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0				0.0	1.4	1.5			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	5.9	6.6			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		41						740				
Approach Delay, s/veh		6.7						6.2				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		12.3						15.6				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.5						4.8				
Green Ext Time (p_c), s		0.1						2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			6.2									
HCM 2010 LOS			A									

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	520	62	0	0	0	20
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	520	62	0	0	0	20

Major/Minor	Major1	Minor1
Conflicting Flow All	0	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	11.1
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	607	-	-
HCM Lane V/C Ratio	0.033	-	-
HCM Control Delay (s)	11.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	25	0	0	664	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	25	0	0	664	26

Major/Minor Minor2 Major2

Conflicting Flow All	677	344	-	0
Stage 1	677	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	398	561	-	-
Stage 1	336	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	398	561	-	-
Mov Cap-2 Maneuver	398	-	-	-
Stage 1	336	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 11.7 0
HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	561	-	-
HCM Lane V/C Ratio	0.045	-	-
HCM Control Delay (s)	11.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	14	0	0	641	8
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	0	0	641	8

Major/Minor Minor2 Major2

Conflicting Flow All	645	324	-	0
Stage 1	645	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	415	578	-	-
Stage 1	353	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	415	578	-	-
Mov Cap-2 Maneuver	415	-	-	-
Stage 1	353	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 11.4 0
 HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	578	-	-
HCM Lane V/C Ratio	0.024	-	-
HCM Control Delay (s)	11.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	14	0	0	535	8
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	0	0	535	8

Major/Minor Minor2 Major2

Conflicting Flow All	539	271	-	0
Stage 1	539	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	477	624	-	-
Stage 1	416	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	477	624	-	-
Mov Cap-2 Maneuver	477	-	-	-
Stage 1	416	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 10.9 0
HCM LOS B

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	624	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	10.9	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	997	26	0	27
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	997	26	0	27

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	13.7
HCM LOS		B

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	439
HCM Lane V/C Ratio	-	-	0.062
HCM Control Delay (s)	-	-	13.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1520	20	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	20	1520	20	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1530	769	0	0
Stage 1	1530	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	82	348	-	-
Stage 1	125	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	79	348	-	-
Mov Cap-2 Maneuver	79	-	-	-
Stage 1	125	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	16	0
HCM LOS	C	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	348
HCM Lane V/C Ratio	-	-	0.057
HCM Control Delay (s)	-	-	16
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1382	20	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	20	1382	20	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1392	700	0	0
Stage 1	1392	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	103	386	-	-
Stage 1	152	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	95	386	-	-
Mov Cap-2 Maneuver	95	-	-	-
Stage 1	152	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	14.8	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	386
HCM Lane V/C Ratio	-	-	0.052
HCM Control Delay (s)	-	-	14.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 7.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	184	73	30	7	42	200
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	184	73	30	7	42	200


















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	335	92	0
Stage 1	51	-	-
Stage 2	284	-	-
Critical Hdwy	6.4	6.2	4.2
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.29
Pot Cap-1 Maneuver	664	971	1502
Stage 1	977	-	-
Stage 2	769	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	611	925	1451
Mov Cap-2 Maneuver	611	-	-
Stage 1	963	-	-
Stage 2	718	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	676	1451	-
HCM Lane V/C Ratio	-	-	0.38	0.029	-
HCM Control Delay (s)	-	-	13.6	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Cumulative PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						 				
Volume (veh/h)	353	378	0	0	0	0	0	757	208	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1837	0				0	1859	1900			
Adj Flow Rate, veh/h	353	378	0				0	757	208			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	725	1360	0				0	1180	324			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	1392	3192	0				0	2732	725			
Grp Volume(v), veh/h	353	378	0				0	506	459			
Grp Sat Flow(s),veh/h/ln	1392	1521	0				0	1766	1599			
Q Serve(g_s), s	13.1	5.5	0.0				0.0	15.6	15.6			
Cycle Q Clear(g_c), s	13.1	5.5	0.0				0.0	15.6	15.6			
Prop In Lane	1.00		0.00				0.00		0.45			
Lane Grp Cap(c), veh/h	725	1360	0				0	790	715			
V/C Ratio(X)	0.49	0.28	0.00				0.00	0.64	0.64			
Avail Cap(c_a), veh/h	725	1360	0				0	790	715			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.3	12.2	0.0				0.0	15.0	15.0			
Incr Delay (d2), s/veh	2.3	0.5	0.0				0.0	4.0	4.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.5	2.4	0.0				0.0	8.3	7.6			
LnGrp Delay(d),s/veh	16.7	12.7	0.0				0.0	19.0	19.4			
LnGrp LOS	B	B						B	B			
Approach Vol, veh/h		731						965				
Approach Delay, s/veh		14.6						19.2				
Approach LOS		B						B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		15.1		17.6								
Green Ext Time (p_c), s		4.3		5.5								
Intersection Summary												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	77	0	77	849	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	77	0	77	849	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	632	140	53
Stage 1	53	-	-
Stage 2	579	-	-
Critical Hdwy	6.63	6.2	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.3	2.227
Pot Cap-1 Maneuver	428	913	1546
Stage 1	969	-	-
Stage 2	525	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	351	809	1434
Mov Cap-2 Maneuver	351	-	-
Stage 1	926	-	-
Stage 2	451	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	351	-	-
HCM Lane V/C Ratio	0.054	-	0.219	-	-
HCM Control Delay (s)	7.7	0.3	18.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Cumulative PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	1535	197	393	571	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0	1896	1900	1900	1855	0			
Adj Flow Rate, veh/h				0	1535	197	393	571	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1976	253	626	817	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	4808	594	1168	2003	0			
Grp Volume(v), veh/h				0	1141	591	499	465	0			
Grp Sat Flow(s),veh/h/ln				0	1725	1782	1482	1604	0			
Q Serve(g_s), s				0.0	16.0	16.0	14.6	11.7	0.0			
Cycle Q Clear(g_c), s				0.0	16.0	16.0	14.6	11.7	0.0			
Prop In Lane				0.00		0.33	0.79		0.00			
Lane Grp Cap(c), veh/h				0	1470	759	760	683	0			
V/C Ratio(X)				0.00	0.78	0.78	0.66	0.68	0.00			
Avail Cap(c_a), veh/h				0	1470	759	760	683	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	19.2	19.2	12.4	11.6	0.0			
Incr Delay (d2), s/veh				0.0	4.1	7.7	4.4	5.4	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				0.0	8.4	9.5	6.7	6.2	0.0			
LnGrp Delay(d),s/veh				0.0	23.3	26.9	16.8	17.0	0.0			
LnGrp LOS					C	C	B	B				
Approach Vol, veh/h					1732			964				
Approach Delay, s/veh					24.5			16.9				
Approach LOS					C			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		18.0		16.6								
Green Ext Time (p_c), s		2.8		2.5								
Intersection Summary												
HCM 2010 Ctrl Delay				21.8								
HCM 2010 LOS				C								

Intersection	
Int Delay, s/veh	17.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	71	1631	196	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	71	1631	196	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	35	829
Stage 1	-	-	35
Stage 2	-	-	794
Critical Hdwy	-	4.1	6.05
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	2.2	3.65
Pot Cap-1 Maneuver	-	1589	362
Stage 1	-	-	953
Stage 2	-	-	382
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1552	~ 176
Mov Cap-2 Maneuver	-	-	~ 176
Stage 1	-	-	925
Stage 2	-	-	~ 191

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	155.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	176	-	-	1552	-
HCM Lane V/C Ratio	1.114	-	-	0.046	-
HCM Control Delay (s)	155.4	-	-	7.4	1.1
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	9.9	-	-	0.1	-

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

Intersection										
Int Delay, s/veh	3.7									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	13	623	52	0	0	0	0	185	40
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	13	623	52	0	0	0	0	185	40

Major/Minor	Major1			Minor1		
Conflicting Flow All	18	0	0	745	711	355
Stage 1	-	-	-	693	693	-
Stage 2	-	-	-	52	18	-
Critical Hdwy	-	-	-	5.7	6.5	7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	3.8	4	3.9
Pot Cap-1 Maneuver	-	-	-	421	361	552
Stage 1	-	-	-	375	448	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	404	0	544
Mov Cap-2 Maneuver	-	-	-	404	0	-
Stage 1	-	-	-	369	0	-
Stage 2	-	-	-	-	0	-

Approach	EB	NB
HCM Control Delay, s	0	16.2
HCM LOS		C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	544	-	-	-	-
HCM Lane V/C Ratio	0.414	-	-	-	-
HCM Control Delay (s)	16.2	-	-	-	-
HCM Lane LOS	C	-	-	-	-
HCM 95th %tile Q(veh)	2	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	6	68	0
Conflicting Peds, #/hr	18	0	8
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	6	68	0

Major/Minor

	Minor2		
Conflicting Flow All	404	737	48
Stage 1	18	18	-
Stage 2	386	719	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	614	348	-
Stage 1	-	-	-
Stage 2	606	436	-
Platoon blocked, %			
Mov Cap-1 Maneuver	596	0	-
Mov Cap-2 Maneuver	596	0	-
Stage 1	-	0	-
Stage 2	597	0	-

Approach

	SB
HCM Control Delay, s	
HCM LOS	-

Minor Lane/Major Mvmt

Intersection

Int Delay, s/veh 4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	4	15	19	48	40	13	14	187	3
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	4	15	19	48	40	13	14	187	3

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	428	403	162	419	407	226	158	0	0
Stage 1	157	157	-	245	245	-	-	-	-
Stage 2	271	246	-	174	162	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	541	539	888	548	533	782	1434	-	-
Stage 1	850	772	-	763	703	-	-	-	-
Stage 2	739	706	-	833	764	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	479	507	861	503	502	758	1423	-	-
Mov Cap-2 Maneuver	479	507	-	503	502	-	-	-	-
Stage 1	821	752	-	737	679	-	-	-	-
Stage 2	671	682	-	791	745	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	11.1	13.5	0.5
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1423	-	-	633	525	1354	-	-
HCM Lane V/C Ratio	0.01	-	-	0.06	0.192	0.001	-	-
HCM Control Delay (s)	7.6	0	-	11.1	13.5	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.7	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	2	120	10
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	2	120	10

Major/Minor Major2

Conflicting Flow All	218	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1364	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1354	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB













HCM Control Delay, s 0.1

HCM LOS

Minor Lane/Major Mvmt















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Cumulative PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	484	221	0	0	0	0	0	0	168	1226	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90							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	0	1868	1900							1900	1786	0
Adj Flow Rate, veh/h	0	484	221							168	1226	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1060	443							348	2110	0
Arrive On Green	0.00	0.31	0.31							0.51	0.51	0.00
Sat Flow, veh/h	0	3569	1423							449	4298	0
Grp Volume(v), veh/h	0	484	221							513	881	0
Grp Sat Flow(s),veh/h/ln	0	1700	1423							1642	1479	0
Q Serve(g_s), s	0.0	4.6	5.1							5.5	8.3	0.0
Cycle Q Clear(g_c), s	0.0	4.6	5.1							8.6	8.3	0.0
Prop In Lane	0.00		1.00							0.33		0.00
Lane Grp Cap(c), veh/h	0	1060	443							954	1503	0
V/C Ratio(X)	0.00	0.46	0.50							0.54	0.59	0.00
Avail Cap(c_a), veh/h	0	1362	570							1217	1984	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	11.0	11.2							6.9	6.9	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.9							2.2	1.7	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	0.0	2.2	2.1							4.4	3.7	0.0
LnGrp Delay(d),s/veh	0.0	11.3	12.1							9.1	8.6	0.0
LnGrp LOS		B	B							A	A	
Approach Vol, veh/h		705									1394	
Approach Delay, s/veh		11.6									8.7	
Approach LOS		B									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		33.8						16.2				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		10.6						7.1				
Green Ext Time (p_c), s		8.7						3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			9.7									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
10: 7th St & P St

Cumulative PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	173	1202	0	0	0	0	0	1094	438
Number				7	4	14				5	2	12
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				1900	1900	0				0	1842	1900
Adj Flow Rate, veh/h				173	1202	0				0	1094	438
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				324	1851	0				0	1498	600
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				532	4500	0				0	3651	1395
Grp Volume(v), veh/h				502	873	0				0	1052	480
Grp Sat Flow(s),veh/h/ln				1730	1573	0				0	1676	1527
Q Serve(g_s), s				9.5	11.0	0.0				0.0	13.0	13.0
Cycle Q Clear(g_c), s				11.6	11.0	0.0				0.0	13.0	13.0
Prop In Lane				0.34		0.00				0.00		0.91
Lane Grp Cap(c), veh/h				834	1341	0				0	1442	657
V/C Ratio(X)				0.60	0.65	0.00				0.00	0.73	0.73
Avail Cap(c_a), veh/h				834	1341	0				0	1442	657
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				11.5	11.4	0.0				0.0	11.8	11.8
Incr Delay (d2), s/veh				3.2	2.5	0.0				0.0	3.3	7.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.2	5.2	0.0				0.0	6.7	6.7
LnGrp Delay(d),s/veh				14.7	13.9	0.0				0.0	15.1	18.9
LnGrp LOS				B	B						B	B
Approach Vol, veh/h					1375						1532	
Approach Delay, s/veh					14.2						16.3	
Approach LOS					B						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		15.0		13.6								
Green Ext Time (p_c), s		4.8		5.0								
Intersection Summary												
HCM 2010 Ctrl Delay				15.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Cumulative PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	643	25	0	0	0	0	0	0	336	902	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0	1882	1900							1900	1845	0
Adj Flow Rate, veh/h	0	643	25							336	902	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	2155	83							609	1471	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	5228	196							1122	3571	0
Grp Volume(v), veh/h	0	434	234							445	793	0
Grp Sat Flow(s),veh/h/ln	0	1713	1830							1486	1528	0
Q Serve(g_s), s	0.0	4.2	4.2							14.3	12.2	0.0
Cycle Q Clear(g_c), s	0.0	4.2	4.2							14.3	12.2	0.0
Prop In Lane	0.00		0.11							0.75		0.00
Lane Grp Cap(c), veh/h	0	1459	779							766	1314	0
V/C Ratio(X)	0.00	0.30	0.30							0.58	0.60	0.00
Avail Cap(c_a), veh/h	0	1459	779							766	1314	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.4							18.3	17.5	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0							3.2	2.1	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	0.0	2.0	2.3							6.5	5.5	0.0
LnGrp Delay(d),s/veh	0.0	10.0	10.4							21.6	19.5	0.0
LnGrp LOS		A	B							C	B	
Approach Vol, veh/h		668									1238	
Approach Delay, s/veh		10.1									20.2	
Approach LOS		B									C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		16.3		6.2								
Green Ext Time (p_c), s		3.4		3.8								
Intersection Summary												
HCM 2010 Ctrl Delay			16.7									
HCM 2010 LOS			B									

Intersection										
Int Delay, s/veh	0.4									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	22	5	10	35	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	22	5	10	35	0	0	0	0

Major/Minor	Minor2			Minor1		
Conflicting Flow All	1006	988	488	440	1021	38
Stage 1	971	971	-	17	17	-
Stage 2	35	17	-	423	1004	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.56	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.56	-
Follow-up Hdwy	3.8	4	3.9	3.8	4.03	-
Pot Cap-1 Maneuver	313	249	454	590	233	-
Stage 1	255	334	-	-	-	-
Stage 2	-	-	-	580	316	-
Platoon blocked, %						
Mov Cap-1 Maneuver	304	0	448	582	0	-
Mov Cap-2 Maneuver	304	0	-	582	0	-
Stage 1	251	0	-	-	0	-
Stage 2	-	0	-	580	0	-

Approach	EB	WB
HCM Control Delay, s	13.6	
HCM LOS	B	-

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	448	-	-	-	-
HCM Lane V/C Ratio	0.06	-	-	-	-
HCM Control Delay (s)	13.6	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	22	877	66
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	22	877	66

