MARRIOTT MARQUIS HOTEL

NW WASHINGTON, DC

TRAFFIC IMPACT STUDY REPORT - ADDENDUM

AMT Project File 108-029.01T

PREPARED FOR:
Marriott International, Inc.

PREPARED BY:

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Consulting Engineers

DATE:

April 21, 2008
(REVISED) November 14, 2008

INTRODUCTION - REVISED

This addendum presents the results of the revised traffic impact analyses conducted in support of the proposed Marriott Marquis Hotel along Massachusetts Avenue, in northwest Washington, D.C. The site is located on Square 370 directly across from the Washington Convention Center, and is bounded by Massachusetts Avenue to the south, L Street to the north, 9th Street to the east, and 10th Street to the west.

The traffic analyses for this addendum were revised to reflect two modifications:

1. The number of hotel rooms increased from 1,125 rooms to 1,166 rooms, with parking increasing from 388 spaces to 400 spaces (including handicap spaces).

2. Per DDOT's request, the future traffic analyses were revised to include one travel lane and one parking lane in each direction along both L Street and 10th Street. Please note that the future analyses were revised for Scenario 3 only (i.e. the ultimate future condition roadway scenario).

SITE DEVELOPMENT - REVISED

Site Trip Generation

The proposed site is planned to be redeveloped with approximately 1,035,721 S.F. of hotel use, with approximately *1,166* rooms (including 125 rooms in the existing office building). Trip generation was determined using the ITE Trip Generation Rate Manual, 7th Edition, and is summarized in Table 1. Overall, the site is anticipated to generate 391 AM peak hour trips (226 in and 165 out), 408 PM peak hour trips (200 in and 208 out), and 5,200 average annual daily trips. *Compared to the original traffic study, the additional hotel rooms result in an additional 14 AM peak hour trips, 14 PM peak hour trips, and 182 average annual daily trips.*

Transit Reduction

The transit reduction noted in the original traffic impact study report was applied to the revised baseline trip generation summary to account for the extensive public transportation services provided in the vicinity of the site.

Trip Distribution/Assignment

As noted in the original traffic impact study, the bus lay-by area is proposed to be located along L Street, which is proposed to be converted from one-way (westbound) to two-way between 9th and 10th Street, mainly for safety reasons to ensure that users being unloaded from the bus do not have to cross L Street to access the hotel lobby. In addition, 10th Street is proposed to be converted from one-way southbound to two-way between Massachusetts Avenue and L Street, to allow chartered buses further access to the hotel from Massachusetts Avenue.

As previously noted, this addendum contains the revised traffic analyses for the ultimate scenario only, with L Street and 10th Street being converted to two-way travel operations. The revised trip distributions/assignments for this scenario are shown on Figure 1.

Similarly to the original traffic analyses, it was assumed that the site access driveways (porte-cochere) along Massachusetts Avenue were assumed to operate with full turning movements allowed (i.e. lefts and rights in and out). Since the hotel peak hours are anticipated to occur outside of the regular AM and PM roadway peak hours, allowing full turning movements at the driveways is not anticipated to deteriorate existing or future roadway operating conditions during the AM and PM peak hours.

