Traffic Impact Assessment

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NOV 30 2009
PLANNING BOARD
GRAFTON, MA
EXHIBIT 1

For:

Hilltop Properties

On:

Milford Road

In:

Grafton, Massachusetts

Prepared For:

Guerriere & Halnon, Inc
Whitinsville, Mass.

Prepared By:

Gillon Associates
Traffic & Parking Specialists

May 2009

With Additions Through November 10, 2009

Gillon Associates
Traffic & Parking Specialists

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TECHNICAL MEMORANDUM

To: Michael Weaver, P.E., Guerriere & Halnon, Inc.
From: John T. Gillon, P.E.
Re: Hilltop Properties – Grafton, Mass.
Date: November 10, 2009

At your request, I have reviewed you e-mail of October 29, 2009 and this Memorandum addresses each of the three issues your have raised.

A crosswalk traffic light - cannot be installed since it will not meet the threshold values of the Warrant. According to the Manual on Uniform Traffic Control Devices, there would need to be 100 pedestrians crossing Milford Road for each of FOUR hours of an average day. This number of pedestrians throughout each weekday and each month of the year will not be met, thus a pedestrian signal cannot be installed.

A left-turn lane into the site - on Milford Street has also been reviewed. After reviewing the "Traffic Engineering Handbook – 6th Edition" I have concluded that Milford Road does not have the required advance volume to warrant the new left-turn storage lane. The projected characteristics as compared to the required threshold values are provided below:

Given:	AM	PM	Sat.
Opposing	349	172	196
Advance	123	406	171
Left-Turn	22	32	40
Percent Left	17.9%	7.9%	23.4%

Required	AM	PM	Sat.
Advance Volume	312	558	337
Warrants Lane	**NO**	**NO**	**NO**

Therefore a left-turn lane is not warranted. The excel worksheet completed from Table 7-23 of the Traffic Engineering Handbook is provided herein.

Proposed Uses of the Site - were also reviewed. The site and report reflect retail uses with a drive-through bank and a high turnover restaurant. Without additional direction from the client, since the site has not been leased, these uses should coved expected traffic generation and impacts.

I hope this information proves useful but please let me know if you have any additional questions regarding this material.

Excell Worksheet

Critical Evening (PM) Peak Hour - Advance = 406			
Speed 40 mph	Advancing Volume (vph)		
Opposing Volume	5% L EFT	7.9% Left	10% Left
200	640	541	470
172	698	**558**	502
100	720	601	515

5% L EFT	
y=	22.4
N=	698

10% L EFT	
y=	12.6
N=	502

Morning (AM) Peak Hour - Advance = 123			
Speed 40 mph	Advancing Volume (vph)		
Opposing Volume	10% L EFT	17.9% Left	20% Left
400	380	297	275
349	447	**312**	331
200	470	375	350

10% L EFT	
y=	22.95
N=	447

20% L EFT	
y=	19.125
N=	331

Saturday (Sat.) Peak Hour - Advance = 171			
Speed 40 mph	Advancing Volume (vph)		
Opposing Volume	20% L EFT	23.4% Left	30% Left
200	350	335	305
196	388	**337**	339
100	390	373	340

20% L EFT	
y=	1.6
N=	388

30% L EFT	
y=	1.4
N=	339

2. **The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and**
3. **The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.**

B. **The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.**

Option:

If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-4 may be used in place of Figure 4C-3 to satisfy the criteria in the second category of the Standard.

Section 4C.05 Warrant 4, Pedestrian Volume

Support:

The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Standard:

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that both of the following criteria are met:

A. **The pedestrian volume crossing the major street at an intersection or midblock location during an average day is 100 or more for each of any 4 hours or 190 or more during any 1 hour; and**
B. **There are fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Where there is a divided street having a median of sufficient width for pedestrians to wait, the requirement applies separately to each direction of vehicular traffic.**

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic.

If this warrant is met and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads conforming to requirements set forth in Chapter 4E.

Guidance:

If this warrant is met and a traffic control signal is justified by an engineering study, then:

A. If at an intersection, the traffic control signal should be traffic-actuated and should include pedestrian detectors.
B. If at a nonintersection crossing, the traffic control signal should be pedestrian-actuated, parking and other sight obstructions should be prohibited for at least 30 m (100 ft) in advance of and at least 6.1 m (20 ft) beyond the crosswalk, and the installation should include suitable standard signs and pavement markings.
C. Furthermore, if installed within a signal system, the traffic control signal should be coordinated.

Option:

The criterion for the pedestrian volume crossing the major roadway may be reduced as much as 50 percent if the average crossing speed of pedestrians is less than 1.2 m/sec (4 ft/sec).

A traffic control signal may not be needed at the study location if adjacent coordinated traffic control signals consistently provide gaps of adequate length for pedestrians to cross the street, even if the rate of gap occurrence is less than one per minute.

Section 4C.06 Warrant 5, School Crossing

Support:

The School Crossing signal warrant is intended for application where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal.

Table 7-23. Guide for Left-Turn Lanes on Two-Lane Highways.

Opposing Volume (vph)	Advancing Volume (vph)			
	5 Percent Left Turns	10 Percent Left Turns	20 Percent Left Turns	30 Percent Left Turns
Operating Speed: 40 mph (60 km/hr.)				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
100	720	515	390	340
Operating Speed: 50 mph (80 km/hr.)				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
Operating Speed: 60 mph (100 km/hr.)				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Source: *A Policy on Geometric Design of Highways and Streets*. Washington, DC, USA: American Association of State Highway and Transportation Officials, 2004.

Exclusive right-turn lanes at signalized intersections may be considered when right-turn volumes exceed 300 vehicles per hour and the adjacent mainline volume exceeds 300 vehicles per hour per lane.[28]

Harwood et al. developed several accident modification factors (AMFs) to aid in evaluating the safety effects of exclusive left- and right-turn lane installation on major-road approaches to urban and rural intersections.[29] An AMF is the relative change in accident frequency associated with a change in a design element dimension or when a design element is added to or eliminated from a roadway. A value of 1.0 indicates that no change is anticipated from the design element modification; a value greater than 1.0 indicates that an increase in accident frequency is expected from the design element modification; an AMF less than 1.0 indicates that a decrease in accident frequency is expected from the design element modification. Recommended AMFs for left- and right-turn lanes at intersections are contained in Table 7-24.