Major/Minor Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

















HCM Control Delay, s 0

HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Cumulative PP Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	11	9	0	0	0	0	0	576	28	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.86			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1729	0				0	1814	1900			
Adj Flow Rate, veh/h	11	9	0				0	576	28			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	401	260	0				0	2122	102			
Arrive On Green	0.30	0.30	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	653	868	0				0	4960	231			
Grp Volume(v), veh/h	20	0	0				0	394	210			
Grp Sat Flow(s),veh/h/ln	1520	0	0				0	1650	1727			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	2.1	2.1			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	2.1	2.1			
Prop In Lane	0.55		0.00				0.00		0.13			
Lane Grp Cap(c), veh/h	661	0	0				0	1460	764			
V/C Ratio(X)	0.03	0.00	0.00				0.00	0.27	0.27			
Avail Cap(c_a), veh/h	1547	0	0				0	2249	1177			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.8	4.8			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.5	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	1.0	1.2			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	5.3	5.7			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		20						604				
Approach Delay, s/veh		6.7						5.4				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		11.6						15.5				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						4.1				
Green Ext Time (p_c), s		0.0						2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			5.4									
HCM 2010 LOS			A									

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	643	83	0	0	0	62
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	643	83	0	0	0	62

Major/Minor

	Major1	Minor1
Conflicting Flow All	0	685
Stage 1	-	685
Stage 2	-	0
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	7.3
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	3.8
Pot Cap-1 Maneuver	-	394
Stage 1	-	332
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	366
Mov Cap-2 Maneuver	-	366
Stage 1	-	332
Stage 2	-	-

Approach

	EB	NB
HCM Control Delay, s	0	12.4
HCM LOS		B

Minor Lane/Major Mvmt

	NBLn1	EBT	EBR
Capacity (veh/h)	546	-	-
HCM Lane V/C Ratio	0.114	-	-
HCM Control Delay (s)	12.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	87	0	0	1389	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	87	0	0	1389	54

Major/Minor Minor2 Major2

Conflicting Flow All	1416	721	-	0
Stage 1	1416	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	147	321	-	-
Stage 1	103	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	147	321	-	-
Mov Cap-2 Maneuver	147	-	-	-
Stage 1	103	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	20.3	0
HCM LOS	C	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	321	-	-
HCM Lane V/C Ratio	0.271	-	-
HCM Control Delay (s)	20.3	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	1.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	26	0	0	1432	25
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	26	0	0	1432	25

Major/Minor	Minor2	Major2
Conflicting Flow All	1445	728
Stage 1	1445	-
Stage 2	0	-
Critical Hdwy	6.4	7.1
Critical Hdwy Stg 1	7.3	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	3.8	3.9
Pot Cap-1 Maneuver	142	318
Stage 1	99	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	142	318
Mov Cap-2 Maneuver	142	-
Stage 1	99	-
Stage 2	-	-

Approach	EB	SB
HCM Control Delay, s	17.3	0
HCM LOS	C	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	318	-	-
HCM Lane V/C Ratio	0.082	-	-
HCM Control Delay (s)	17.3	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	25	0	0	1504	26
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	25	0	0	1504	26

Major/Minor Minor2 Major2

Conflicting Flow All	1517	764	-	0
Stage 1	1517	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	128	301	-	-
Stage 1	88	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	128	301	-	-
Mov Cap-2 Maneuver	128	-	-	-
Stage 1	88	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	18	0
HCM LOS	C	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	301	-	-
HCM Lane V/C Ratio	0.083	-	-
HCM Control Delay (s)	18	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	1646	57	0	56
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	1646	57	0	56

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	22.3
HCM LOS		C

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	264
HCM Lane V/C Ratio	-	-	0.212
HCM Control Delay (s)	-	-	22.3
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.8

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	41	871	41	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	41	871	41	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	892	455	0	0
Stage 1	892	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	240	558	-	-
Stage 1	307	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	232	558	-	-
Mov Cap-2 Maneuver	232	-	-	-
Stage 1	307	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	12	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	558
HCM Lane V/C Ratio	-	-	0.073
HCM Control Delay (s)	-	-	12
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	41	902	41	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	41	902	41	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	923	471	0	0
Stage 1	923	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	228	545	-	-
Stage 1	294	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	209	545	-	-
Mov Cap-2 Maneuver	209	-	-	-
Stage 1	294	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	12.1	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	545
HCM Lane V/C Ratio	-	-	0.075
HCM Control Delay (s)	-	-	12.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	27	39	35	2	55	51
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	27	39	35	2	55	51















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	214	94	0
Stage 1	53	-	-
Stage 2	161	-	-
Critical Hdwy	6.4	6.2	4.2
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.29
Pot Cap-1 Maneuver	779	968	1502
Stage 1	975	-	-
Stage 2	873	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	713	922	1451
Mov Cap-2 Maneuver	713	-	-
Stage 1	961	-	-
Stage 2	810	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	3.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	823	1451	-
HCM Lane V/C Ratio	-	-	0.08	0.038	-
HCM Control Delay (s)	-	-	9.8	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Cumulative PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	337	440	0	0	0	0	0	984	409	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	183.9	0.0				0.0	185.7	190.0			
Adj Flow Rate, veh/h	337	440	0				0	984	409			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	726	1362	0				0	1045	423			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	1394	3197	0				0	2429	946			
Grp Volume(v), veh/h	337	440	0				0	737	656			
Grp Sat Flow(s),veh/h/ln	1394	1523	0				0	1765	1518			
Q Serve(g_s), s	12.3	6.5	0.0				0.0	27.7	29.5			
Cycle Q Clear(g_c), s	12.3	6.5	0.0				0.0	27.7	29.5			
Prop In Lane	1.00		0.00				0.00		0.62			
Lane Grp Cap(c), veh/h	726	1362	0				0	789	679			
V/C Ratio(X)	0.46	0.32	0.00				0.00	0.93	0.97			
Avail Cap(c_a), veh/h	726	1362	0				0	789	679			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.1	12.5	0.0				0.0	18.4	18.8			
Incr Delay (d2), s/veh	2.1	0.6	0.0				0.0	19.5	27.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.1	2.9	0.0				0.0	17.6	17.4			
LnGrp Delay(d),s/veh	16.2	13.1	0.0				0.0	37.8	46.1			
LnGrp LOS	B	B						D	D			
Approach Vol, veh/h		777						1393				
Approach Delay, s/veh		14.5						41.7				
Approach LOS		B						D				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		14.3		31.5								
Green Ext Time (p_c), s		4.7		0.0								
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	20	0	157	1374	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	20	0	157	1374	0	0















Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1054	140	53
Stage 1	53	-	-
Stage 2	1001	-	-
Critical Hdwy	6.63	6.2	4.13
Critical Hdwy Stg 1	5.43	-	-
Critical Hdwy Stg 2	5.83	-	-
Follow-up Hdwy	3.519	3.3	2.227
Pot Cap-1 Maneuver	235	913	1546
Stage 1	969	-	-
Stage 2	317	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	115	809	1434
Mov Cap-2 Maneuver	115	-	-
Stage 1	926	-	-
Stage 2	163	-	-

Approach	EB	NB	SB
HCM Control Delay, s	42.8	2.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	115	-	-
HCM Lane V/C Ratio	0.109	-	0.174	-	-
HCM Control Delay (s)	7.8	1.5	42.8	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Cumulative PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	749	315	295	889	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0.0	188.9	190.0	190.0	185.8	0.0			
Adj Flow Rate, veh/h				0	749	315	295	889	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1517	631	435	1042	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	3731	1482	772	2531	0			
Grp Volume(v), veh/h				0	723	341	616	568	0			
Grp Sat Flow(s),veh/h/ln				0	1719	1605	1612	1606	0			
Q Serve(g_s), s				0.0	9.7	9.8	17.8	15.7	0.0			
Cycle Q Clear(g_c), s				0.0	9.7	9.8	17.8	15.7	0.0			
Prop In Lane				0.00		0.92	0.48		0.00			
Lane Grp Cap(c), veh/h				0	1464	684	793	684	0			
V/C Ratio(X)				0.00	0.49	0.50	0.78	0.83	0.00			
Avail Cap(c_a), veh/h				0	1464	684	793	684	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	16.5	16.6	13.3	12.7	0.0			
Incr Delay (d2), s/veh				0.0	1.2	2.6	7.4	11.2	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				0.0	4.9	4.9	9.3	8.9	0.0			
LnGrp Delay(d),s/veh				0.0	17.7	19.1	20.7	24.0	0.0			
LnGrp LOS					B	B	C	C				
Approach Vol, veh/h					1064			1184				
Approach Delay, s/veh					18.2			22.3				
Approach LOS					B			C				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		11.8		19.8								
Green Ext Time (p_c), s		4.8		1.1								
Intersection Summary												
HCM 2010 Ctrl Delay				20.3								
HCM 2010 LOS				C								

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	41	963	208	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	41	963	208	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	35	502
Stage 1	-	-	35
Stage 2	-	-	467
Critical Hdwy	-	4.1	6.05
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	2.2	3.65
Pot Cap-1 Maneuver	-	1589	541
Stage 1	-	-	953
Stage 2	-	-	569
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1552	484
Mov Cap-2 Maneuver	-	-	484
Stage 1	-	-	925
Stage 2	-	-	524

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	484	-	-	1552	-
HCM Lane V/C Ratio	0.43	-	-	0.026	-
HCM Control Delay (s)	17.9	-	-	7.4	0.1
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0.1	-

Intersection

Int Delay, s/veh 8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	12	1687	128	0	0	0	0	189	21
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	12	1687	128	0	0	0	0	189	21

Major/Minor

	Major1	Minor1
Conflicting Flow All	18	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	EB	NB
HCM Control Delay, s	0	81.5
HCM LOS		F

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	232	-	-	-	-
HCM Lane V/C Ratio	0.905	-	-	-	-
HCM Control Delay (s)	81.5	-	-	-	-
HCM Lane LOS	F	-	-	-	-
HCM 95th %tile Q(veh)	7.6	-	-	-	-

Notes

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

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	12	23	20	14	34	11	10	198	17
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	12	23	20	14	34	11	10	198	17

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	467	453	175	467	454	244	175	0	0
Stage 1	190	190	-	255	255	-	-	-	-
Stage 2	277	263	-	212	199	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	509	506	874	509	502	764	1414	-	-
Stage 1	816	747	-	754	696	-	-	-	-
Stage 2	734	694	-	795	736	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	453	474	847	458	470	741	1403	-	-
Mov Cap-2 Maneuver	453	474	-	458	470	-	-	-	-
Stage 1	791	722	-	731	674	-	-	-	-
Stage 2	676	672	-	738	712	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	12.2	13.1	0.3
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1403	-	-	558	501	1325	-	-
HCM Lane V/C Ratio	0.007	-	-	0.099	0.118	0.009	-	-
HCM Control Delay (s)	7.6	0	-	12.2	13.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	12	129	18
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	12	129	18

Major/Minor Major2

Conflicting Flow All	243	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1335	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1325	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB













HCM Control Delay, s 0.6

HCM LOS

Minor Lane/Major Mvmt













HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Cumulative PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	369	148	0	0	0	0	0	0	101	571	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91							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	0.0	186.8	190.0							190.0	178.8	0.0
Adj Flow Rate, veh/h	0	369	148							101	571	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1299	478							357	1706	0
Arrive On Green	0.00	0.36	0.36							0.42	0.42	0.00
Sat Flow, veh/h	0	3736	1313							491	4249	0
Grp Volume(v), veh/h	0	350	167							256	416	0
Grp Sat Flow(s),veh/h/ln	0	1700	1481							1632	1481	0
Q Serve(g_s), s	0.0	2.4	2.6							0.3	3.1	0.0
Cycle Q Clear(g_c), s	0.0	2.4	2.6							3.2	3.1	0.0
Prop In Lane	0.00		0.89							0.39		0.00
Lane Grp Cap(c), veh/h	0	1238	539							832	1231	0
V/C Ratio(X)	0.00	0.28	0.31							0.31	0.34	0.00
Avail Cap(c_a), veh/h	0	1663	725							1473	2426	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	7.4	7.5							6.5	6.5	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.3							1.0	0.7	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	0.0	1.1	1.1							1.8	1.4	0.0
LnGrp Delay(d),s/veh	0.0	7.5	7.8							7.5	7.2	0.0
LnGrp LOS		A	A							A	A	
Approach Vol, veh/h		517									672	
Approach Delay, s/veh		7.6									7.3	
Approach LOS		A									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		34.4						15.6				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		5.2						4.6				
Green Ext Time (p_c), s		4.4						2.6				
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									















HCM 2010 Signalized Intersection Summary
 10: 7th St & P St

Cumulative PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑↑						↑↑↑	
Volume (veh/h)	0	0	0	149	765	0	0	0	0	0	342	223
Number				7	4	14				5	2	12
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				190.0	190.0	0.0				0.0	182.1	190.0
Adj Flow Rate, veh/h				149	765	0				0	342	223
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				382	1783	0				0	1425	639
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				652	4342	0				0	3478	1485
Grp Volume(v), veh/h				336	578	0				0	342	223
Grp Sat Flow(s),veh/h/ln				1692	1573	0				0	1657	1485
Q Serve(g_s), s				4.3	6.5	0.0				0.0	3.3	5.0
Cycle Q Clear(g_c), s				6.8	6.5	0.0				0.0	3.3	5.0
Prop In Lane				0.44		0.00				0.00		1.00
Lane Grp Cap(c), veh/h				825	1341	0				0	1425	639
V/C Ratio(X)				0.41	0.43	0.00				0.00	0.24	0.35
Avail Cap(c_a), veh/h				825	1341	0				0	1425	639
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				10.1	10.1	0.0				0.0	9.1	9.6
Incr Delay (d2), s/veh				1.5	1.0	0.0				0.0	0.4	1.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.6	2.9	0.0				0.0	1.6	2.3
LnGrp Delay(d),s/veh				11.6	11.1	0.0				0.0	9.5	11.1
LnGrp LOS				B	B						A	B
Approach Vol, veh/h					914						565	
Approach Delay, s/veh					11.3						10.1	
Approach LOS					B						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		7.0		8.8								
Green Ext Time (p_c), s		3.2		4.8								
Intersection Summary												
HCM 2010 Ctrl Delay				10.8								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Cumulative PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1503	171	0	0	0	0	0	0	161	339	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0.0	188.3	190.0							190.0	183.5	0.0
Adj Flow Rate, veh/h	0	1503	171							161	339	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	1977	225							651	1412	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	4811	527							1205	3434	0
Grp Volume(v), veh/h	0	1109	565							190	310	0
Grp Sat Flow(s),veh/h/ln	0	1714	1742							1450	1520	0
Q Serve(g_s), s	0.0	13.7	13.8							5.4	4.5	0.0
Cycle Q Clear(g_c), s	0.0	13.7	13.8							5.8	4.5	0.0
Prop In Lane	0.00		0.30							0.85		0.00
Lane Grp Cap(c), veh/h	0	1460	742							757	1307	0
V/C Ratio(X)	0.00	0.76	0.76							0.25	0.24	0.00
Avail Cap(c_a), veh/h	0	1460	742							757	1307	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	12.2	12.2							14.7	14.2	0.0
Incr Delay (d2), s/veh	0.0	3.8	7.2							0.8	0.4	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	0.0	7.1	7.9							2.5	2.0	0.0
LnGrp Delay(d),s/veh	0.0	15.9	19.4							15.5	14.6	0.0
LnGrp LOS		B	B							B	B	
Approach Vol, veh/h		1674									500	
Approach Delay, s/veh		17.1									14.9	
Approach LOS		B									B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		7.8		15.8								
Green Ext Time (p_c), s		2.6		4.4								
Intersection Summary												
HCM 2010 Ctrl Delay			16.6									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	38	12	5	17	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	38	12	5	17	0	0	0	0

Major/Minor

	Minor2			Minor1		
Conflicting Flow All	477	468	163	315	488	38
Stage 1	451	451	-	17	17	-
Stage 2	26	17	-	298	471	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.56	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.56	-
Follow-up Hdwy	3.8	4	3.9	3.8	4.03	-
Pot Cap-1 Maneuver	567	496	730	676	476	-
Stage 1	521	574	-	-	-	-
Stage 2	-	-	-	672	555	-
Platoon blocked, %						
Mov Cap-1 Maneuver	551	0	720	666	0	-
Mov Cap-2 Maneuver	551	0	-	666	0	-
Stage 1	514	0	-	-	0	-
Stage 2	-	0	-	672	0	-

Approach

	EB	WB
HCM Control Delay, s	10.4	
HCM LOS	B	-

Minor Lane/Major Mvmt

	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	720	-	-	-	-
HCM Lane V/C Ratio	0.069	-	-	-	-
HCM Control Delay (s)	10.4	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	80	254	40
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	80	254	40