Table 1

Marriot Marquis, Washington DC

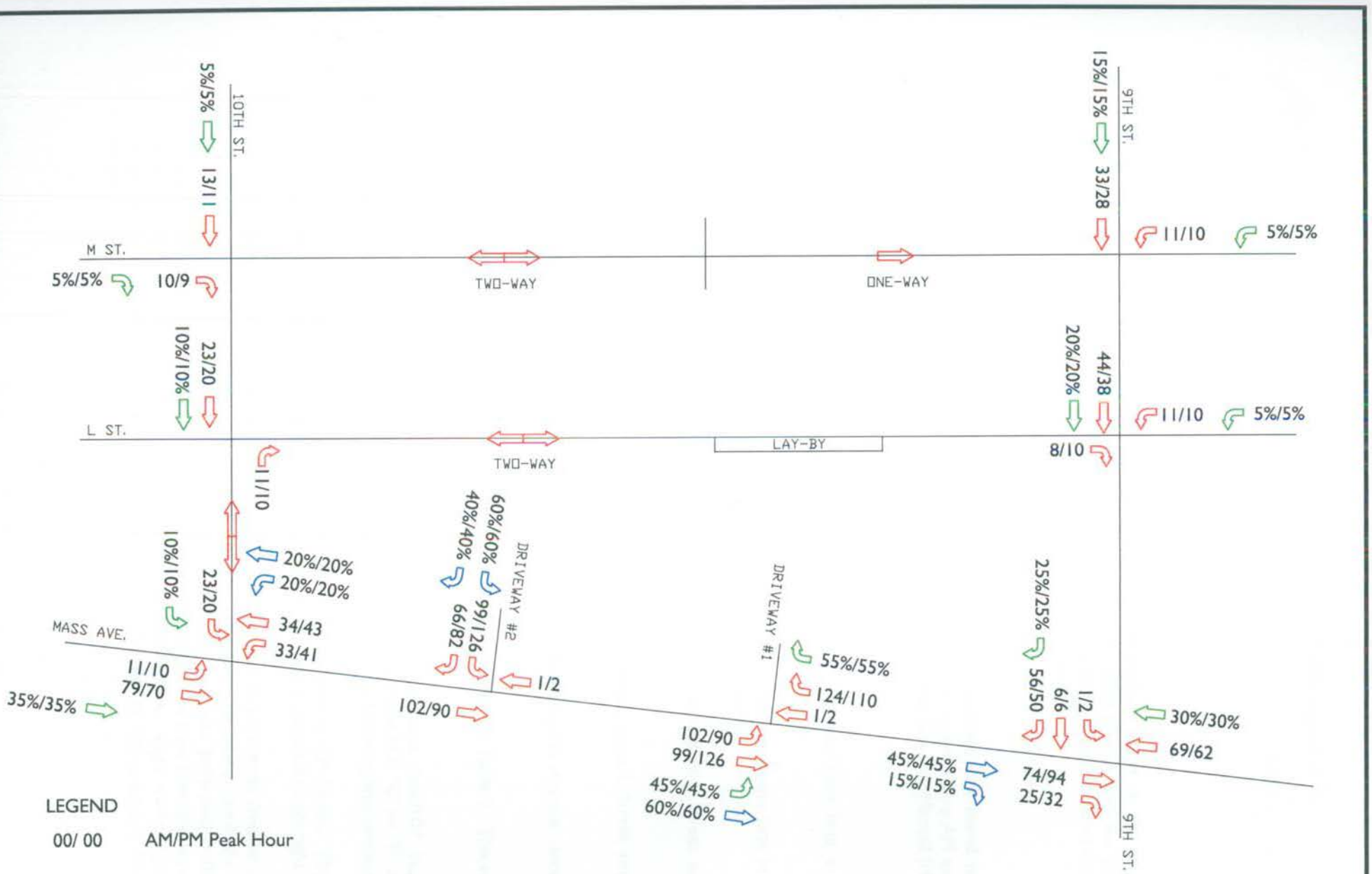
REVISED Site Development Trip Generation Analysis [1]

Land Use	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	AADT
Hotel	310	1,166	rooms	453	328	781	400	416	816	10,401
Trip Reductions [2]		*50%*		*227*	*164*	*391*	*200*	*208*	*408*	*5,200*
Total				226	165	391	200	208	408	5,200

Notes:

[1] Trips based on ITE Trip Generation Manual, 7th Edition, All rooms are considered to be occupied.

[2] Based on a existing transit services reduction as described in the report.



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DATE	REVISION	BY	APPR.