The AMFs contained in Table 7-24 are less than 1.0, indicating that installing left- and right-turn lanes to the major-road approach decreases total accident frequency at intersections. The AMFs reported are based on a mean estimate of effectiveness and, therefore, the change in safety effectiveness experienced at a specific location may differ from the AMFs reported in Table 7-24.

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TECHNICAL MEMORANDUM

To: Michael Weaver
Guerriere & Halnon, Inc.
From: John T. Gillon, P.E.
Re: Hilltop Properties – Grafton, Mass.
Date: June 21, 2009

At your request, I have reviewed the Peer Review by Graves Engineering dated June 4, 2009. I have re-calculated the projected trip generation to account for a fast food restaurant with a drive-through window and have revised the appropriate graphics and calculations.

I hope this information proves useful but please let me know if you have any additional questions regarding this material.

	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Retail									
Source of Data									
ITE Report (7th Edition)									
Land Use Code: 820									
Volume 3, Pages 1452 -1455									
Based On ITE Curve									
Trips per Unit	T = 1.03 (x)			T = 3.75 (x)			T = 4.97 (x)		
Directional Split	61%	39%		48%	52%		52%	48%	
Trips Based on 11.52 KGSF	7	5	12	22	22	44	30	27	57
Fast-Food Restaurant with Drive -Through Window									
Source of Data									
ITE Report (7th Edition)									
Land Use Code: 934									
Volume 3, Pages 1749 - 1770									
Trips per KGSF	T = 53.11 (x)			T = 34.64 (x)			T = 59.2 (x)		
Directional Split	51%	49%		52%	48%		51%	49%	
Trips	39	37	76	26	24	50	43	42	85
(Based on 1.44 KGSF)									
Drive-in Bank									
Source of Data									
ITE Report (7th Edition)									
Land Use Code: 912									
Volume 3, Pages 1675 - 1702									
Trips per KGSF	T = 12.34 (x)			T = 45.74 (x)			T = 37.08 (x)		
Directional Split	56%	44%		50%	50%		51%	49%	
Trips	10	8	18	33	33	66	27	26	53
(Based on 1.44 KGSF)									
Total	56	50	106	81	79	160	100	95	195
Pass-By (25%)	14	12	26	20	20	40	25	24	49
Non-Pass-By (75%)	42	38	80	61	59	120	75	71	146

Weekday Retail	**Weekday Fast Food**	**Weekday Bank**	**TOTAL**
T = 42.94 (x)	T = 496.12 (x)	T = 246.49 (x)	
T = 495	T = 714	T = 355	1564

Weekday Pass -by = 391

Weekday new trips = 1173
(587 inbound and 587 outbound +/ -)

Trip Generation Summary

Figure 13 REV.

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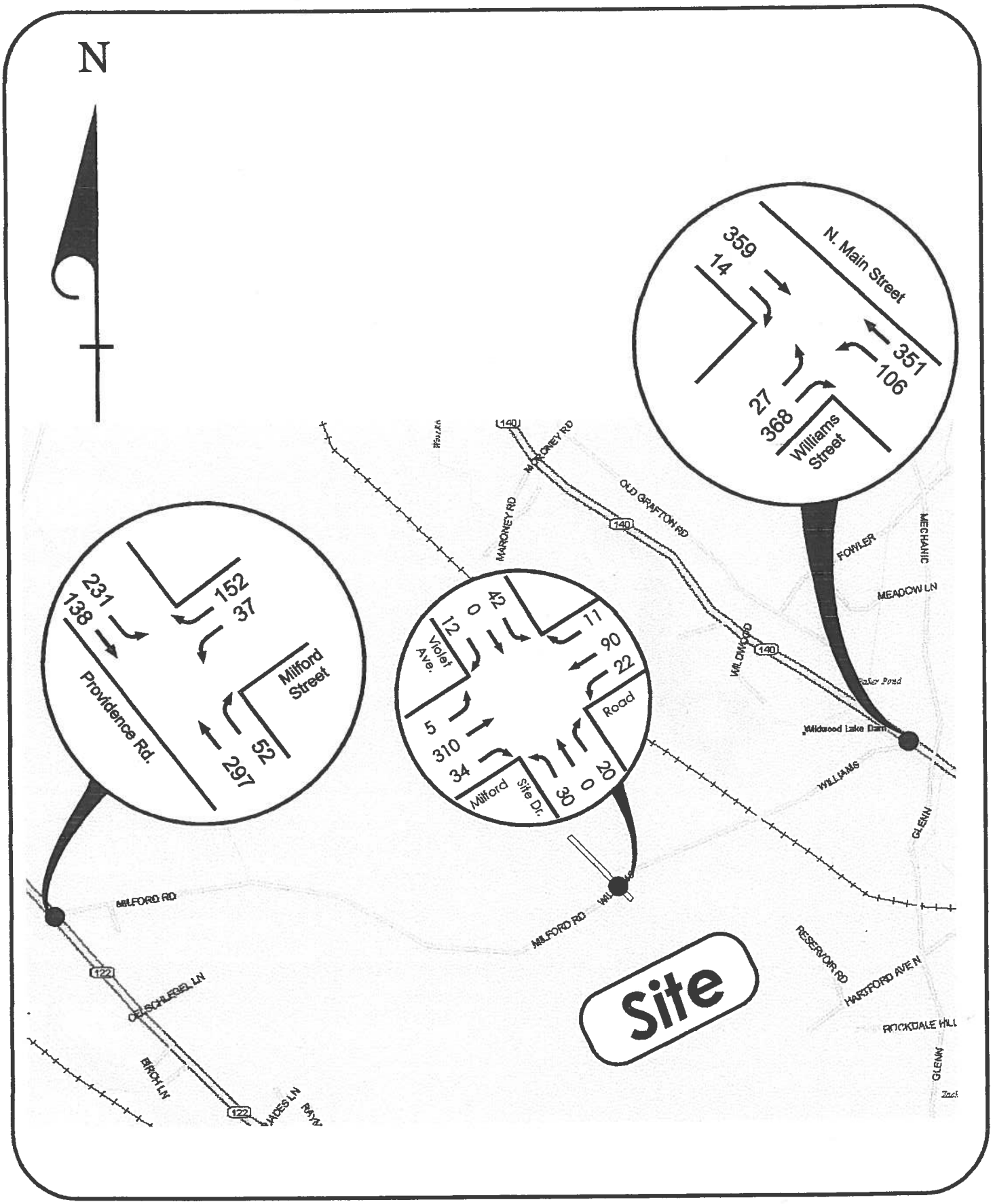