Major/Minor Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB

















HCM Control Delay, s 0

HCM LOS

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Cumulative PP No Hotel AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	25	20	0	0	0	0	0	680	60	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.85			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	173.1	0.0				0.0	181.7	190.0			
Adj Flow Rate, veh/h	25	20	0				0	680	60			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	415	269	0				0	1970	171			
Arrive On Green	0.32	0.32	0.00				0.00	0.43	0.43			
Sat Flow, veh/h	674	841	0				0	4737	398			
Grp Volume(v), veh/h	45	0	0				0	489	251			
Grp Sat Flow(s),veh/h/ln	1515	0	0				0	1653	1665			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	2.8	2.8			
Cycle Q Clear(g_c), s	0.5	0.0	0.0				0.0	2.8	2.8			
Prop In Lane	0.56		0.00				0.00		0.24			
Lane Grp Cap(c), veh/h	684	0	0				0	1424	717			
V/C Ratio(X)	0.07	0.00	0.00				0.00	0.34	0.35			
Avail Cap(c_a), veh/h	1501	0	0				0	2184	1100			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	5.3	5.3			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.7	1.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0				0.0	1.4	1.5			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	6.0	6.7			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		45						740				
Approach Delay, s/veh		6.7						6.2				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		12.4						15.6				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.5						4.8				
Green Ext Time (p_c), s		0.1						2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			6.2									
HCM 2010 LOS			A									

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	511	20	0	0	0	6
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	511	20	0	0	0	6

Major/Minor	Major1	Minor1
Conflicting Flow All	0	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	10.8
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	630	-	-
HCM Lane V/C Ratio	0.01	-	-
HCM Control Delay (s)	10.8	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	10	0	0	674	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	10	0	0	674	14

Major/Minor	Minor2	Major2
Conflicting Flow All	681	343
Stage 1	681	-
Stage 2	0	-
Critical Hdwy	6.4	7.1
Critical Hdwy Stg 1	7.3	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	3.8	3.9
Pot Cap-1 Maneuver	396	562
Stage 1	334	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	396	562
Mov Cap-2 Maneuver	396	-
Stage 1	334	-
Stage 2	-	-

Approach	EB	SB
HCM Control Delay, s	11.5	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	562	-	-
HCM Lane V/C Ratio	0.018	-	-
HCM Control Delay (s)	11.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	14	0	0	631	9
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	0	0	631	9

Major/Minor Minor2 Major2

Conflicting Flow All	636	319	-	0
Stage 1	636	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	420	582	-	-
Stage 1	358	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	420	582	-	-
Mov Cap-2 Maneuver	420	-	-	-
Stage 1	358	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s	11.3	0
HCM LOS	B	

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	582	-	-
HCM Lane V/C Ratio	0.024	-	-
HCM Control Delay (s)	11.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	14	0	0	524	9
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	14	0	0	524	9

Major/Minor	Minor2	Major2
Conflicting Flow All	529	266
Stage 1	529	-
Stage 2	0	-
Critical Hdwy	6.4	7.1
Critical Hdwy Stg 1	7.3	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	3.8	3.9
Pot Cap-1 Maneuver	483	629
Stage 1	423	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	483	629
Mov Cap-2 Maneuver	483	-
Stage 1	423	-
Stage 2	-	-

Approach	EB	SB
HCM Control Delay, s	10.9	0
HCM LOS	B	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	629	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	10.9	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	978	24	0	27
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	978	24	0	27

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	13.6
HCM LOS		B

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	446
HCM Lane V/C Ratio	-	-	0.061
HCM Control Delay (s)	-	-	13.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1507	20	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	20	1507	20	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1517	763	0	0
Stage 1	1517	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	83	351	-	-
Stage 1	127	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	80	351	-	-
Mov Cap-2 Maneuver	80	-	-	-
Stage 1	127	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	15.9	0
HCM LOS	C	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	351
HCM Lane V/C Ratio	-	-	0.057
HCM Control Delay (s)	-	-	15.9
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	20	1368	20	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	20	1368	20	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	1378	693	0	0
Stage 1	1378	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	106	390	-	-
Stage 1	155	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	97	390	-	-
Mov Cap-2 Maneuver	97	-	-	-
Stage 1	155	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	14.7	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	390
HCM Lane V/C Ratio	-	-	0.051
HCM Control Delay (s)	-	-	14.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	186	77	27	7	43	200
Conflicting Peds, #/hr	12	17	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	17	10	0
Mvmt Flow	186	77	27	7	43	200



















Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	334	89	0
Stage 1	48	-	-
Stage 2	286	-	-
Critical Hdwy	6.4	6.2	4.2
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	2.29
Pot Cap-1 Maneuver	665	975	1505
Stage 1	980	-	-
Stage 2	767	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	612	928	1454
Mov Cap-2 Maneuver	612	-	-
Stage 1	966	-	-
Stage 2	716	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	680	1454	-
HCM Lane V/C Ratio	-	-	0.387	0.03	-
HCM Control Delay (s)	-	-	13.6	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0.1	-

HCM 2010 Signalized Intersection Summary
2: 5th St & N St

Cumulative PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						  				
Volume (veh/h)	353	366	0	0	0	0	0	777	200	0	0	0
Number	5	2	12				7	4	14			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.87			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	183.6	0.0				0.0	185.9	190.0			
Adj Flow Rate, veh/h	353	366	0				0	777	200			
Adj No. of Lanes	0	3	0				0	2	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0				0	2	2			
Cap, veh/h	725	1360	0				0	1201	309			
Arrive On Green	0.45	0.45	0.00				0.00	0.45	0.45			
Sat Flow, veh/h	1392	3192	0				0	2779	691			
Grp Volume(v), veh/h	353	366	0				0	511	466			
Grp Sat Flow(s),veh/h/ln	1392	1521	0				0	1766	1611			
Q Serve(g_s), s	13.2	5.3	0.0				0.0	15.8	15.8			
Cycle Q Clear(g_c), s	13.2	5.3	0.0				0.0	15.8	15.8			
Prop In Lane	1.00		0.00				0.00		0.43			
Lane Grp Cap(c), veh/h	725	1360	0				0	790	720			
V/C Ratio(X)	0.49	0.27	0.00				0.00	0.65	0.65			
Avail Cap(c_a), veh/h	725	1360	0				0	790	720			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	14.3	12.2	0.0				0.0	15.1	15.1			
Incr Delay (d2), s/veh	2.3	0.5	0.0				0.0	4.1	4.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.5	2.3	0.0				0.0	8.6	7.9			
LnGrp Delay(d),s/veh	16.7	12.6	0.0				0.0	19.1	19.5			
LnGrp LOS	B	B						B	B			
Approach Vol, veh/h		719						977				
Approach Delay, s/veh		14.6						19.3				
Approach LOS		B						B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		35.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		31.3		31.3								
Max Q Clear Time (g_c+I1), s		15.2		17.8								
Green Ext Time (p_c), s		4.2		5.6								
Intersection Summary												
HCM 2010 Ctrl Delay			17.3									
HCM 2010 LOS			B									

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	78	0	83	860	0	0
Conflicting Peds, #/hr	18	53	87	0	0	87
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	3	2	0	0
Mvmt Flow	78	0	83	860	0	0















Major/Minor	Minor2	Major1		Major2
Conflicting Flow All	649	140	53	0
Stage 1	53	-	-	-
Stage 2	596	-	-	-
Critical Hdwy	6.63	6.2	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-
Follow-up Hdwy	3.519	3.3	2.227	-
Pot Cap-1 Maneuver	418	913	1546	-
Stage 1	969	-	-	-
Stage 2	514	-	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	340	809	1434	-
Mov Cap-2 Maneuver	340	-	-	-
Stage 1	926	-	-	-
Stage 2	437	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.7	1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1434	-	340	-	-
HCM Lane V/C Ratio	0.058	-	0.229	-	-
HCM Control Delay (s)	7.7	0.4	18.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

HCM 2010 Signalized Intersection Summary
4: 5th St & P St

Cumulative PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	1505	228	399	557	0	0	0	0
Number				5	2	12	7	4	14			
Initial Q (Qb), veh				0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)				1.00		0.99	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				0.0	189.5	190.0	190.0	185.5	0.0			
Adj Flow Rate, veh/h				0	1505	228	399	557	0			
Adj No. of Lanes				0	3	0	0	2	0			
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %				0	0	0	2	2	0			
Cap, veh/h				0	1929	292	637	805	0			
Arrive On Green				0.00	0.14	0.14	0.43	0.43	0.00			
Sat Flow, veh/h				0	4699	685	1189	1974	0			
Grp Volume(v), veh/h				0	1146	587	495	461	0			
Grp Sat Flow(s),veh/h/ln				0	1724	1764	1475	1604	0			
Q Serve(g_s), s				0.0	16.0	16.1	14.5	11.6	0.0			
Cycle Q Clear(g_c), s				0.0	16.0	16.1	14.5	11.6	0.0			
Prop In Lane				0.00		0.39	0.81		0.00			
Lane Grp Cap(c), veh/h				0	1469	751	758	683	0			
V/C Ratio(X)				0.00	0.78	0.78	0.65	0.67	0.00			
Avail Cap(c_a), veh/h				0	1469	751	758	683	0			
HCM Platoon Ratio				1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)				0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh				0.0	19.2	19.2	12.4	11.6	0.0			
Incr Delay (d2), s/veh				0.0	4.2	7.9	4.3	5.3	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				0.0	8.5	9.5	6.7	6.0	0.0			
LnGrp Delay(d),s/veh				0.0	23.4	27.2	16.7	16.8	0.0			
LnGrp LOS					C	C	B	B				
Approach Vol, veh/h					1733			956				
Approach Delay, s/veh					24.7			16.8				
Approach LOS					C			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.7		3.7								
Max Green Setting (Gmax), s		21.3		21.3								
Max Q Clear Time (g_c+I1), s		18.1		16.5								
Green Ext Time (p_c), s		2.7		2.5								
Intersection Summary												
HCM 2010 Ctrl Delay				21.9								
HCM 2010 LOS				C								

Intersection	
Int Delay, s/veh	17.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	0	0	71	1632	196	0
Conflicting Peds, #/hr	0	28	28	0	0	35
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	3	0	0
Mvmt Flow	0	0	71	1632	196	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	35	830
Stage 1	-	-	35
Stage 2	-	-	795
Critical Hdwy	-	4.1	6.05
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	6
Follow-up Hdwy	-	2.2	3.65
Pot Cap-1 Maneuver	-	1589	362
Stage 1	-	-	953
Stage 2	-	-	382
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1552	~ 175
Mov Cap-2 Maneuver	-	-	~ 175
Stage 1	-	-	925
Stage 2	-	-	~ 190

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	157.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	175	-	-	1552	-
HCM Lane V/C Ratio	1.12	-	-	0.046	-
HCM Control Delay (s)	157.9	-	-	7.4	1.1
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	10	-	-	0.1	-

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

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	13	626	52	0	0	0	0	185	40
Conflicting Peds, #/hr	16	0	30	30	0	16	8	0	18
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	1	2	0	0	0	0	0	0
Mvmt Flow	13	626	52	0	0	0	0	185	40

Major/Minor

	Major1		Minor1		
Conflicting Flow All	18	0	0	748	714 356
Stage 1	-	-	-	696	696 -
Stage 2	-	-	-	52	18 -
Critical Hdwy	-	-	-	5.7	6.5 7.1
Critical Hdwy Stg 1	-	-	-	6.6	5.5 -
Critical Hdwy Stg 2	-	-	-	-	- -
Follow-up Hdwy	-	-	-	3.8	4 3.9
Pot Cap-1 Maneuver	-	-	-	419	359 551
Stage 1	-	-	-	373	446 -
Stage 2	-	-	-	-	- -
Platoon blocked, %	-	-	-	-	- -
Mov Cap-1 Maneuver	-	-	-	402	0 543
Mov Cap-2 Maneuver	-	-	-	402	0 -
Stage 1	-	-	-	367	0 -
Stage 2	-	-	-	-	0 -

Approach

	EB	NB
HCM Control Delay, s	0	16.2
HCM LOS		C

Minor Lane/Major Mvmt

	NBLn1	EBL	EBT	EBR	SBLn1
Capacity (veh/h)	543	-	-	-	-
HCM Lane V/C Ratio	0.414	-	-	-	-
HCM Control Delay (s)	16.2	-	-	-	-
HCM Lane LOS	C	-	-	-	-
HCM 95th %tile Q(veh)	2	-	-	-	-

Intersection			
Int Delay, s/veh			
Movement	SBL	SBT	SBR
Vol, veh/h	6	68	0
Conflicting Peds, #/hr	18	0	8
Sign Control	Stop	Stop	Stop
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	6	68	0
Major/Minor	Minor2		
Conflicting Flow All	405	740	48
Stage 1	18	18	-
Stage 2	387	722	-
Critical Hdwy	5.7	6.5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	6	5.5	-
Follow-up Hdwy	3.8	4	-
Pot Cap-1 Maneuver	613	347	-
Stage 1	-	-	-
Stage 2	605	434	-
Platoon blocked, %			
Mov Cap-1 Maneuver	595	0	-
Mov Cap-2 Maneuver	595	0	-
Stage 1	-	0	-
Stage 2	596	0	-
Approach	SB		
HCM Control Delay, s			
HCM LOS			
-			
Minor Lane/Major Mvmt			

Intersection										
Int Delay, s/veh	4.2									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	4	15	19	50	40	13	22	187	3
Conflicting Peds, #/hr	12	0	28	28	0	12	9	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	2	15	0	0	0
Mvmt Flow	4	15	19	50	40	13	22	187	3

Major/Minor	Minor2			Minor1			Major1		
Conflicting Flow All	444	419	162	435	423	226	158	0	0
Stage 1	157	157	-	261	261	-	-	-	-
Stage 2	287	262	-	174	162	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.52	6.35	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.52	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.52	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4.018	3.435	2.2	-	-
Pot Cap-1 Maneuver	528	528	888	535	522	782	1434	-	-
Stage 1	850	772	-	748	692	-	-	-	-
Stage 2	725	695	-	833	764	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	465	494	861	488	488	758	1423	-	-
Mov Cap-2 Maneuver	465	494	-	488	488	-	-	-	-
Stage 1	816	752	-	718	664	-	-	-	-
Stage 2	653	667	-	791	745	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	11.2	13.8	0.8
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1423	-	-	623	511	1354	-	-
HCM Lane V/C Ratio	0.015	-	-	0.061	0.202	0.001	-	-
HCM Control Delay (s)	7.6	0	-	11.2	13.8	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.7	0	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	2	120	10
Conflicting Peds, #/hr	8	0	9
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	2	120	10

Major/Minor Major2

Conflicting Flow All	218	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1364	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1354	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach SB













HCM Control Delay, s 0.1

HCM LOS

Minor Lane/Major Mvmt















HCM 2010 Signalized Intersection Summary
8: 7th St & N St

Cumulative PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	475	221	0	0	0	0	0	0	164	1227	0
Number	3	8	18							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90							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	0.0	186.9	190.0							190.0	178.6	0.0
Adj Flow Rate, veh/h	0	475	221							164	1227	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2							7	7	0
Cap, veh/h	0	1059	443							341	2117	0
Arrive On Green	0.00	0.31	0.31							0.51	0.51	0.00
Sat Flow, veh/h	0	3569	1423							436	4314	0
Grp Volume(v), veh/h	0	475	221							512	879	0
Grp Sat Flow(s),veh/h/ln	0	1700	1423							1646	1479	0
Q Serve(g_s), s	0.0	4.5	5.0							5.3	8.3	0.0
Cycle Q Clear(g_c), s	0.0	4.5	5.0							8.6	8.3	0.0
Prop In Lane	0.00		1.00							0.32		0.00
Lane Grp Cap(c), veh/h	0	1059	443							956	1502	0
V/C Ratio(X)	0.00	0.45	0.50							0.54	0.59	0.00
Avail Cap(c_a), veh/h	0	1365	571							1221	1987	0
HCM Platoon Ratio	1.00	1.00	1.00							1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	11.0	11.2							6.9	6.9	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.9							2.2	1.7	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	0.0	2.1	2.1							4.4	3.6	0.0
LnGrp Delay(d),s/veh	0.0	11.3	12.1							9.0	8.5	0.0
LnGrp LOS		B	B							A	A	
Approach Vol, veh/h		696									1391	
Approach Delay, s/veh		11.5									8.7	
Approach LOS		B									A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		33.9						16.1				
Change Period (Y+Rc), s		3.5						3.7				
Max Green Setting (Gmax), s		26.8						16.0				
Max Q Clear Time (g_c+I1), s		10.6						7.0				
Green Ext Time (p_c), s		8.7						3.1				
Intersection Summary												
HCM 2010 Ctrl Delay			9.7									
HCM 2010 LOS			A									