MARRIOT MARQUIS - TRAFFIC IMPACT STUDY

FIGURE 1
SITE GENERATED TRIPS - REVISED
SCENARIO 3 - L ST. 2 WAY & 10th ST. 2 WAY

SCALE	CONTOUR INTERVAL	A.M.T. FILE No.
	N/A	108-029.01E
DATE	TAX MAP No.	SHEET
MAY 2008	N/A	

FUTURE CONDITIONS - REVISED

Future Conditions Forecasts

The future conditions forecasts for the ultimate scenario was re-determined based on the modified existing peak hour counts (Figure F-3 in the original traffic study), the annual growth rate, the pipeline development site trips (Figure 7 in the original traffic study), and the revised Marriott Marquis Hotel site trips (Figure 1). The revised future conditions forecasts are shown on Figure 2.

Future Conditions Analyses

Future conditions LOS and delays were determined at each of the key intersections based on the existing lane use and traffic control (Figure 3 in the original traffic study), the revised future AM and PM peak hour forecasts, and the Synchro methodology based on the 2000 Highway Capacity Manual (HCM).

Roadway Conditions Assumed:

1. Change the two travel lanes along L Street from one-way to two-way (one lane in each direction), and maintain the existing parking along both sides of the street.

2. Change the two travel lanes along 10th Street from one-way to two-way (one lane in each direction), and maintain the existing parking along both sides of the street.

3. Utilize existing but un-used signal heads, and modify phasing and timings at L Street and 9th Street, since L Street has been converted to 2-way.

4. Modify signal heads, phasing, and timings at L Street and 10th Street, since L Street and 10th Street have been converted to 2-way.

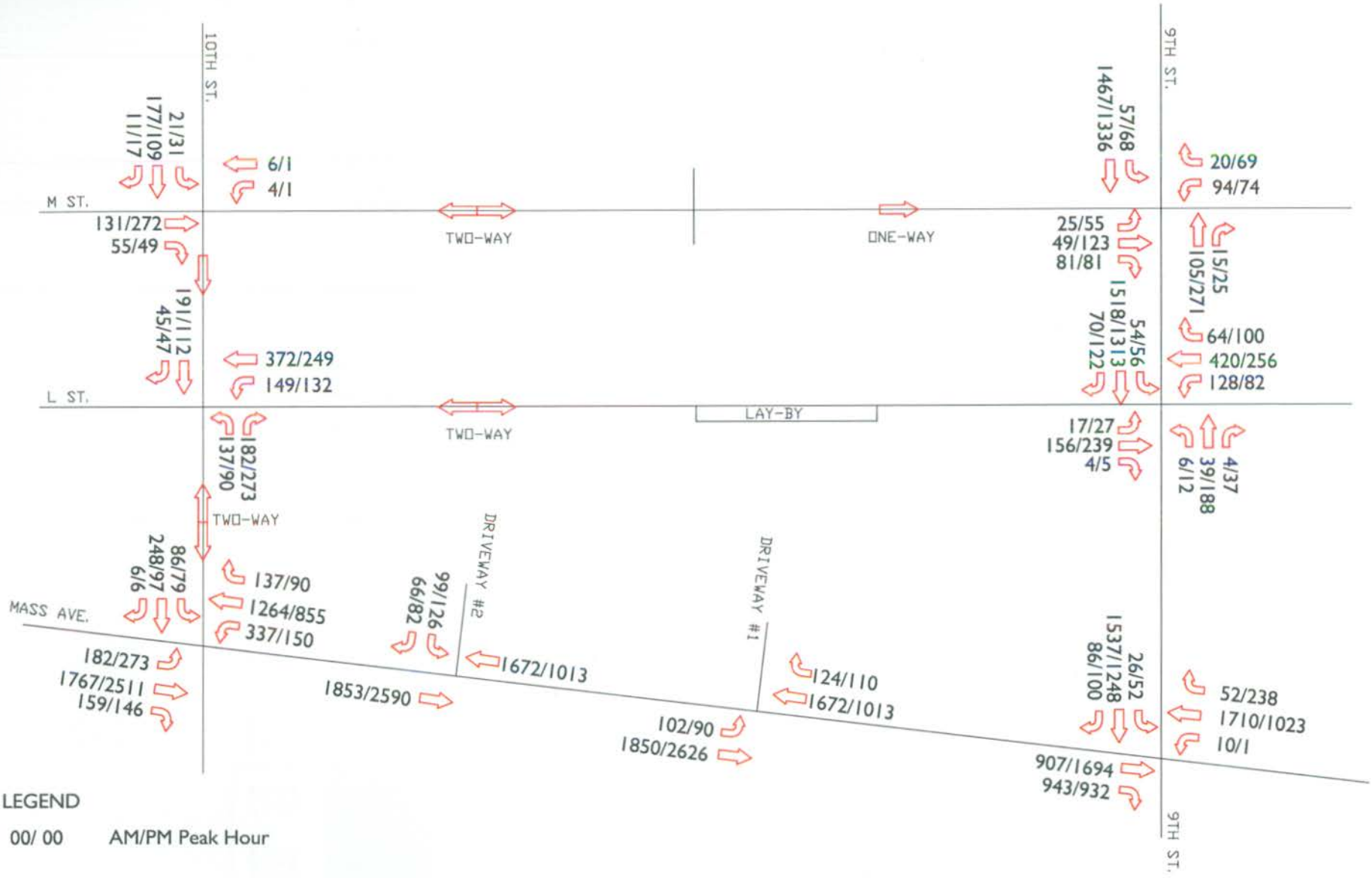
5. Modify signal heads, phasing, and timings at 10th Street and Massachusetts Avenue, since 10th Street has been converted to 2-way.