Projected Weekday Morning Peak Hour Traffic Volume

Figure 15 Rev.

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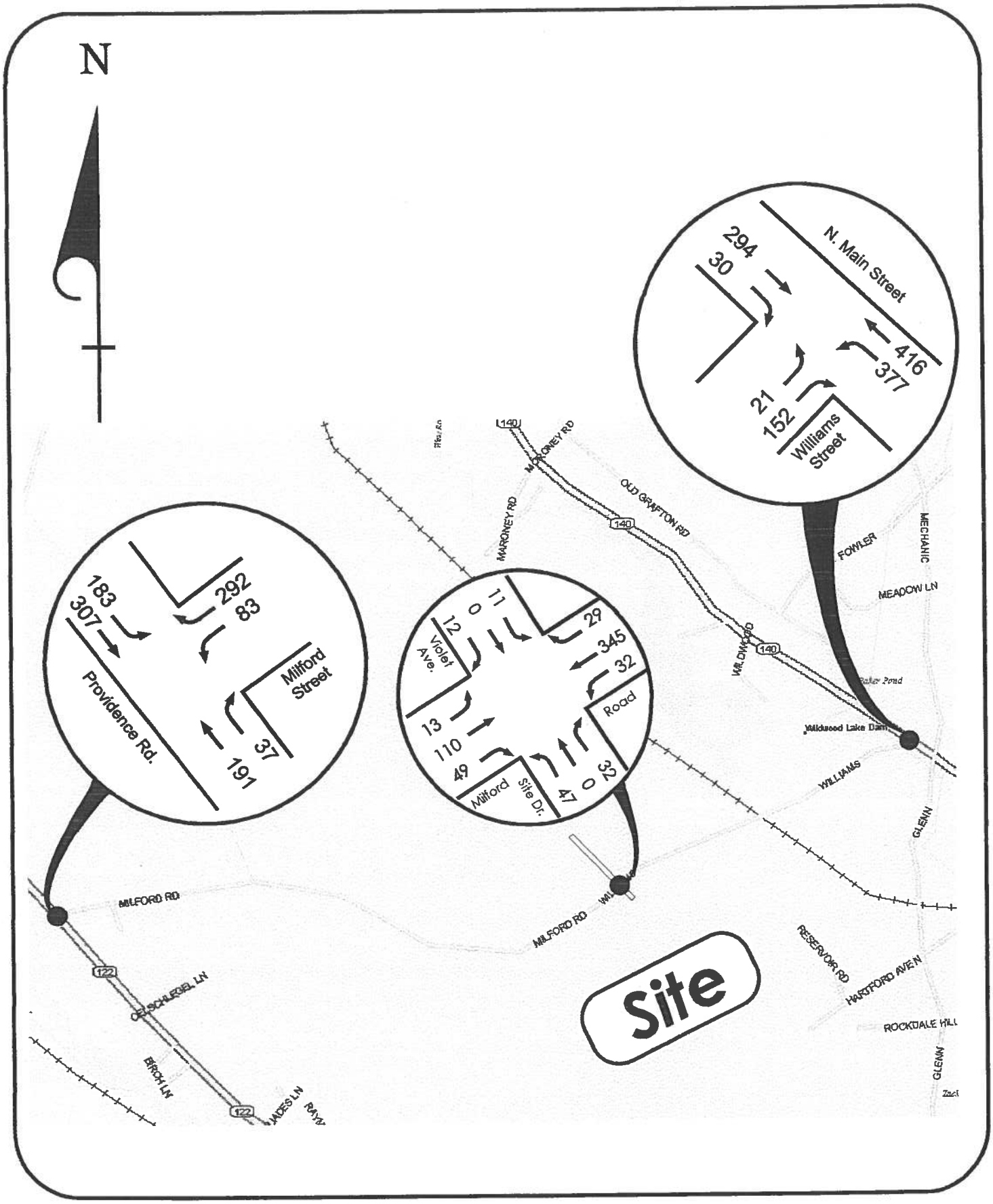

Projected Weekday Evening Peak Hour Traffic Volume

Figure 16 Rev.