HCM 2010 Signalized Intersection Summary
10: 7th St & P St

Cumulative PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	203	1216	0	0	0	0	0	1098	423
Number				7	4	14				5	2	12
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				190.0	190.0	0.0				0.0	184.4	190.0
Adj Flow Rate, veh/h				203	1216	0				0	1098	423
Adj No. of Lanes				0	3	0				0	3	0
Peak Hour Factor				1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %				0	0	0				0	0	0
Cap, veh/h				366	1800	0				0	1518	585
Arrive On Green				0.43	0.43	0.00				0.00	0.43	0.43
Sat Flow, veh/h				623	4380	0				0	3697	1360
Grp Volume(v), veh/h				515	904	0				0	1043	478
Grp Sat Flow(s),veh/h/ln				1701	1573	0				0	1678	1536
Q Serve(g_s), s				11.0	11.6	0.0				0.0	12.9	12.9
Cycle Q Clear(g_c), s				12.4	11.6	0.0				0.0	12.9	12.9
Prop In Lane				0.39		0.00				0.00		0.89
Lane Grp Cap(c), veh/h				825	1341	0				0	1443	661
V/C Ratio(X)				0.62	0.67	0.00				0.00	0.72	0.72
Avail Cap(c_a), veh/h				825	1341	0				0	1443	661
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				11.7	11.6	0.0				0.0	11.8	11.8
Incr Delay (d2), s/veh				3.6	2.7	0.0				0.0	3.2	6.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.5	5.4	0.0				0.0	6.4	6.5
LnGrp Delay(d),s/veh				15.3	14.3	0.0				0.0	15.0	18.5
LnGrp LOS				B	B						B	B
Approach Vol, veh/h					1419						1521	
Approach Delay, s/veh					14.6						16.1	
Approach LOS					B						B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		14.9		14.4								
Green Ext Time (p_c), s		4.9		4.7								
Intersection Summary												
HCM 2010 Ctrl Delay				15.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary
 11: 7th St & Q St

Cumulative PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑									↑↑↑	
Volume (veh/h)	0	643	28	0	0	0	0	0	0	318	954	0
Number	7	4	14							5	2	12
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93							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	0.0	188.2	190.0							190.0	184.9	0.0
Adj Flow Rate, veh/h	0	643	28							318	954	0
Adj No. of Lanes	0	3	0							0	3	0
Peak Hour Factor	1.00	1.00	1.00							1.00	1.00	1.00
Percent Heavy Veh, %	0	1	1							0	0	0
Cap, veh/h	0	2143	93							575	1514	0
Arrive On Green	0.00	0.43	0.43							0.14	0.14	0.00
Sat Flow, veh/h	0	5201	218							1053	3673	0
Grp Volume(v), veh/h	0	436	235							457	815	0
Grp Sat Flow(s),veh/h/ln	0	1713	1824							1513	1531	0
Q Serve(g_s), s	0.0	4.2	4.2							14.4	12.5	0.0
Cycle Q Clear(g_c), s	0.0	4.2	4.2							14.4	12.5	0.0
Prop In Lane	0.00		0.12							0.70		0.00
Lane Grp Cap(c), veh/h	0	1459	777							773	1317	0
V/C Ratio(X)	0.00	0.30	0.30							0.59	0.62	0.00
Avail Cap(c_a), veh/h	0	1459	777							773	1317	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	1.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	9.4	9.5							18.4	17.6	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.0							3.3	2.2	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	0.0	2.0	2.3							6.7	5.7	0.0
LnGrp Delay(d),s/veh	0.0	10.0	10.5							21.7	19.8	0.0
LnGrp LOS		A	B							C	B	
Approach Vol, veh/h		671									1272	
Approach Delay, s/veh		10.1									20.5	
Approach LOS		B									C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		25.0		25.0								
Change Period (Y+Rc), s		3.5		3.7								
Max Green Setting (Gmax), s		21.5		21.3								
Max Q Clear Time (g_c+I1), s		16.4		6.2								
Green Ext Time (p_c), s		3.4		3.8								
Intersection Summary												
HCM 2010 Ctrl Delay			16.9									
HCM 2010 LOS			B									

Intersection										
Int Delay, s/veh	0.3									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
Vol, veh/h	0	22	5	10	35	0	0	0	0
Conflicting Peds, #/hr	17	0	10	10	0	17	21	0	16
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	3	0	0	0	0
Mvmt Flow	0	22	5	10	35	0	0	0	0

Major/Minor	Minor2			Minor1		
Conflicting Flow All	1060	1042	515	461	1076	38
Stage 1	1025	1025	-	17	17	-
Stage 2	35	17	-	444	1059	-
Critical Hdwy	5.7	6.5	7.1	5.7	6.56	-
Critical Hdwy Stg 1	6.6	5.5	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6	5.56	-
Follow-up Hdwy	3.8	4	3.9	3.8	4.03	-
Pot Cap-1 Maneuver	294	232	436	577	216	-
Stage 1	237	315	-	-	-	-
Stage 2	-	-	-	566	297	-
Platoon blocked, %						
Mov Cap-1 Maneuver	286	0	430	569	0	-
Mov Cap-2 Maneuver	286	0	-	569	0	-
Stage 1	234	0	-	-	0	-
Stage 2	-	0	-	566	0	-

Approach	EB	WB
HCM Control Delay, s	13.9	
HCM LOS	B	-

Minor Lane/Major Mvmt	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	430	-	-	-	-
HCM Lane V/C Ratio	0.063	-	-	-	-
HCM Control Delay (s)	13.9	-	-	-	-
HCM Lane LOS	B	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	-

Intersection

Int Delay, s/veh

Movement	SBL	SBT	SBR
Vol, veh/h	22	930	68
Conflicting Peds, #/hr	16	0	21
Sign Control	Free	Free	Free
RT Channelized	-	-	None
Storage Length	-	-	-
Veh in Median Storage, #	-	0	-
Grade, %	-	0	-
Peak Hour Factor	100	100	100
Heavy Vehicles, %	0	0	0
Mvmt Flow	22	930	68

Major/Minor Major2

Conflicting Flow All	17	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

















Approach SB

HCM Control Delay, s	0
HCM LOS	

Minor Lane/Major Mvmt

HCM 2010 Signalized Intersection Summary
 13: 8th St & O St

Cumulative PP No Hotel PM - PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	11	9	0	0	0	0	0	576	28	0	0	0
Number	5	2	12				3	8	18			
Initial Q (Qb), veh	0	0	0				0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.86			
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	190.0	172.9	0.0				0.0	181.4	190.0			
Adj Flow Rate, veh/h	11	9	0				0	576	28			
Adj No. of Lanes	0	1	0				0	3	0			
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00			
Percent Heavy Veh, %	22	22	0				0	5	5			
Cap, veh/h	401	260	0				0	2122	102			
Arrive On Green	0.30	0.30	0.00				0.00	0.44	0.44			
Sat Flow, veh/h	653	868	0				0	4960	231			
Grp Volume(v), veh/h	20	0	0				0	394	210			
Grp Sat Flow(s),veh/h/ln	1520	0	0				0	1650	1727			
Q Serve(g_s), s	0.0	0.0	0.0				0.0	2.1	2.1			
Cycle Q Clear(g_c), s	0.2	0.0	0.0				0.0	2.1	2.1			
Prop In Lane	0.55		0.00				0.00		0.13			
Lane Grp Cap(c), veh/h	661	0	0				0	1460	764			
V/C Ratio(X)	0.03	0.00	0.00				0.00	0.27	0.27			
Avail Cap(c_a), veh/h	1547	0	0				0	2249	1177			
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00			
Uniform Delay (d), s/veh	6.7	0.0	0.0				0.0	4.8	4.8			
Incr Delay (d2), s/veh	0.0	0.0	0.0				0.0	0.5	0.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0				0.0	1.0	1.2			
LnGrp Delay(d),s/veh	6.7	0.0	0.0				0.0	5.3	5.7			
LnGrp LOS	A							A	A			
Approach Vol, veh/h		20						604				
Approach Delay, s/veh		6.7						5.4				
Approach LOS		A						A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2						8				
Phs Duration (G+Y+Rc), s		11.6						15.5				
Change Period (Y+Rc), s		3.5						3.5				
Max Green Setting (Gmax), s		24.5						18.5				
Max Q Clear Time (g_c+I1), s		2.2						4.1				
Green Ext Time (p_c), s		0.0						2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			5.4									
HCM 2010 LOS			A									

Intersection	
Int Delay, s/veh	0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	657	49	0	0	0	39
Conflicting Peds, #/hr	0	86	86	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	0	0	0	0	0
Mvmt Flow	657	49	0	0	0	39

Major/Minor	Major1	Minor1
Conflicting Flow All	0	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach	EB	NB
HCM Control Delay, s	0	12
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	555	-	-
HCM Lane V/C Ratio	0.07	-	-
HCM Control Delay (s)	12	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	60	0	0	1407	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	0	60	0	0	1407	37

Major/Minor Minor2 Major2

Conflicting Flow All	1426	721	-	0
Stage 1	1426	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	145	321	-	-
Stage 1	102	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	145	321	-	-
Mov Cap-2 Maneuver	145	-	-	-
Stage 1	102	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 18.8 0
HCM LOS C

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	321	-	-
HCM Lane V/C Ratio	0.187	-	-
HCM Control Delay (s)	18.8	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.7	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	24	0	0	1422	26
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	24	0	0	1422	26

Major/Minor Minor2 Major2

Conflicting Flow All	1435	723	-	0
Stage 1	1435	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	143	320	-	-
Stage 1	100	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	143	320	-	-
Mov Cap-2 Maneuver	143	-	-	-
Stage 1	100	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 17.2 0
HCM LOS C

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	320	-	-
HCM Lane V/C Ratio	0.075	-	-
HCM Control Delay (s)	17.2	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	25	0	0	1493	25
Conflicting Peds, #/hr	0	0	27	0	0	27
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	25	0	0	1493	25

Major/Minor Minor2 Major2

Conflicting Flow All	1506	758	-	0
Stage 1	1506	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	6.4	7.1	-	-
Critical Hdwy Stg 1	7.3	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.8	3.9	-	-
Pot Cap-1 Maneuver	130	304	-	-
Stage 1	89	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	130	304	-	-
Mov Cap-2 Maneuver	130	-	-	-
Stage 1	89	-	-	-
Stage 2	-	-	-	-

Approach EB SB

HCM Control Delay, s 17.9 0
 HCM LOS C

Minor Lane/Major Mvmt EBLn1 SBT SBR

Capacity (veh/h)	304	-	-
HCM Lane V/C Ratio	0.082	-	-
HCM Control Delay (s)	17.9	-	-
HCM Lane LOS	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	0	0	1646	56	0	57
Conflicting Peds, #/hr	33	0	0	33	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	0	0	1646	56	0	57

Major/Minor

	Major2	Minor2
Conflicting Flow All	-	0
Stage 1	-	-
Stage 2	-	-
Critical Hdwy	-	-
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	-
Follow-up Hdwy	-	-
Pot Cap-1 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	-
Mov Cap-2 Maneuver	-	-
Stage 1	-	-
Stage 2	-	-

Approach

	WB	SB
HCM Control Delay, s	0	22.4
HCM LOS		C

Minor Lane/Major Mvmt

	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	264
HCM Lane V/C Ratio	-	-	0.216
HCM Control Delay (s)	-	-	22.4
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.8

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	889	40	0	0
Conflicting Peds, #/hr	0	0	0	41	41	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1081155584	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	40	889	40	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	909	464	0	0
Stage 1	909	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	233	550	-	-
Stage 1	300	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	225	550	-	-
Mov Cap-2 Maneuver	225	-	-	-
Stage 1	300	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	12.1	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	550
HCM Lane V/C Ratio	-	-	0.073
HCM Control Delay (s)	-	-	12.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	0	40	915	40	0	0
Conflicting Peds, #/hr	0	0	0	98	98	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	1082603520	
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	2	0	0	0
Mvmt Flow	0	40	915	40	0	0

Major/Minor

	Minor1	Major1		
Conflicting Flow All	935	477	0	0
Stage 1	935	-	-	-
Stage 2	0	-	-	-
Critical Hdwy	7.5	6.9	-	-
Critical Hdwy Stg 1	6.5	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-
Pot Cap-1 Maneuver	223	540	-	-
Stage 1	289	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	205	540	-	-
Mov Cap-2 Maneuver	205	-	-	-
Stage 1	289	-	-	-
Stage 2	-	-	-	-

Approach

	WB	NB
HCM Control Delay, s	12.2	0
HCM LOS	B	

Minor Lane/Major Mvmt

	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	540
HCM Lane V/C Ratio	-	-	0.074
HCM Control Delay (s)	-	-	12.2
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

APPENDIX I: SIGNAL WARRANT ANALYSIS WORKSHEETS

Existing AM Signal Warrants												
#	Intersection	Rule	Criteria	Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?	
1	4th St & O St	Rule #1	4	veh-hrs	0.2	No	135	58	443	No	No	
		Rule #2	100	veh/hr	58	No						
		Rule #3	650	veh/hr	193	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.1	No	1208	16	215	No	No	
		Rule #2	100	veh/hr	16	No						
		Rule #3	650	veh/hr	1224	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	0.1	No	629	26	445	No	No	
		Rule #2	100	veh/hr	26	No						
		Rule #3	650	veh/hr	655	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	0.2	No	1815	30	100	No	No	
		Rule #2	100	veh/hr	30	No						
		Rule #3	800	veh/hr	1857	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.2	No	161	59	443	No	No	
		Rule #2	100	veh/hr	59	No						
		Rule #3	800	veh/hr	243	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.1	No	235	27	537	No	No	
		Rule #2	100	veh/hr	27	No						
		Rule #3	650	veh/hr	284	No						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.0	No	497	0	511	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	497	No						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.0	No	373	0	537	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	373	No						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.0	No	247	0	537	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	247	No						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.0	No	247	0	537	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	247	No						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.0	No	630	0	445	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	630	No						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.0	No	1208	0	215	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	1208	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.0	No	1067	0	261	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	1067	Yes						

Existing PM Signal Warrants												
#	Intersection	Rule	Criteria	Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?	
1	4th St & O St	Rule #1	4	veh-hrs	0.9	No	255	247	443	No	No	
		Rule #2	100	veh/hr	247	Yes						
		Rule #3	650	veh/hr	502	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.3	No	759	62	385	No	No	
		Rule #2	100	veh/hr	62	No						
		Rule #3	650	veh/hr	821	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	0.3	No	1528	68	131	No	No	
		Rule #2	100	veh/hr	68	No						
		Rule #3	650	veh/hr	1596	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	0.4	No	679	98	421	No	No	
		Rule #2	100	veh/hr	98	No						
		Rule #3	800	veh/hr	801	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.2	No	145	56	443	No	No	
		Rule #2	100	veh/hr	56	No						
		Rule #3	800	veh/hr	239	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.1	No	427	45	537	No	No	
		Rule #2	100	veh/hr	45	No						
		Rule #3	650	veh/hr	499	No						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.0	No	630	0	445	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	630	No						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.0	No	676	0	421	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	676	Yes						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.0	No	658	0	431	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	658	Yes						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.0	No	730	0	398	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	730	Yes						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.0	No	1529	0	131	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	1529	Yes						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.0	No	759	0	385	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	759	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.0	No	757	0	385	No	No	
		Rule #2	100	veh/hr	0	No						
		Rule #3	650	veh/hr	757	Yes						