The revised Synchro results of the future conditions analyses are summarized on Table 2. The results indicate the following:

The intersections of L St./10th St., Massachusetts Ave./9th St., Massachusetts Ave./10th St., and Massachusetts Ave./PMI Driveway #1 are anticipated to operate at unacceptable LOS "E" or "F" during either or both the AM and PM peak hours. These conditions will require the following improvements:

1. Change the lane use along the EB approach of Massachusetts Avenue at 10th Street. The lane use should be altered to include a left turn lane, a through lane, and a shared through-right lane.

2. Allow the intersections of Massachusetts Avenue at 9th Street and Massachusetts Avenue at 10th Street to continue to operate under unacceptable conditions in the future, since the 2030 background conditions result in the same unacceptable conditions (site generated traffic has minimal effect on the intersection). This is due to the addition of the trips from the approved pipeline development studies, as well as the 1% annual growth rate. Slight traffic signal and roadway modifications are recommended to mitigate the impact of the proposed Marriott Hotel.



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DATE	REVISION	BY	APPR.

MARRIOT MARQUIS - TRAFFIC IMPACT STUDY

FIGURE 2
FUTURE CONDITIONS FORECASTS - REVISED
SCENARIO 3- L ST. 2-WAY & 10th ST. 2-WAY

SCALE	CONTOUR INTERVAL	A.M.T. FILE No.
	N/A	108-029.01E
DATE	TAX MAP No.	SHEET
MAY 2008	N/A	

Table 2

Future Conditions Level of Service Summary[1]