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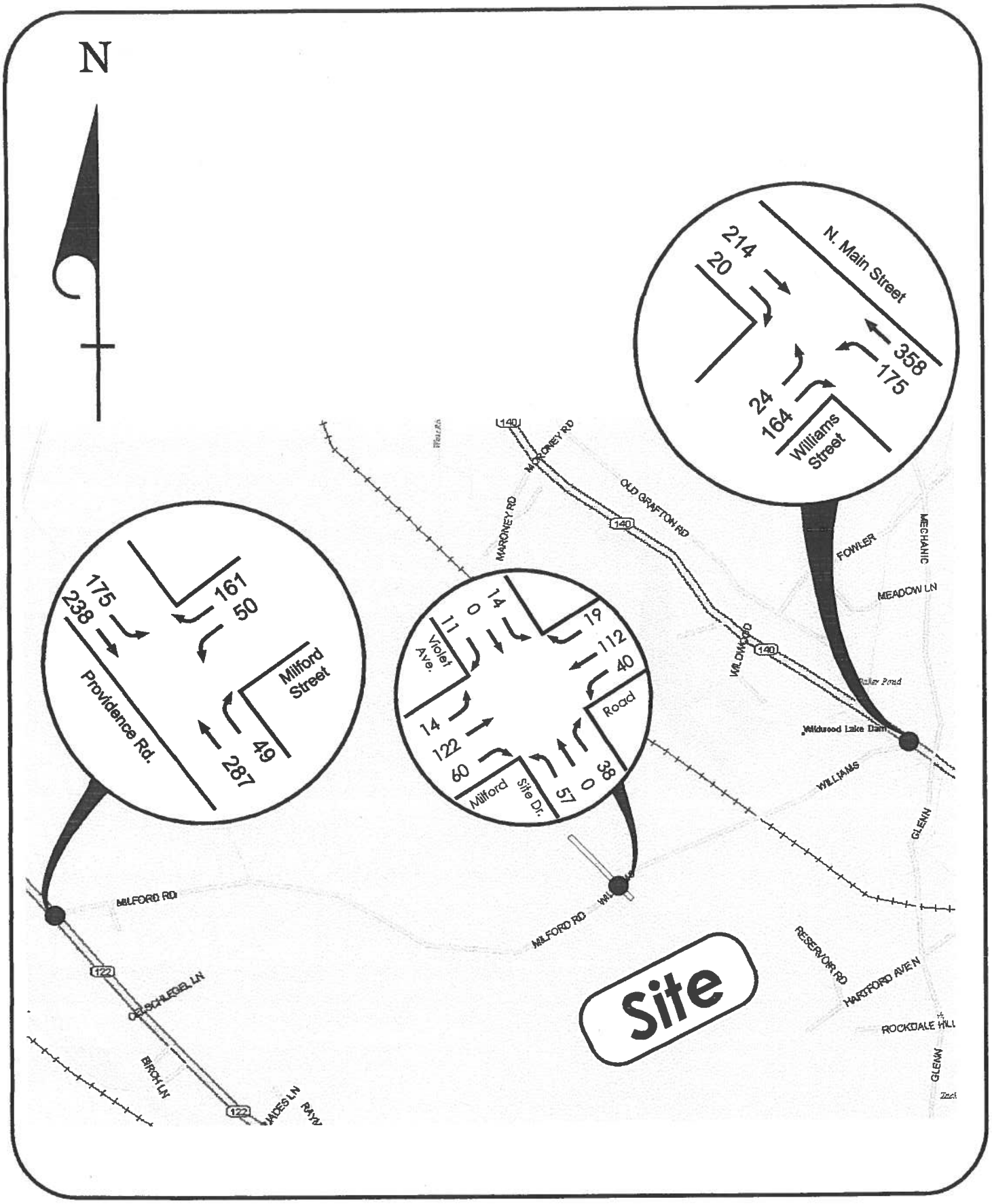

Projected Saturday Mid-Day Peak Hour Traffic Volume

Figure 17 Rev.

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	Existing			Base			Projected		
	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat
North Main Street at Williams Street									
"1-Way STOP" Sign Controlled									
North Main Street East Bd.	A	A	A	A	A	A	A	A	A
North Main Street West Bd.	A	A	A	A	A	A	A	A	A
Williams Street North Bd.	E	D	C	F	E	C	F	E	C
Delay (Seconds)	36.7	28.0	15.0	50.1	36.8	16.1	56.7	47.5	17.6
Milford Road / Violet Ave. / Site Dr.									
"1-Way STOP" Sign Controlled									
Milford Road North Bd.	A	A	A	A	A	A	A	A	A
Milford Road South Bd.	A	A	A	A	A	A	A	A	A
Violet Ave. East Bd.	B	B	A	B	B	B	B	B	B
Delay (Seconds)	11.7	11.7	9.9	12.2	12.3	10.2	13.5	13.5	11.3
New Site Drive West Bd.	-	-	-	-	-	-	B	B	B
Delay (Seconds)	-	-	-	-	-	-	12.9	14.4	12.2
Providence Road at Milford Road									
"1-Way STOP" Sign Controlled									
Providence Road North Bd.	A	A	A	A	A	A	A	A	A
Providence Road South Bd.	A	A	A	A	A	A	A	A	A
Milford Road West Bd.	B	B	C	B	B	B	B	C	C
Delay (Seconds)	12.9	13.6	12.7	14.0	14.7	13.5	14.9	16.3	15.3

Intersection Levels of Service

Figure 18 Rev.

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Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	202	125	280	42	23	122
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	224	139	311	47	26	136
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	358				922	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				90	81
cM capacity (veh/h)	1201				244	708

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	363	358	26	136
Volume Left	224	0	26	0
Volume Right	0	47	0	136
cSH	1201	1700	244	708
Volume to Capacity	0.19	0.21	0.10	0.19
Queue Length (ft)	17	0	9	18
Control Delay (s)	6.0	0.0	21.5	11.3
Lane LOS	A		C	B
Approach Delay (s)	6.0	0.0	12.9	
Approach LOS			B	

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	149	287	174	20	68	247
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	166	319	193	22	76	274
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	216				854	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				74	67
cM capacity (veh/h)	1354				289	836

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	484	216	76	274
Volume Left	166	0	76	0
Volume Right	0	22	0	274
cSH	1354	1700	289	836
Volume to Capacity	0.12	0.13	0.26	0.33
Queue Length (ft)	10	0	26	36
Control Delay (s)	3.5	0.0	21.8	11.4
Lane LOS	A		C	B
Approach Delay (s)	3.5	0.0	13.6	
Approach LOS			B	

Intersection Summary			
Average Delay	6.2		
Intersection Capacity Utilization	51.6%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	124	222	268	27	32	113
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	138	247	298	30	36	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	328				835	313
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				88	83
cM capacity (veh/h)	1232				300	728