Existing AM + Hotel Option Signal Warrants												
#	Intersection	Rule	Criteria		Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?
1	4th St & O St	Rule #1	4	veh-hrs	0.2	No	No	143	65	443	No	No
		Rule #2	100	veh/hr	65	No						
		Rule #3	650	veh/hr	208	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.2	No	No	1245	20	203	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1265	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	0.1	No	No	675	26	421	No	No
		Rule #2	100	veh/hr	26	No						
		Rule #3	650	veh/hr	701	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	0.2	No	No	1815	30	100	No	No
		Rule #2	100	veh/hr	30	No						
		Rule #3	800	veh/hr	1857	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.2	No	No	171	59	443	No	No
		Rule #2	100	veh/hr	59	No						
		Rule #3	800	veh/hr	256	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.1	No	No	242	37	537	No	No
		Rule #2	100	veh/hr	37	No						
		Rule #3	650	veh/hr	301	No						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.1	No	No	582	20	470	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	602	No						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.1	No	No	410	25	537	No	No
		Rule #2	100	veh/hr	25	No						
		Rule #3	650	veh/hr	435	No						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.0	No	No	392	14	537	No	No
		Rule #2	100	veh/hr	14	No						
		Rule #3	650	veh/hr	406	No						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.0	No	No	286	14	537	No	No
		Rule #2	100	veh/hr	14	No						
		Rule #3	650	veh/hr	300	No						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.1	No	No	667	27	426	No	No
		Rule #2	100	veh/hr	27	No						
		Rule #3	650	veh/hr	694	Yes						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.1	No	No	1245	20	203	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1265	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.1	No	No	1101	20	251	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1121	Yes						

Existing PM + Hotel Option Signal Warrants												
#	Intersection	Rule	Criteria		Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?
1	4th St & O St	Rule #1	4	veh-hrs	1.0	No	No	279	257	443	No	No
		Rule #2	100	veh/hr	257	Yes						
		Rule #3	650	veh/hr	536	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.4	No	No	819	76	359	No	No
		Rule #2	100	veh/hr	76	No						
		Rule #3	650	veh/hr	895	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	0.3	No	No	1582	68	120	No	No
		Rule #2	100	veh/hr	68	No						
		Rule #3	650	veh/hr	1650	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	0.4	No	No	679	98	421	No	No
		Rule #2	100	veh/hr	98	No						
		Rule #3	800	veh/hr	801	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.2	No	No	147	80	443	No	No
		Rule #2	100	veh/hr	80	No						
		Rule #3	800	veh/hr	265	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.1	No	No	469	45	526	No	No
		Rule #2	100	veh/hr	45	No						
		Rule #3	650	veh/hr	541	No						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.2	No	No	726	62	398	No	No
		Rule #2	100	veh/hr	62	No						
		Rule #3	650	veh/hr	788	Yes						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.3	No	No	775	87	376	No	No
		Rule #2	100	veh/hr	87	No						
		Rule #3	650	veh/hr	862	Yes						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.1	No	No	787	25	372	No	No
		Rule #2	100	veh/hr	25	No						
		Rule #3	650	veh/hr	812	Yes						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.1	No	No	858	26	342	No	No
		Rule #2	100	veh/hr	26	No						
		Rule #3	650	veh/hr	884	Yes						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.3	No	No	1586	54	118	No	No
		Rule #2	100	veh/hr	54	No						
		Rule #3	650	veh/hr	1640	Yes						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.1	No	No	819	41	359	No	No
		Rule #2	100	veh/hr	41	No						
		Rule #3	650	veh/hr	860	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.1	No	No	821	41	359	No	No
		Rule #2	100	veh/hr	41	No						
		Rule #3	650	veh/hr	862	Yes						

Existing AM + No Hotel Option Signal Warrants												
#	Intersection	Rule	Criteria	Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?	
1	4th St & O St	Rule #1	4	veh-hrs	0.2	No	143	66	443	No	No	
		Rule #2	100	veh/hr	66	No						
		Rule #3	650	veh/hr	209	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.1	No	1232	20	209	No	No	
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1252	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	0.1	No	656	26	431	No	No	
		Rule #2	100	veh/hr	26	No						
		Rule #3	650	veh/hr	682	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	0.2	No	1815	30	100	No	No	
		Rule #2	100	veh/hr	30	No						
		Rule #3	800	veh/hr	1857	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.2	No	171	59	443	No	No	
		Rule #2	100	veh/hr	59	No						
		Rule #3	800	veh/hr	254	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.1	No	237	37	537	No	No	
		Rule #2	100	veh/hr	37	No						
		Rule #3	650	veh/hr	296	No						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.0	No	531	6	495	No	No	
		Rule #2	100	veh/hr	6	No						
		Rule #3	650	veh/hr	537	No						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.0	No	408	10	537	No	No	
		Rule #2	100	veh/hr	10	No						
		Rule #3	650	veh/hr	418	No						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.0	No	383	14	537	No	No	
		Rule #2	100	veh/hr	14	No						
		Rule #3	650	veh/hr	397	No						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.0	No	276	14	537	No	No	
		Rule #2	100	veh/hr	14	No						
		Rule #3	650	veh/hr	290	No						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.1	No	654	27	436	No	No	
		Rule #2	100	veh/hr	27	No						
		Rule #3	650	veh/hr	681	Yes						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.1	No	1232	20	209	No	No	
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1252	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.1	No	1087	20	254	No	No	
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1107	Yes						

Existing PM + No Hotel Option Signal Warrants												
#	Intersection	Rule	Criteria	Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?	
1	4th St & O St	Rule #1	4	veh-hrs	1.0	No	277	263	443	No	No	
		Rule #2	100	veh/hr	263	Yes						
		Rule #3	650	veh/hr	540	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.4	No	836	77	350	No	No	
		Rule #2	100	veh/hr	77	No						
		Rule #3	650	veh/hr	913	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	0.3	No	1585	68	118	No	No	
		Rule #2	100	veh/hr	68	No						
		Rule #3	650	veh/hr	1653	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	0.4	No	682	98	421	No	No	
		Rule #2	100	veh/hr	98	No						
		Rule #3	800	veh/hr	804	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.3	No	155	82	443	No	No	
		Rule #2	100	veh/hr	82	No						
		Rule #3	800	veh/hr	275	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.1	No	524	45	500	No	No	
		Rule #2	100	veh/hr	45	No						
		Rule #3	650	veh/hr	596	No						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.1	No	706	39	407	No	No	
		Rule #2	100	veh/hr	39	No						
		Rule #3	650	veh/hr	745	Yes						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.2	No	776	60	376	No	No	
		Rule #2	100	veh/hr	60	No						
		Rule #3	650	veh/hr	836	Yes						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.1	No	778	24	376	No	No	
		Rule #2	100	veh/hr	24	No						
		Rule #3	650	veh/hr	802	Yes						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.1	No	848	25	346	No	No	
		Rule #2	100	veh/hr	25	No						
		Rule #3	650	veh/hr	873	Yes						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.3	No	1585	57	118	No	No	
		Rule #2	100	veh/hr	57	No						
		Rule #3	650	veh/hr	1642	Yes						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.1	No	836	40	350	No	No	
		Rule #2	100	veh/hr	40	No						
		Rule #3	650	veh/hr	876	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.1	No	833	40	354	No	No	
		Rule #2	100	veh/hr	40	No						
		Rule #3	650	veh/hr	873	Yes						

Cumulative 2035 AM Signal Warrants												
#	Intersection	Rule	Criteria	Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?	
1	4th St & O St	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.2 58 193	No No No	No	135	58	443	No	No
3	5th St & O St	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.2 16 1523	No No Yes	No	1507	16	135	No	No
5	6th St & P St	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	1.0 208 1185	No Yes Yes	No	977	208	294	No	No
6	6th St & Q St	Rule #1 Rule #2 Rule #3	4 100 800	veh-hrs veh/hr veh/hr	4.8 210 2082	Yes Yes Yes	Yes	1827	210	100	Yes	Yes
7	6th St & R St	Rule #1 Rule #2 Rule #3	4 100 800	veh-hrs veh/hr veh/hr	0.2 59 487	No No No	No	374	59	443	No	No
12	7th St & R St	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.1 40 434	No No No	No	372	40	537	No	No
14	Driveway 1 & N St	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.0 0 497	No No No	No	497	0	511	No	No
15	7th St & Driveway 2	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.0 0 653	No No Yes	No	653	0	436	No	No
16	7th St & Driveway 3	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.0 0 616	No No No	No	616	0	450	No	No
17	7th St & Driveway 4	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.0 0 504	No No No	No	504	0	511	No	No
18	Driveway 5 & P St	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.0 0 978	No No Yes	No	978	0	294	No	No
19	5th St & Driveway 6	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.0 0 1503	No No Yes	No	1503	0	137	No	No
20	5th St & Driveway 7	Rule #1 Rule #2 Rule #3	4 100 650	veh-hrs veh/hr veh/hr	0.0 0 1368	No No Yes	No	1368	0	169	No	No

Cumulative 2035 PM Signal Warrants

#	Intersection	Rule	Criteria	Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?
1	4th St & O St	Rule #1	4	veh-hrs	0.9	No	255	247	443	No	No
		Rule #2	100	veh/hr	247	Yes					
		Rule #3	650	veh/hr	502	No					
3	5th St & O St	Rule #1	4	veh-hrs	0.3	No	866	63	338	No	No
		Rule #2	100	veh/hr	63	No					
		Rule #3	650	veh/hr	929	Yes					
5	6th St & P St	Rule #1	4	veh-hrs	4.2	Yes	1646	196	107	Yes	Yes
		Rule #2	100	veh/hr	196	Yes					
		Rule #3	650	veh/hr	1842	Yes					
6	6th St & Q St	Rule #1	4	veh-hrs	1.0	No	688	225	417	No	No
		Rule #2	100	veh/hr	225	Yes					
		Rule #3	800	veh/hr	987	Yes					
7	6th St & R St	Rule #1	4	veh-hrs	0.3	No	334	77	443	No	No
		Rule #2	100	veh/hr	77	No					
		Rule #3	800	veh/hr	449	No					
12	7th St & R St	Rule #1	4	veh-hrs	0.2	No	923	45	317	No	No
		Rule #2	100	veh/hr	45	No					
		Rule #3	650	veh/hr	995	Yes					
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.0	No	630	0	445	No	No
		Rule #2	100	veh/hr	0	No					
		Rule #3	650	veh/hr	630	No					
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.0	No	1344	0	177	No	No
		Rule #2	100	veh/hr	0	No					
		Rule #3	650	veh/hr	1344	Yes					
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.0	No	1328	0	180	No	No
		Rule #2	100	veh/hr	0	No					
		Rule #3	650	veh/hr	1328	Yes					
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.0	No	1400	0	161	No	No
		Rule #2	100	veh/hr	0	No					
		Rule #3	650	veh/hr	1400	Yes					
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.0	No	1646	0	107	No	No
		Rule #2	100	veh/hr	0	No					
		Rule #3	650	veh/hr	1646	Yes					
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.0	No	852	0	346	No	No
		Rule #2	100	veh/hr	0	No					
		Rule #3	650	veh/hr	852	Yes					
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.0	No	879	0	333	No	No
		Rule #2	100	veh/hr	0	No					
		Rule #3	650	veh/hr	879	Yes					

Cumulative 2035 AM + Hotel Option Signal Warrants												
#	Intersection	Rule	Criteria		Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?
1	4th St & O St	Rule #1	4	veh-hrs	0.2	No	No	143	65	443	No	No
		Rule #2	100	veh/hr	65	No						
		Rule #3	650	veh/hr	208	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.2	No	No	1544	20	129	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1564	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	1.1	No	No	1023	208	279	No	No
		Rule #2	100	veh/hr	208	Yes						
		Rule #3	650	veh/hr	1231	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	4.8	Yes	Yes	1827	210	100	Yes	Yes
		Rule #2	100	veh/hr	210	Yes						
		Rule #3	800	veh/hr	2082	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.2	No	No	384	59	443	No	No
		Rule #2	100	veh/hr	59	No						
		Rule #3	800	veh/hr	500	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.1	No	No	379	50	537	No	No
		Rule #2	100	veh/hr	50	No						
		Rule #3	650	veh/hr	451	No						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.1	No	No	582	20	470	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	602	No						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.1	No	No	690	25	417	No	No
		Rule #2	100	veh/hr	25	No						
		Rule #3	650	veh/hr	715	Yes						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.0	No	No	649	14	436	No	No
		Rule #2	100	veh/hr	14	No						
		Rule #3	650	veh/hr	663	Yes						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.0	No	No	543	14	490	No	No
		Rule #2	100	veh/hr	14	No						
		Rule #3	650	veh/hr	557	No						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.1	No	No	1015	27	279	No	No
		Rule #2	100	veh/hr	27	No						
		Rule #3	650	veh/hr	1042	Yes						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.1	No	No	1540	20	129	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1560	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.1	No	No	1402	20	161	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1422	Yes						

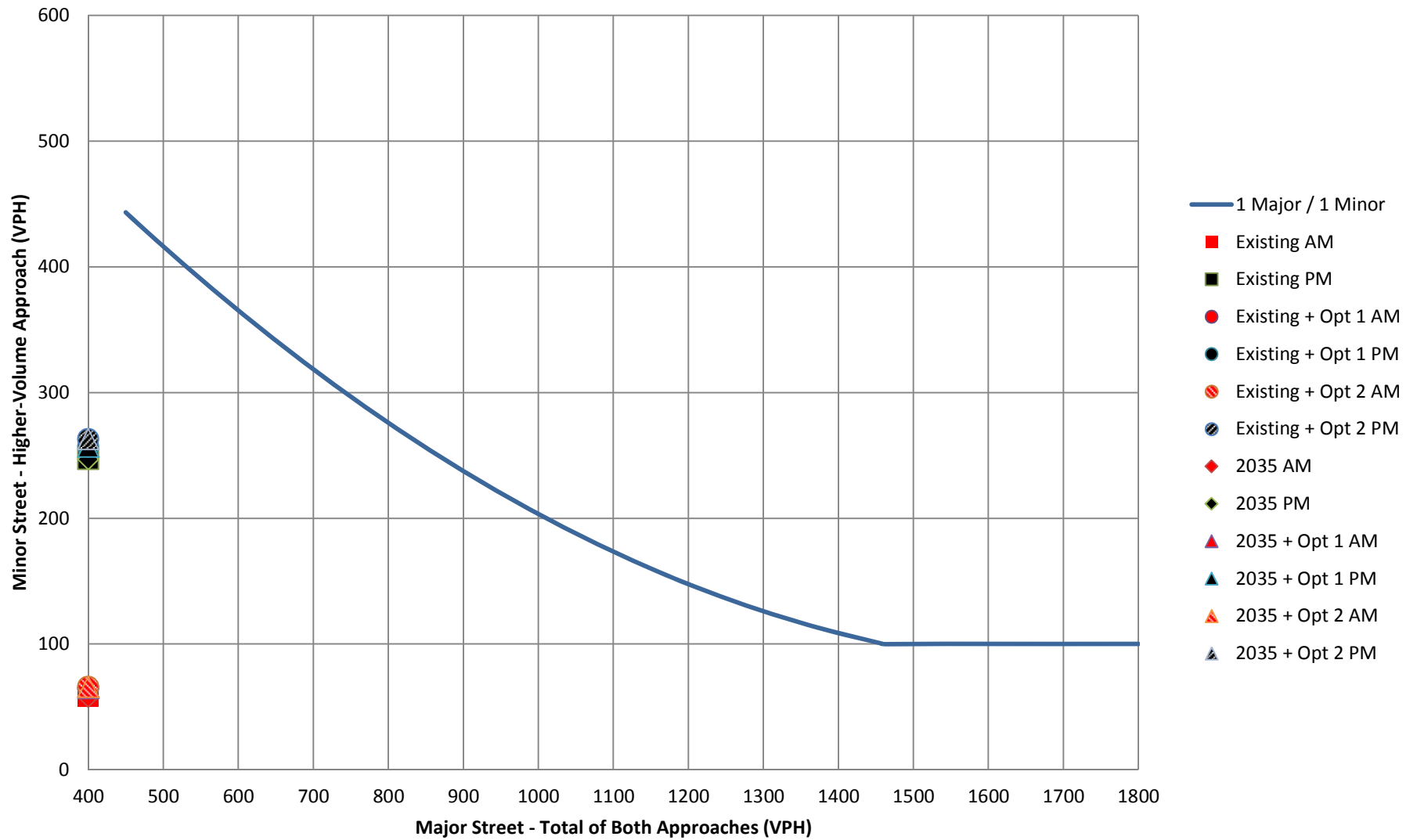
Cumulative 2035 PM + Hotel Option Signal Warrants