Marriott Marquis TIS

Location	Control	Existing Conditions		Background Conditions		Future Conditions									
						Scenario 1		Scenario 2		Scenario 3		Scenario 3 (w. impr.)		Scenario 3-Revised	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
1. L Street and 9th Street	Signal														
Eastbound		N/A	N/A	N/A	N/A	N/A	N/A	D(49.2)	B(18.1)	B(16.6)	B(15.5)	B(16.4)	C(21.7)	C(23.5)	C(23.1)
Westbound		C(22.0)	C(20.8)	C(24.5)	C(22.3)	C(24.5)	C(22.4)	C(26.3)	C(23.1)	C(20.7)	B(17.0)	C(32.9)	C(27.6)	E(58.5)	C(29.0)
Northbound		B(12.3)	B(15.5)	B(11.6)	B(14.9)	A(6.4)	C(22.7)	B(11.9)	C(22.3)	B(12.0)	C(34.1)	B(10.5)	A(6.9)	B(11.8)	C(22.3)
Southbound		D(41.9)	A(9.1)	F(122.7)	F(92.5)	F(118.6)	D(49.1)	F(119.5)	[illegible]	F(200.3)	F(165.3)	D(51.4)	D(39.7)	D(54.5)	D(49.4)
Overall		**D(36.0)**	**B(12.3)**	**F(93.9)**	**E(70.6)**	**F(90.6)**	**D(40.7)**	**F(92.1)**	**D(53.3)**	**F(138.8)**	**F(109.3)**	**D(43.5)**	**C(32.4)**	**D(52.5)**	**D(40.2)**
2. L Street and 10th Street	Signal														
Westbound		A(7.5)	A(8.6)	A(6.8)	A(7.6)	A(6.9)	B(10.7)	A(9.7)	B(12.5)	B(10.9)	B(11.6)	B(14.8)	B(10.6)	B(15.8)	B(16.0)
Northbound		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	B(18.7)	C(31.1)	B(19.5)	C(21.6)	F*	F*
Southbound		C(26.0)	C(25.6)	C(32.7)	C(24.9)	C(32.5)	C(25.7)	C(33.5)	C(27.5)	C(31.5)	C(25.0)	C(31.5)	C(25.0)	D(37.5)	C(26.6)
Overall		**B(11.4)**	**B(13.1)**	**B(14.3)**	**B(13.7)**	**B(14.7)**	**B(15.3)**	**B(17.4)**	**B(17.2)**	**B(17.6)**	**C(21.8)**	**B(19.8)**	**B(17.5)**	**F***	**F***
3. Mass. Avenue and 9th Street	Signal														
Eastbound		A(7.5)	B(10.1)	C(32.1)	[illegible]	B(19.5)	[illegible]	B(19.2)	B(14.4)	D(43.0)	F(104.2)	[illegible]	F(100.9)	D(44.1)	F(103.4)
Westbound		B(11.9)	A(9.3)	C(22.5)	B(12.3)	C(22.6)	B(14.1)	C(22.2)	B(13.8)	C(22.0)	B(13.8)	C(30.1)	B(13.8)	C(22.4)	B(13.9)
Southbound		F(99.7)	C(22.8)	F(322.3)	F(165.9)	F(359.8)	F(196.0)	F(365.5)	F(201.6)	F(359.0)	F(201.2)	F(373.5)	F(176.5)	F(367.9)	F(198.7)
Overall		**D(35.4)**	**B(13.1)**	**F(116.1)**	**E(70.2)**	**F(133.1)**	**E(60.3)**	**F(125.5)**	**E(61.9)**	**F(135.1)**	**F(100.6)**	**F(115.8)**	**F(100.4)**	**F(138.1)**	**F(107.3)**
4. Mass. Avenue and 10th Street	Signal														
Eastbound		B(12.5)	C(25.0)	B(17.4)	F(106.3)	B(18.3)	F(117.0)	B(18.3)	F(117.0)	F(159.1)	F(112.8)	D(50.2)	E(70.0)	F(146.9)	E(70.7)
Westbound		F(255.7)	D(43.7)	F(410.2)	F(140.0)	F(426.9)	F(138.0)	F(426.9)	F(139.6)	F(439.0)	B(17.8)	F(511.1)	E(56.7)	F(426.8)	D(54.2)
Southbound		B(15.0)	B(14.4)	B(11.9)	B(14.0)	B(16.4)	B(19.5)	C(21.4)	C(20.0)	C(23.2)	F(66.6)	C(22.5)	D(47.8)	C(34.2)	F(144.4)