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	384	328	36	126
Volume Left	138	0	36	0
Volume Right	0	30	0	126
cSH	1232	1700	300	728
Volume to Capacity	0.11	0.19	0.12	0.17
Queue Length (ft)	9	0	10	16
Control Delay (s)	3.7	0.0	18.6	11.0
Lane LOS	A		C	B
Approach Delay (s)	3.7	0.0	12.7	
Approach LOS			B	

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	212	138	297	46	31	135
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	236	153	330	51	34	150
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	381				980	356
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				84	78
cM capacity (veh/h)	1177				222	689

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	389	381	34	150
Volume Left	236	0	34	0
Volume Right	0	51	0	150
cSH	1177	1700	222	689
Volume to Capacity	0.20	0.22	0.16	0.22
Queue Length (ft)	19	0	13	21
Control Delay (s)	6.1	0.0	24.2	11.7
Lane LOS	A		C	B
Approach Delay (s)	6.1	0.0	14.0	
Approach LOS			B	

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	54.9%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	156	307	191	28	74	265
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	173	341	212	31	82	294
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	243				916	228
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				69	64
cM capacity (veh/h)	1323				263	812

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	514	243	82	294
Volume Left	173	0	82	0
Volume Right	0	31	0	294
cSH	1323	1700	263	812
Volume to Capacity	0.13	0.14	0.31	0.36
Queue Length (ft)	11	0	32	42
Control Delay (s)	3.6	0.0	24.8	11.9
Lane LOS	A		C	B
Approach Delay (s)	3.6	0.0	14.7	
Approach LOS			B	

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	55.2%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	130	238	287	34	39	129
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	144	264	319	38	43	143
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	357				891	338
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				84	80
cM capacity (veh/h)	1202				276	705

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	409	357	43	143
Volume Left	144	0	43	0
Volume Right	0	38	0	143
cSH	1202	1700	276	705
Volume to Capacity	0.12	0.21	0.16	0.20
Queue Length (ft)	10	0	14	19
Control Delay (s)	3.7	0.0	20.5	11.4
Lane LOS	A		C	B
Approach Delay (s)	3.7	0.0	13.5	
Approach LOS			B	

Intersection Summary			
Average Delay	4.3		
Intersection Capacity Utilization	54.3%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	231	138	297	52	37	152
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	257	153	330	58	41	169
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	388				1026	359
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	78				80	75
cM capacity (veh/h)	1171				203	686

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	410	388	41	169
Volume Left	257	0	41	0
Volume Right	0	58	0	169
cSH	1171	1700	203	686
Volume to Capacity	0.22	0.23	0.20	0.25
Queue Length (ft)	21	0	18	24
Control Delay (s)	6.4	0.0	27.1	12.0
Lane LOS	A		D	B
Approach Delay (s)	6.4	0.0	14.9	
Approach LOS			B	

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	56.5%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	183	307	191	37	83	292
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	203	341	212	41	92	324
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	253				981	233
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				61	60
cM capacity (veh/h)	1312				234	806

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	544	253	92	324
Volume Left	203	0	92	0
Volume Right	0	41	0	324
cSH	1312	1700	234	806
Volume to Capacity	0.15	0.15	0.39	0.40
Queue Length (ft)	14	0	44	49
Control Delay (s)	4.1	0.0	30.0	12.4
Lane LOS	A		D	B
Approach Delay (s)	4.1	0.0	16.3	
Approach LOS			C	

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	58.0%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	175	238	287	49	50	161
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	194	264	319	54	56	179
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	373				999	346
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				75	74
cM capacity (veh/h)	1185				226	697

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	459	373	56	179
Volume Left	194	0	56	0
Volume Right	0	54	0	179
cSH	1185	1700	226	697
Volume to Capacity	0.16	0.22	0.25	0.26
Queue Length (ft)	15	0	23	25
Control Delay (s)	4.6	0.0	26.1	11.9
Lane LOS	A		D	B
Approach Delay (s)	4.6	0.0	15.3	
Approach LOS			C	

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	58.1%	ICU Level of Service	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	342	11	83	334	24	326
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	380	12	92	371	27	362
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			492		1042	486
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		87	32
cM capacity (veh/h)			982		212	533

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	392	463	389
Volume Left	0	92	27
Volume Right	12	0	362
cSH	1700	982	483
Volume to Capacity	0.23	0.09	0.81
Queue Length (ft)	0	8	189
Control Delay (s)	0.0	2.7	36.7
Lane LOS		A	E
Approach Delay (s)	0.0	2.7	36.7
Approach LOS			E

Intersection Summary			
Average Delay	12.5		
Intersection Capacity Utilization	79.4%	ICU Level of Service	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	280	26	325	396	17	116
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	311	29	361	440	19	129
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			440		1588	426
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			65		73	78
cM capacity (veh/h)			1027		71	577

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	340	801	148
Volume Left	0	361	19
Volume Right	29	0	129
cSH	1700	1027	301
Volume to Capacity	0.20	0.35	0.49
Queue Length (ft)	0	40	64
Control Delay (s)	0.0	7.4	28.0
Lane LOS		A	D
Approach Delay (s)	0.0	7.4	28.0
Approach LOS			D

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	80.8%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	204	14	122	341	19	123
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	227	16	136	379	21	137
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			342		984	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		90	79
cM capacity (veh/h)			1115		222	649

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	242	514	158
Volume Left	0	136	21
Volume Right	16	0	137
cSH	1700	1115	516
Volume to Capacity	0.14	0.12	0.31
Queue Length (ft)	0	10	32
Control Delay (s)	0.0	3.3	15.0
Lane LOS		A	C
Approach Delay (s)	0.0	3.3	15.0
Approach LOS			C

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	60.4%	ICU Level of Service	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	359	12	91	334	25	355
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	399	13	101	371	28	394
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			512		1079	506
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		86	24
cM capacity (veh/h)			965		199	520