#	Intersection	Rule	Criteria	Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?
1	4th St & O St	Rule #1	4	veh-hrs	1.0	No	279	257	443	No	No
		Rule #2	100	veh/hr	257	Yes					
		Rule #3	650	veh/hr	536	No					
3	5th St & O St	Rule #1	4	veh-hrs	0.4	No	926	77	313	No	No
		Rule #2	100	veh/hr	77	No					
		Rule #3	650	veh/hr	1003	Yes					
5	6th St & P St	Rule #1	4	veh-hrs	8.2	Yes	1700	196	100	Yes	Yes
		Rule #2	100	veh/hr	196	Yes					
		Rule #3	650	veh/hr	1896	Yes					
6	6th St & Q St	Rule #1	4	veh-hrs	1.0	No	688	225	417	No	No
		Rule #2	100	veh/hr	225	Yes					
		Rule #3	800	veh/hr	987	Yes					
7	6th St & R St	Rule #1	4	veh-hrs	0.4	No	336	101	443	No	No
		Rule #2	100	veh/hr	101	Yes					
		Rule #3	800	veh/hr	475	No					
12	7th St & R St	Rule #1	4	veh-hrs	0.2	No	965	45	298	No	No
		Rule #2	100	veh/hr	45	No					
		Rule #3	650	veh/hr	1037	Yes					
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.2	No	726	62	398	No	No
		Rule #2	100	veh/hr	62	No					
		Rule #3	650	veh/hr	788	Yes					
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.5	No	1443	87	151	No	No
		Rule #2	100	veh/hr	87	No					
		Rule #3	650	veh/hr	1530	Yes					
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.1	No	1455	25	147	No	No
		Rule #2	100	veh/hr	25	No					
		Rule #3	650	veh/hr	1480	Yes					
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.1	No	1527	26	131	No	No
		Rule #2	100	veh/hr	26	No					
		Rule #3	650	veh/hr	1553	Yes					
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.3	No	1703	54	100	No	No
		Rule #2	100	veh/hr	54	No					
		Rule #3	650	veh/hr	1757	Yes					
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.1	No	912	41	321	No	No
		Rule #2	100	veh/hr	41	No					
		Rule #3	650	veh/hr	953	Yes					
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.1	No	943	41	309	No	No
		Rule #2	100	veh/hr	41	No					
		Rule #3	650	veh/hr	984	Yes					

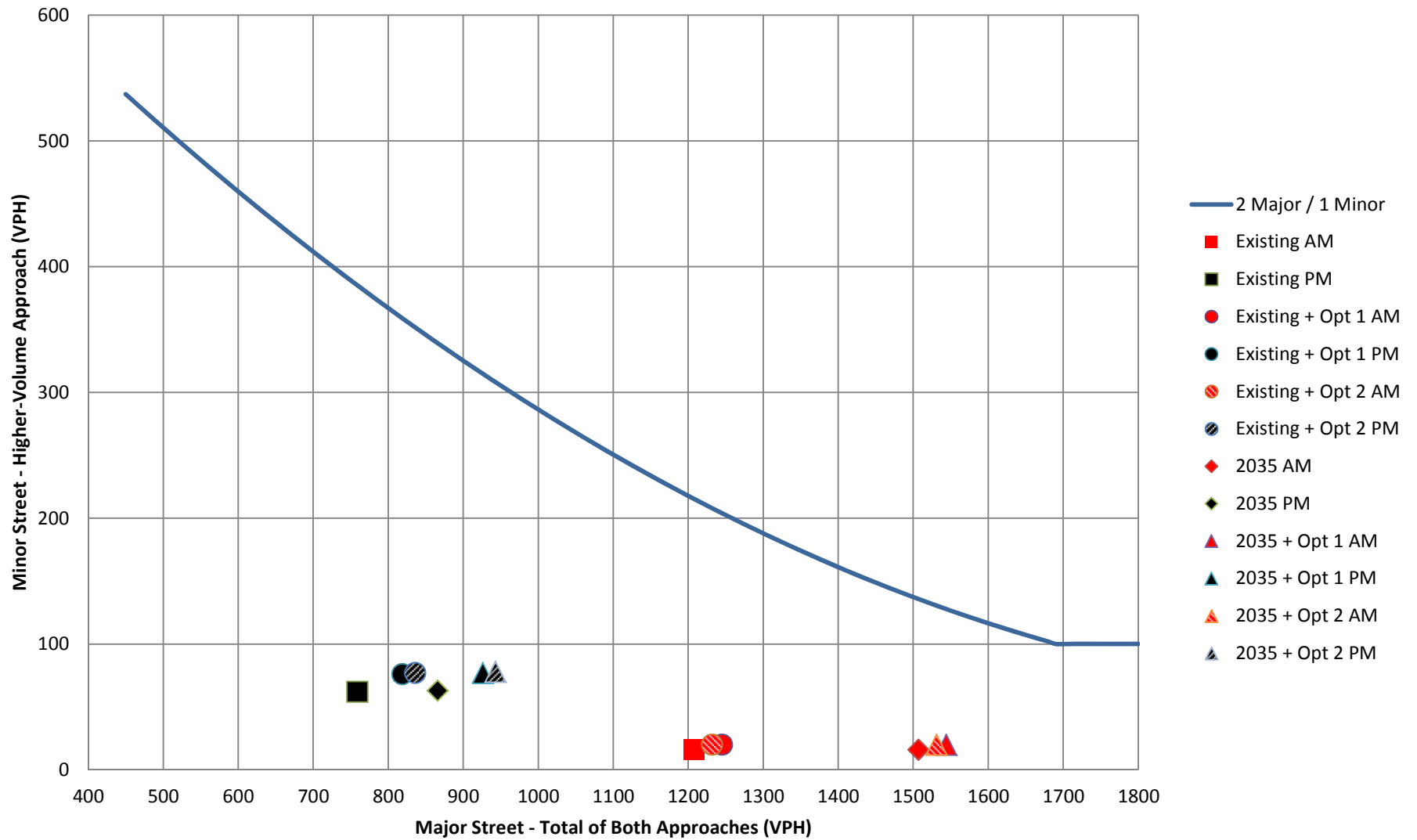
Cumulative 2035 AM + No Hotel Option Signal Warrants												
#	Intersection	Rule	Criteria		Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?
1	4th St & O St	Rule #1	4	veh-hrs	0.2	No	No	143	66	443	No	No
		Rule #2	100	veh/hr	66	No						
		Rule #3	650	veh/hr	209	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.2	No	No	1531	20	131	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1551	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	1.0	No	No	1004	208	286	No	No
		Rule #2	100	veh/hr	208	Yes						
		Rule #3	650	veh/hr	1212	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	4.8	Yes	Yes	1827	210	100	Yes	Yes
		Rule #2	100	veh/hr	210	Yes						
		Rule #3	800	veh/hr	2082	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.2	No	No	384	59	443	No	No
		Rule #2	100	veh/hr	59	No						
		Rule #3	800	veh/hr	498	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.1	No	No	374	50	537	No	No
		Rule #2	100	veh/hr	50	No						
		Rule #3	650	veh/hr	446	No						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.0	No	No	531	6	495	No	No
		Rule #2	100	veh/hr	6	No						
		Rule #3	650	veh/hr	537	No						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.0	No	No	688	10	417	No	No
		Rule #2	100	veh/hr	10	No						
		Rule #3	650	veh/hr	698	Yes						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.0	No	No	640	14	440	No	No
		Rule #2	100	veh/hr	14	No						
		Rule #3	650	veh/hr	654	Yes						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.0	No	No	533	14	495	No	No
		Rule #2	100	veh/hr	14	No						
		Rule #3	650	veh/hr	547	No						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.1	No	No	1002	27	286	No	No
		Rule #2	100	veh/hr	27	No						
		Rule #3	650	veh/hr	1029	Yes						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.1	No	No	1527	20	131	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1547	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.1	No	No	1388	20	164	No	No
		Rule #2	100	veh/hr	20	No						
		Rule #3	650	veh/hr	1408	Yes						

Cumulative 2035 PM + No Hotel Option Signal Warrants												
#	Intersection	Rule	Criteria		Analysis Result	Rule Met?	Part A Met?	Major Street Volume	Minor Street Volume	Threshold	Part B Met?	Warrant Met?
1	4th St & O St	Rule #1	4	veh-hrs	1.0	No	No	277	263	443	No	No
		Rule #2	100	veh/hr	263	Yes						
		Rule #3	650	veh/hr	540	No						
3	5th St & O St	Rule #1	4	veh-hrs	0.4	No	No	943	78	309	No	No
		Rule #2	100	veh/hr	78	No						
		Rule #3	650	veh/hr	1021	Yes						
5	6th St & P St	Rule #1	4	veh-hrs	8.6	Yes	Yes	1703	196	100	Yes	Yes
		Rule #2	100	veh/hr	196	Yes						
		Rule #3	650	veh/hr	1899	Yes						
6	6th St & Q St	Rule #1	4	veh-hrs	1.0	No	No	691	225	417	No	No
		Rule #2	100	veh/hr	225	Yes						
		Rule #3	800	veh/hr	990	Yes						
7	6th St & R St	Rule #1	4	veh-hrs	0.4	No	No	344	103	443	No	No
		Rule #2	100	veh/hr	103	Yes						
		Rule #3	800	veh/hr	485	No						
12	7th St & R St	Rule #1	4	veh-hrs	0.2	No	No	1020	45	279	No	No
		Rule #2	100	veh/hr	45	No						
		Rule #3	650	veh/hr	1092	Yes						
14	Driveway 1 & N St	Rule #1	4	veh-hrs	0.1	No	No	706	39	407	No	No
		Rule #2	100	veh/hr	39	No						
		Rule #3	650	veh/hr	745	Yes						
15	7th St & Driveway 2	Rule #1	4	veh-hrs	0.3	No	No	1444	60	151	No	No
		Rule #2	100	veh/hr	60	No						
		Rule #3	650	veh/hr	1504	Yes						
16	7th St & Driveway 3	Rule #1	4	veh-hrs	0.1	No	No	1448	24	149	No	No
		Rule #2	100	veh/hr	24	No						
		Rule #3	650	veh/hr	1472	Yes						
17	7th St & Driveway 4	Rule #1	4	veh-hrs	0.1	No	No	1518	25	133	No	No
		Rule #2	100	veh/hr	25	No						
		Rule #3	650	veh/hr	1543	Yes						
18	Driveway 5 & P St	Rule #1	4	veh-hrs	0.4	No	No	1702	57	100	No	No
		Rule #2	100	veh/hr	57	No						
		Rule #3	650	veh/hr	1759	Yes						
19	5th St & Driveway 6	Rule #1	4	veh-hrs	0.1	No	No	929	40	313	No	No
		Rule #2	100	veh/hr	40	No						
		Rule #3	650	veh/hr	969	Yes						
20	5th St & Driveway 7	Rule #1	4	veh-hrs	0.1	No	No	955	40	302	No	No
		Rule #2	100	veh/hr	40	No						
		Rule #3	650	veh/hr	995	Yes						