Overall		**F(123.8)**	**C(29.6)**	**F(180.8)**	**F(108.0)**	**F(109.5)**	**F(118.6)**	**F(189.0)**	**F(118.8)**	**F(265.1)**	**F(86.2)**	**F(239.8)**	**E(65.5)**	**F(253.9)**	**E(69.6)**
5. Mass. Avenue and Private Lot/ Driveway # 1	Stop Sign														
Eastbound LT		A[0.1]	A[0.1]	A[0.1]	A[0.1]	B[12.7]	A[4.2]	B[12.7]	A[4.2]	B[12.7]	A[4.5]	B[12.7]	A[4.5]	B[14.6]	A[4.7]
Southbound LR		A[0.0]	B[11.4]	A[0.0]	B[11.4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6. Mass. Avenue and PMI Lot/ Driveway # 2	Stop Sign														
Eastbound LT		A[0.6]	A[0.0]	A[1.0]	A[0.0]	A[0.0]	B[14.1]	A[0.0]	B[14.1]	N/A	N/A	N/A	N/A	N/A	N/A
Southbound LR		C[15.1]	D[25.4]	C[18.3]	F[54.8]	C[21.9]	F[658.2]	C[21.9]	F[656.2]	C[21.9]	F[532.9]	C[21.9]	F[532.9]	C[22.4]	F[604.1]
7. L Street and PMI Lot	Stop Sign														
Westbound LT		A[0.9]	A[0.2]	A[0.9]	A[0.1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Northbound L		A[10.0]	A[9.3]	B[10.6]	A[9.8]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8. 9th Street and Private Lot	Stop Sign														
Eastbound LR		A[0.0]	C[19.9]	A[0.0]	B[11.8]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Northbound LT		A[9.4]	A[0.0]	A[9.9]	A[0.0]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9. M Street and 9th Street	Signal														
Eastbound		A(7.9)	D(36.4)	A(8.6)	D(36.8)	A(8.7)	D(36.5)	A(8.3)	D(37.1)	A(8.4)	D(37.2)	C(26.8)	D(37.2)	C(26.8)	D(36.8)
Westbound		B(11.0)	A(9.8)	B(11.3)	A(9.2)	B(11.7)	A(9.9)	B(11.7)	A(9.9)	B(11.7)	A(9.9)	B(15.0)	A(9.9)	B(15.0)	B(10.0)
Northbound		A(9.7)	A(9.6)	B(15.4)	A(7.6)	B(17.4)	B(15.8)	B(18.7)	B(15.9)	B(16.3)	B(14.2)	A(5.5)	C(20.8)	A(4.8)	B(13.9)
Southbound		C(32.7)	B(19.6)	F(124.8)	C(34.5)	F(120.3)	D(36.4)	F(120.3)	B(15.2)	F(121.0)	B(15.2)	D(46.3)	B(15.2)	D(47.3)	D(36.8)
Overall		**C(28.7)**	**C(20.3)**	**F(103.2)**	**C(29.1)**	**F(99.0)**	**C(31.8)**	**F(99.2)**	**B(19.8)**	**F(98.8)**	**B(19.3)**	**D(40.3)**	**C(21.2)**	**D(41.0)**	**C(31.7)**
10. M Street and 10th Street	Signal														
Eastbound		B(15.6)	B(17.0)	B(16.2)	B(18.5)	B(16.3)	B(18.7)	B(16.3)	B(18.7)	B(16.3)	B(18.7)	B(16.3)	B(18.7)	B(16.3)	B(18.7)
Westbound		B(14.1)	A(0.0)	B(14.2)	A(0.0)	B(14.2)	B(14.1)	B(14.2)	B(14.1)	B(14.2)	B(14.1)	B(14.2)	B(14.1)	B(14.2)	B(14.1)
Southbound		B(16.2)	B(16.4)	B(17.9)	B(17.1)	B(18.0)	B(17.2)	B(18.2)	B(17.4)	B(18.0)	B(17.0)	B(18.0)	B(17.0)	B(18.0)	B(17.2)
Overall		**B(15.8)**	**B(16.8)**	**B(17.0)**	**B(18.0)**	**B(17.1)**	**B(18.2)**	**B(17.3)**	**B(18.2)**	**B(17.1)**	**B(18.1)**	**B(17.1)**	**B(18.1)**	**B(17.1)**	**B(18.2)**

[1] Based on the Synchro/SimTraffic 6.0 methodology