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	412	472	422
Volume Left	0	101	28
Volume Right	13	0	394
cSH	1700	965	470
Volume to Capacity	0.24	0.10	0.90
Queue Length (ft)	0	9	249
Control Delay (s)	0.0	2.9	50.1
Lane LOS		A	F
Approach Delay (s)	0.0	2.9	50.1
Approach LOS			F

Intersection Summary			
Average Delay	17.2		
Intersection Capacity Utilization	83.0%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	294	27	356	416	18	131
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	327	30	396	462	20	146
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			457		1695	442
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			61		65	74
cM capacity (veh/h)			1012		57	565

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	357	858	166
Volume Left	0	396	20
Volume Right	30	0	146
cSH	1700	1012	272
Volume to Capacity	0.21	0.39	0.61
Queue Length (ft)	0	47	91
Control Delay (s)	0.0	8.1	36.8
Lane LOS		A	E
Approach Delay (s)	0.0	8.1	36.8
Approach LOS			E

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	85.8%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	214	15	140	358	20	139
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	238	17	156	398	22	154
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			354		1055	346
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		89	76
cM capacity (veh/h)			1104		197	639

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	254	553	177
Volume Left	0	156	22
Volume Right	17	0	154
cSH	1700	1104	498
Volume to Capacity	0.15	0.14	0.35
Queue Length (ft)	0	12	40
Control Delay (s)	0.0	3.6	16.1
Lane LOS		A	C
Approach Delay (s)	0.0	3.6	16.1
Approach LOS			C

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	64.2%	ICU Level of Service	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	359	14	106	351	27	368
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	399	16	118	390	30	409
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			414		1032	407
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		87	37
cM capacity (veh/h)			1145		232	645

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	414	508	439
Volume Left	0	118	30
Volume Right	16	0	409
cSH	1700	1145	574
Volume to Capacity	0.24	0.10	0.76
Queue Length (ft)	0	9	173
Control Delay (s)	0.0	2.8	28.7
Lane LOS		A	D
Approach Delay (s)	0.0	2.8	28.7
Approach LOS			D

Intersection Summary			
Average Delay	10.3		
Intersection Capacity Utilization	85.9%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	294	30	377	416	21	152
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	327	33	419	462	23	169
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			360		1643	343
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			65		67	76
cM capacity (veh/h)			1199		72	699

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	360	881	192
Volume Left	0	419	23
Volume Right	33	0	169
cSH	1700	1199	339
Volume to Capacity	0.21	0.35	0.57
Queue Length (ft)	0	40	83
Control Delay (s)	0.0	7.0	28.7
Lane LOS		A	D
Approach Delay (s)	0.0	7.0	28.7
Approach LOS			D

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	88.4%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	214	20	175	358	24	164
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	238	22	194	398	27	182
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			260		1036	249
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			85		88	77
cM capacity (veh/h)			1304		219	790

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	260	592	209
Volume Left	0	194	27
Volume Right	22	0	182
cSH	1700	1304	592
Volume to Capacity	0.15	0.15	0.35
Queue Length (ft)	0	13	40
Control Delay (s)	0.0	3.8	14.4
Lane LOS		A	B
Approach Delay (s)	0.0	3.8	14.4
Approach LOS			B