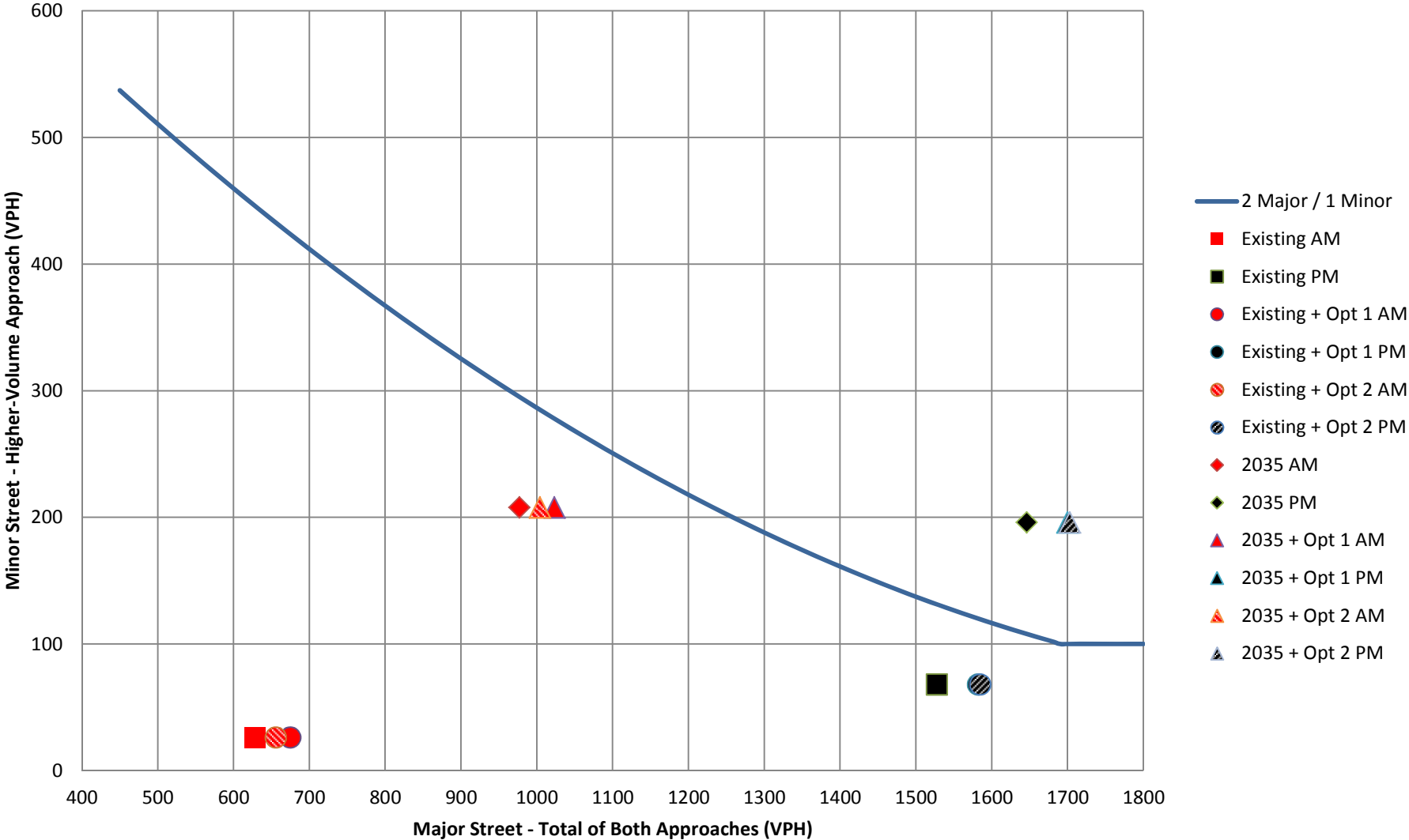
#1 - 4th Street & O Street



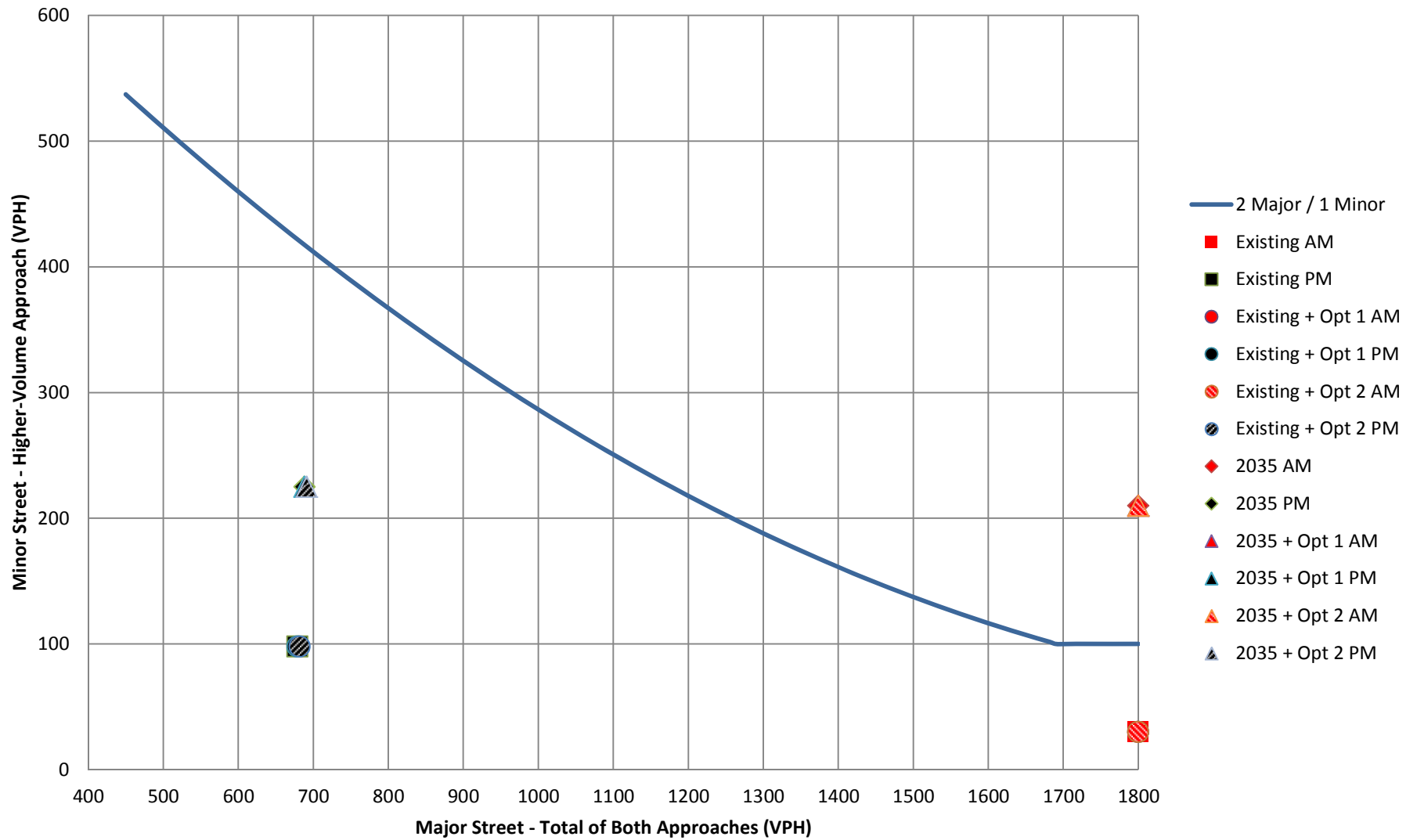
#3 - 5th Street & O Street



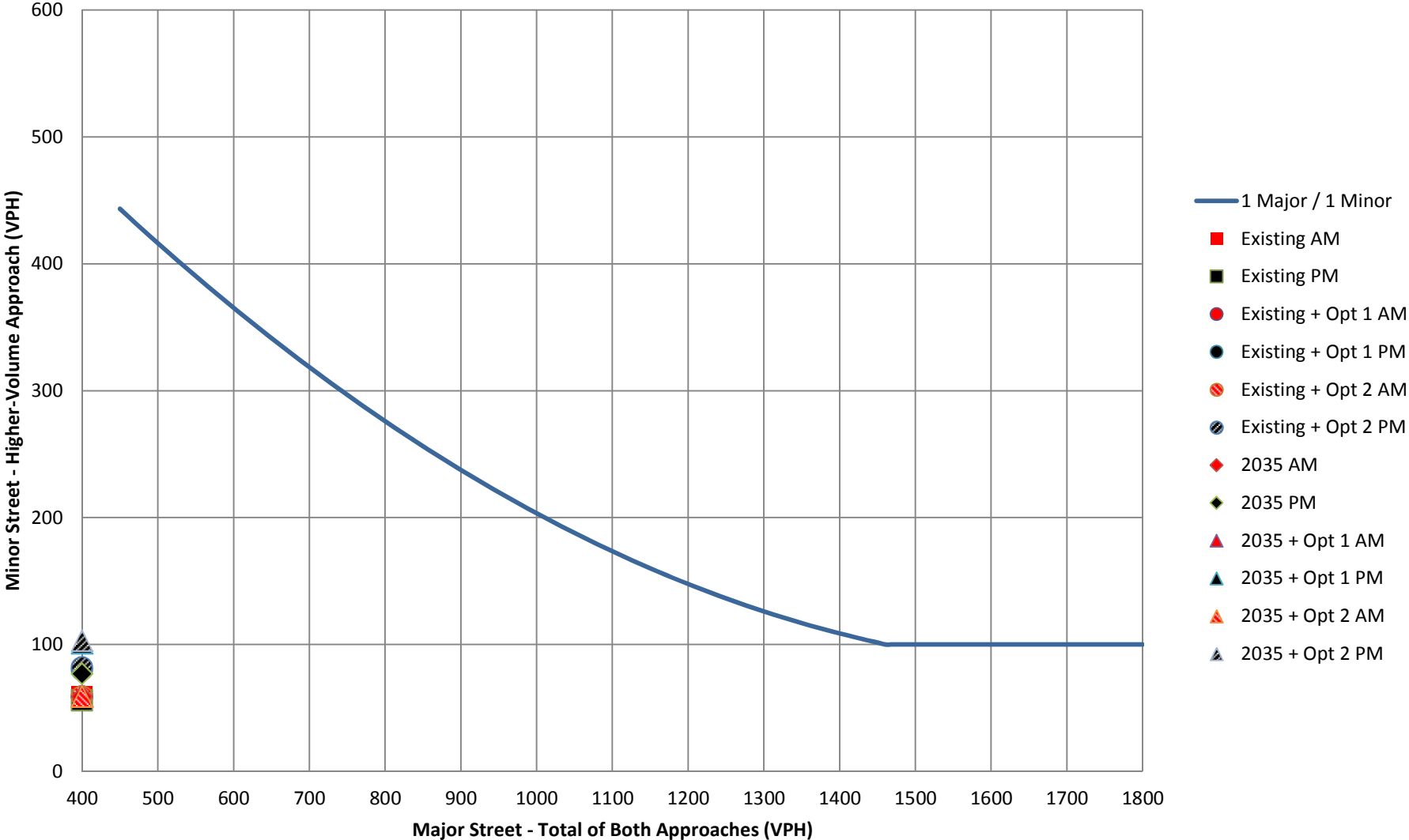
#5 - 6th Street & P Street



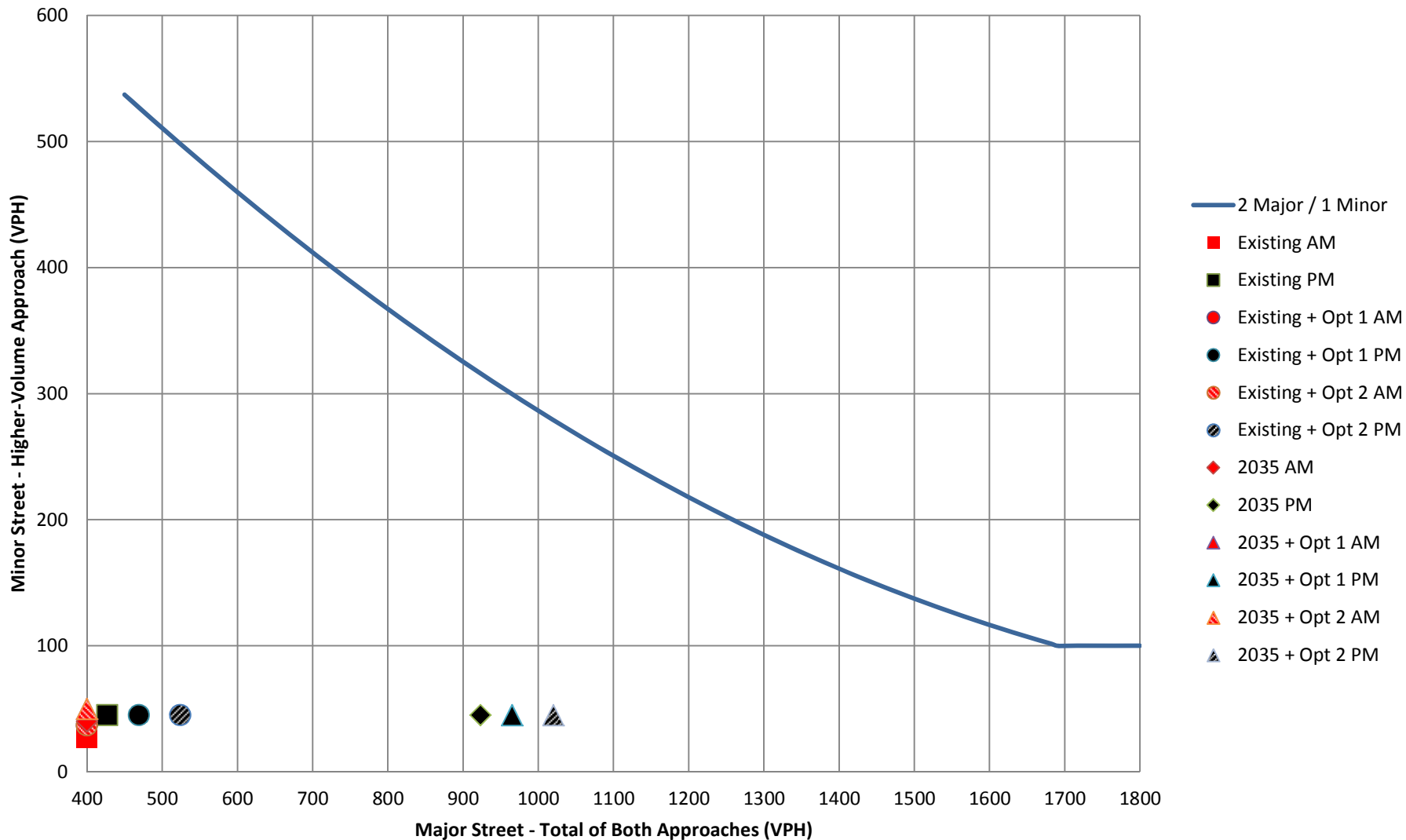
#6 - 6th Street & Q Street



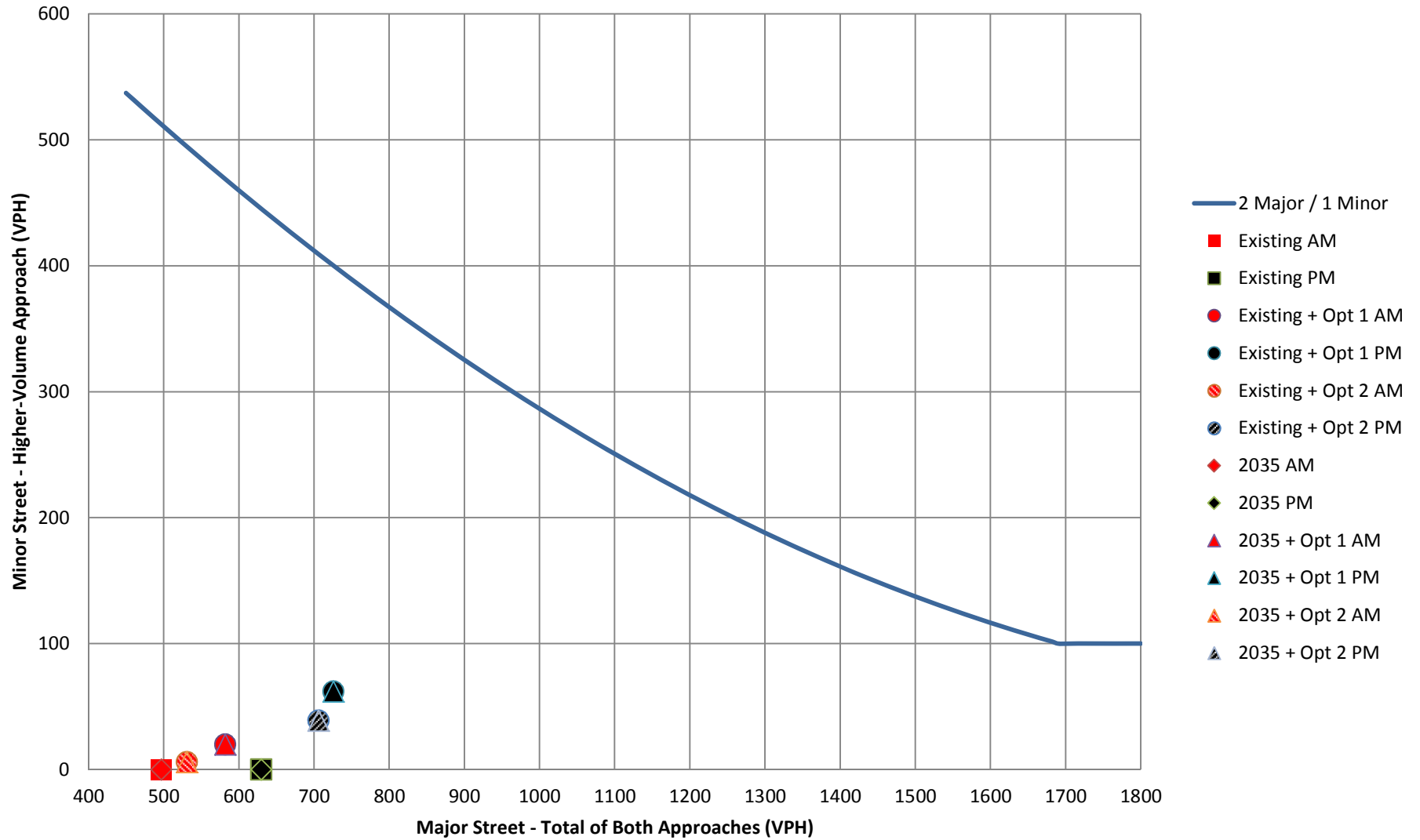
#7 - 6th Street & R Street



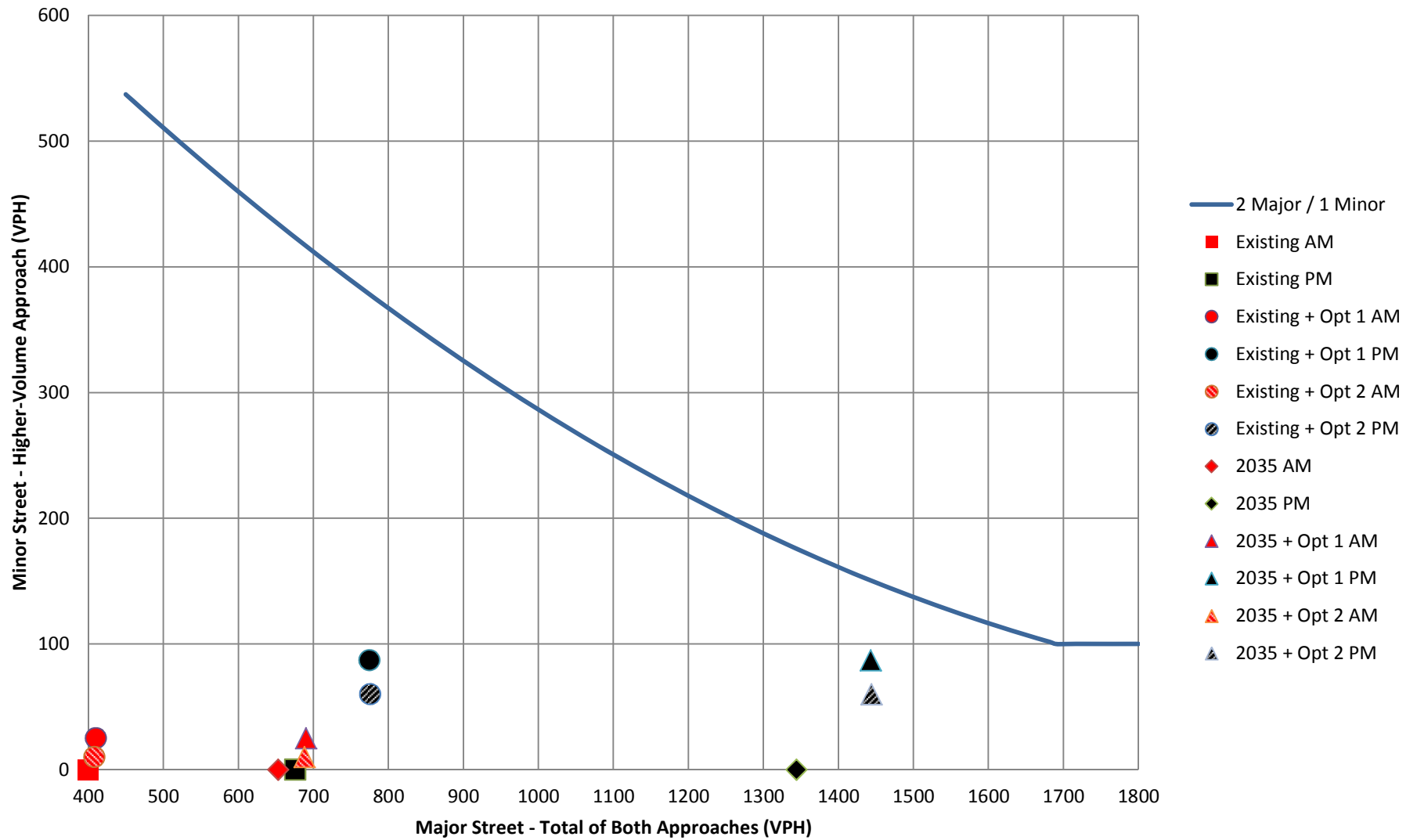
#12 - 7th Street & R Street



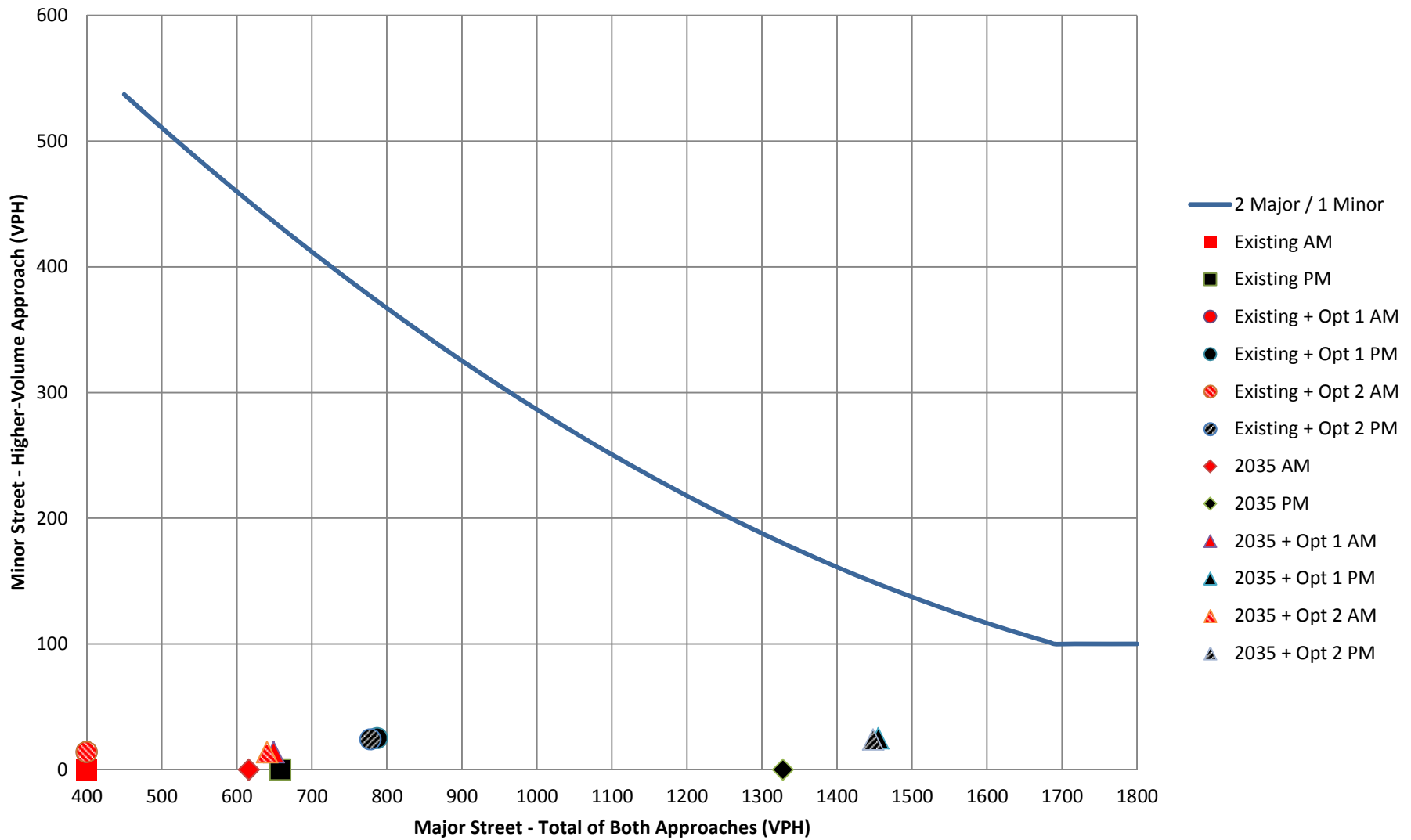
#14 - Driveway 1 & N Street



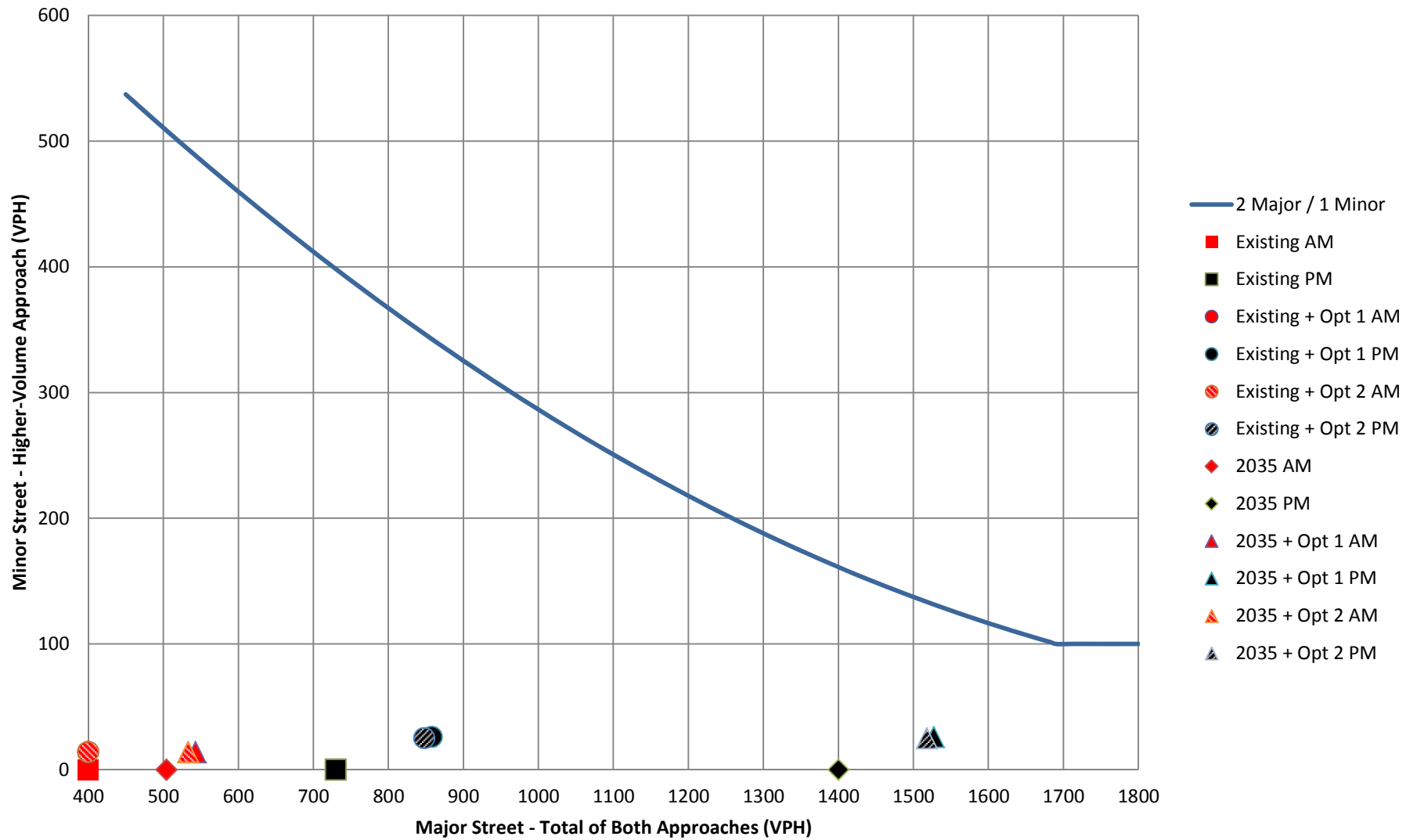
#15 - 7th Street & Driveway 2



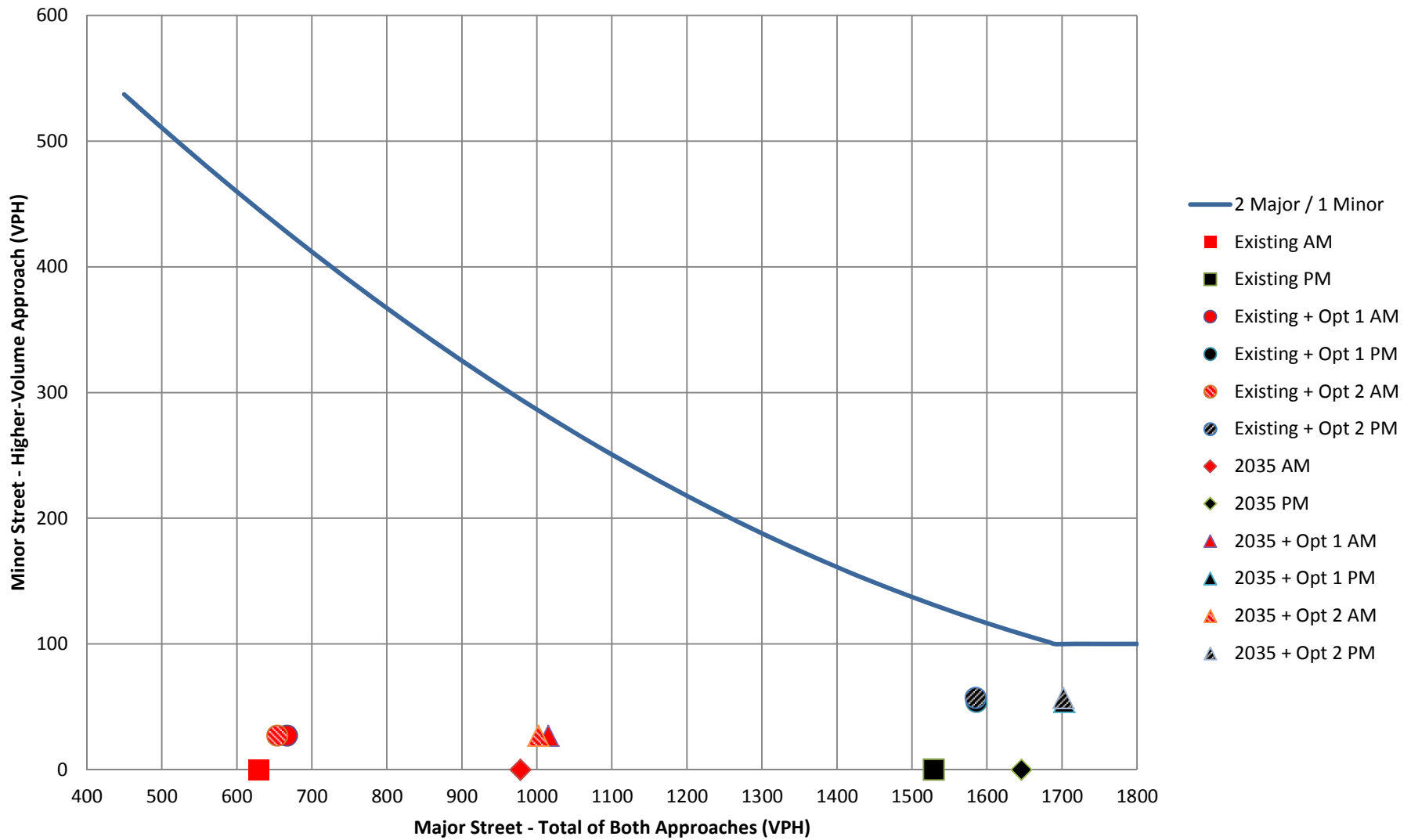
#16 - 7th Street & Driveway 3



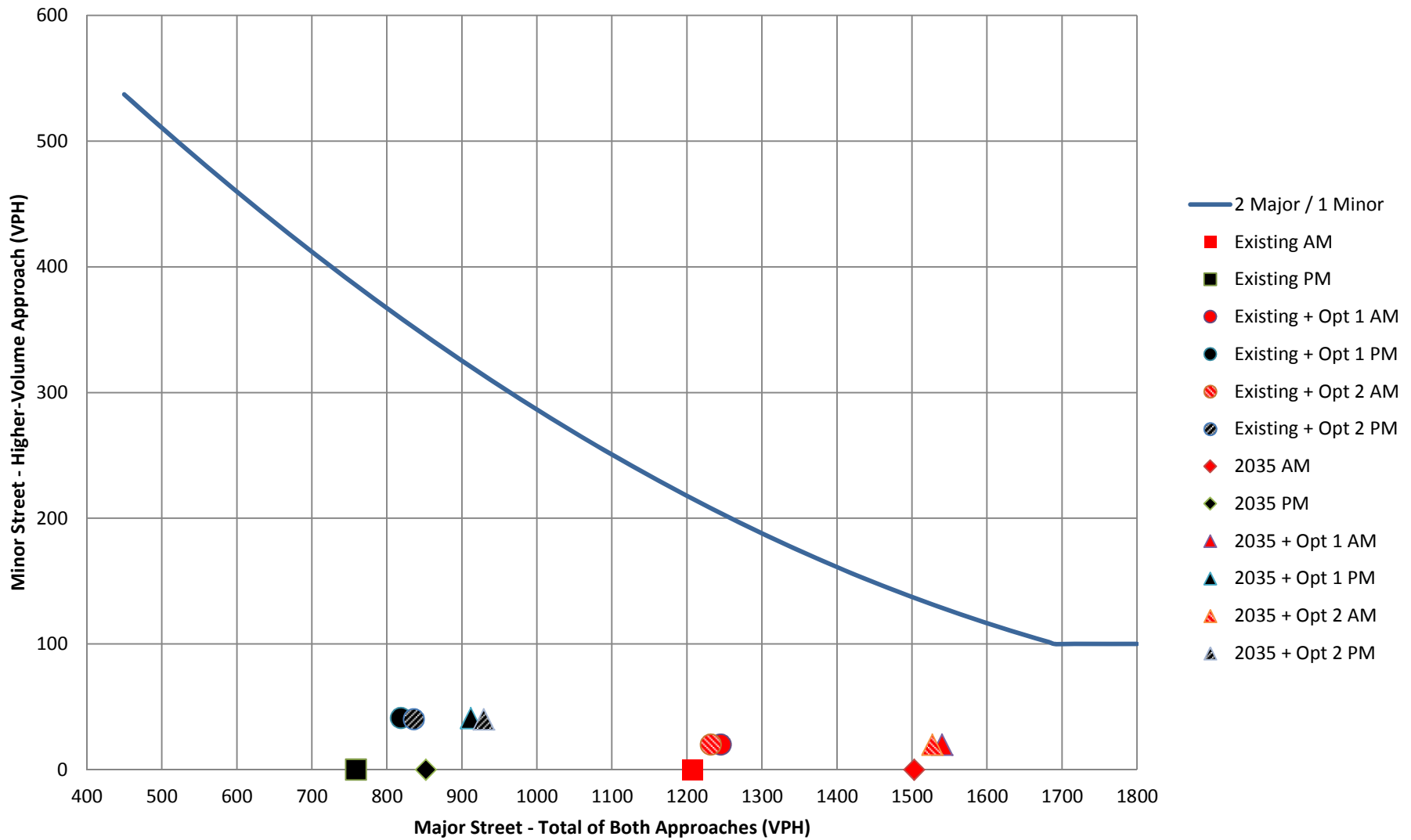
#17 - 7th Street & Driveway 4



#18 - Driveway 5 & P Street



#19 - 5th Street & Driveway 6



#20 - 5th Street & Driveway 7