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	68.3%	ICU Level of Service	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	40	0	11	0	0	0	5	287	0	0	85	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	44	0	12	0	0	0	6	319	0	0	94	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	430	430	100	442	436	319	106			319		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	100	99	100	100	100	100			100		
cM capacity (veh/h)	534	516	956	517	512	722	1486			1241		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	57	0	324	106
Volume Left	44	0	6	0
Volume Right	12	0	0	11
cSH	590	1700	1486	1241
Volume to Capacity	0.10	0.00	0.00	0.00
Queue Length (ft)	8	0	0	0
Control Delay (s)	11.7	0.0	0.2	0.0
Lane LOS	B	A	A	
Approach Delay (s)	11.7	0.0	0.2	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	9	0	11	0	0	0	12	105	0	0	320	28
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	10	0	12	0	0	0	13	117	0	0	356	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	514	514	371	527	530	117	387			117		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	100	100	100	99			100		
cM capacity (veh/h)	467	459	675	449	449	935	1172			1472		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	22	0	130	387
Volume Left	10	0	13	0
Volume Right	12	0	0	31
cSH	562	1700	1172	1472
Volume to Capacity	0.04	0.04	0.01	0.00
Queue Length (ft)	3	0	1	0
Control Delay (s)	11.7	0.0	0.9	0.0
Lane LOS	B	A	A	
Approach Delay (s)	11.7	0.0	0.9	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	30.6%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	13	0	10	0	0	0	13	116	0	0	102	18
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	14	0	11	0	0	0	14	129	0	0	113	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	281	281	123	292	291	129	133			129		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	99	100	100	100	99			100		
cM capacity (veh/h)	666	621	928	647	613	921	1451			1457		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	26	0	143	133
Volume Left	14	0	14	0
Volume Right	11	0	0	20
cSH	759	1700	1451	1457
Volume to Capacity	0.03	0.14	0.01	0.00
Queue Length (ft)	3	0	1	0
Control Delay (s)	9.9	0.0	0.8	0.0
Lane LOS	A	A	A	
Approach Delay (s)	9.9	0.0	0.8	0.0
Approach LOS	A	A		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	18.9%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	42	0	12	0	0	0	5	314	0	0	93	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	47	0	13	0	0	0	6	349	0	0	103	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	469	469	109	483	476	349	116			349		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	99	100	100	100	100			100		
cM capacity (veh/h)	503	490	944	485	486	694	1473			1210		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	60	0	354	116
Volume Left	47	0	6	0
Volume Right	13	0	0	12
cSH	561	1700	1473	1210
Volume to Capacity	0.11	0.00	0.00	0.00
Queue Length (ft)	9	0	0	0
Control Delay (s)	12.2	0.0	0.2	0.0
Lane LOS	B	A	A	
Approach Delay (s)	12.2	0.0	0.2	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	11	0	12	0	0	0	13	119	0	0	351	29
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	12	0	13	0	0	0	14	132	0	0	390	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	567	567	406	581	583	132	422			132		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	98	100	100	100	99			100		
cM capacity (veh/h)	430	428	645	412	418	917	1137			1453		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	26	0	147	422
Volume Left	12	0	14	0
Volume Right	13	0	0	32
cSH	521	1700	1137	1453
Volume to Capacity	0.05	0.04	0.01	0.00
Queue Length (ft)	4	0	1	0
Control Delay (s)	12.3	0.0	0.9	0.0
Lane LOS	B	A	A	
Approach Delay (s)	12.3	0.0	0.9	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	14	0	11	0	0	0	14	132	0	0	119	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	16	0	12	0	0	0	16	147	0	0	132	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	321	321	143	333	331	147	153			147		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	99	100	100	100	99			100		
cM capacity (veh/h)	627	590	905	607	582	900	1427			1435		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	28	0	162	153
Volume Left	16	0	16	0
Volume Right	12	0	0	21
cSH	725	1700	1427	1435
Volume to Capacity	0.04	0.14	0.01	0.00
Queue Length (ft)	3	0	1	0
Control Delay (s)	10.2	0.0	0.8	0.0
Lane LOS	B	A	A	
Approach Delay (s)	10.2	0.0	0.8	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	42	0	12	30	0	20	5	310	34	22	90	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	47	0	13	33	0	22	6	344	38	24	100	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	552	548	106	543	536	363	112			382		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	100	99	92	100	97	100			98		
cM capacity (veh/h)	422	433	948	436	440	681	1477			1176		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	60	56	388	137
Volume Left	47	33	6	24
Volume Right	13	22	38	12
cSH	482	509	1477	1176
Volume to Capacity	0.12	0.11	0.00	0.02
Queue Length (ft)	11	9	0	2
Control Delay (s)	13.5	12.9	0.1	1.6
Lane LOS	B	B	A	A
Approach Delay (s)	13.5	12.9	0.1	1.6
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	32.9%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	11	0	12	47	0	32	13	110	49	32	345	29
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	12	0	13	52	0	36	14	122	54	36	383	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	684	676	399	662	665	149	416			177		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	98	85	100	96	99			97		
cM capacity (veh/h)	338	361	651	357	366	897	1143			1399		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	26	88	191	451
Volume Left	12	52	14	36
Volume Right	13	36	54	32
cSH	451	472	1143	1399
Volume to Capacity	0.06	0.19	0.01	0.03
Queue Length (ft)	4	17	1	2
Control Delay (s)	13.5	14.4	0.7	0.8
Lane LOS	B	B	A	A
Approach Delay (s)	13.5	14.4	0.7	0.8
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	56.4%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	14	0	11	57	0	38	14	122	60	40	112	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	16	0	12	63	0	42	16	136	67	44	124	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	466	457	135	436	434	169	146			202		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	87	100	95	99			97		
cM capacity (veh/h)	467	479	914	506	492	875	1437			1370		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	28	106	218	190
Volume Left	16	63	16	44
Volume Right	12	42	67	21
cSH	595	609	1437	1370
Volume to Capacity	0.05	0.17	0.01	0.03
Queue Length (ft)	4	16	1	3
Control Delay (s)	11.3	12.2	0.6	2.0
Lane LOS	B	B	A	A
Approach Delay (s)	11.3	12.2	0.6	2.0
Approach LOS	B	B		

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	45.1%	ICU Level of Service	A

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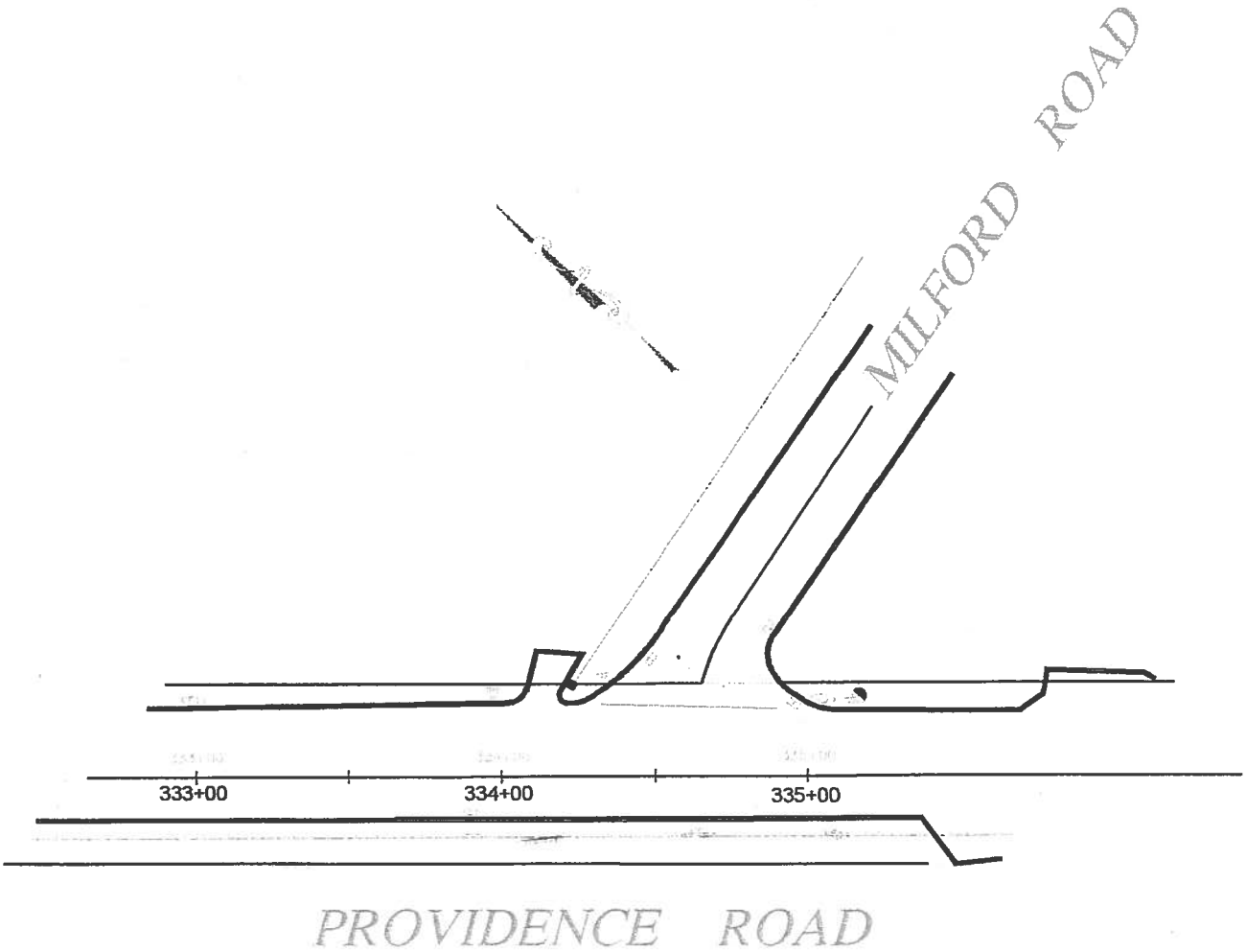
TECHNICAL MEMORANDUM

To: Michael Weaver
Guerriere & Halnon, Inc.
From: John T. Gillon, P.E.
Re: Hilltop Properties – Grafton, Mass.
Date: May 30, 2009

At your request, I have reviewed the traffic operational analysis for the Providence Road / Milford Street intersection during the weekday evening peak hour in an effort to improve the projected level of service from a "D" to a "C". I have examined the physical attributes of this intersection as well as the existing driver operational tendencies and I'm pleased to report our earlier projected delay of 31.1 seconds yielding a "D" level has improved to yield a "C" level of service.

Although the incremental increase over the baseline or no-build condition is the same as the prior effort, the threshold value between the "C" and "D" level is not exceeded under this scenario.

I hope this information proves useful but please let me know if you have any additional questions regarding this material.



Scale: 1" = 60'

Proposed Lane Lines - Route 122 at Milford Road	Figure 1
	GA Gillon Associates

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		-2%	
Volume (veh/h)	178	307	191	35	81	287
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	198	341	212	39	90	319
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	251				968	232
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				62	61
cM capacity (veh/h)	1314				239	808

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total	539	251	90	319
Volume Left	198	0	90	0
Volume Right	0	39	0	319
cSH	1314	1700	239	808
Volume to Capacity	0.15	0.15	0.38	0.39
Queue Length (ft)	13	0	41	47
Control Delay (s)	4.0	0.0	28.8	12.3
Lane LOS	A		D	B
Approach Delay (s)	4.0	0.0	16.0	
Approach LOS			C	

Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	57.4%	ICU Level of Service	A

Traffic Impact Assessment

For:

Hilltop Properties

On:

Milford Road

In:

Grafton, Massachusetts

Prepared For:

Guerriere & Halnon, Inc
Whitinsville, Mass.

Prepared By:

Gillon Associates
Traffic & Parking Specialists

May 2009

Hilltop Properties

Grafton, Massachusetts

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EXECUTIVE SUMMARY

This report details and summarizes the expected traffic characteristics associated with the additional vehicular traffic within the project study area due to the development of the proposed residential project. A summary of these findings of this report are provided as follows:

- **Milford Road carries approximately 4,500 vehicles per day in the vicinity of the site, nine percent of which occurs during the morning peak hour and ten percent of which is accommodated during the existing evening peak hour.**
- **The proposed project is expected to generate 47 additional vehicle trips during the morning peak hour and 126 vehicle trips in the evening peak hour. The project is also expected to generate approximately 138 trips during a Saturday mid-day peak hour.**
- **Traffic operations at the Providence Road / Milford Road intersection are expected to experience very minor delays as a result of the proposed project.**
- **Traffic operations at the N. Main Street / Williams Street intersection are expected to experience very minor delays as a result of the proposed project.**
- **The proposed Site Drive on Milford Road has adequate stopping sight distance.**
- **Delay at the Williams Street / N. Main Street intersection is high, especially during the morning peak hour. This project is expected to generate very little traffic during the morning peak hour but will generate the most trips during a Saturday mid-day peak hour when Milford Road volumes are relatively low. Thus, this is a very good project in terms of a minimum traffic impact.**

INTRODUCTION

Gillon Associates has evaluated the anticipated traffic impacts resulting from the proposed construction of 14,400 square feet of retail space on Milford Road in Grafton, Massachusetts (Figure 1). The site is located within the southeasterly side of Milford Road (Figure 2). The site will be served by one driveway onto Milford Road, opposite Violet Lane.

The purpose of this report is to evaluate potential traffic impacts, which may be created by the expected addition of vehicular traffic either originating from or destined to the site. Specifically, this report assesses the change (if any) in the traffic operational characteristics of intersections within the study area due to additional traffic. The following intersections were included in the study area:

- Milford Road at Violet Lane
- Milford Road at Providence Road (Rte. 122)
- Williams Street at W. Main Street (Rte. 140)

These intersections were selected for assessment in this report since the majority of site generated traffic destined through Grafton would probably travel through one or more of these locations.

This report provides an identification of the expected traffic generated by the project along with an assessment of existing and projected traffic operating characteristics. Existing traffic volumes were obtained by use of an automatic traffic recorder (ATR) placed on both Milford Road in Grafton and Williams Street in Upton. In addition, manual traffic volumes were obtained by observing and recording vehicle turning movements along the Milford Road – Williams Street corridor at the following locations:

- Milford Road at Violet Lane
- Milford Road at Providence Road (Rte. 122)
- Williams Street at W. Main Street (Rte. 140)

Baseline traffic volume projections reflect normal traffic growth in the area and specific projects identified in the area. Site related traffic projections are based on similar land use and size.

PROJECT DESCRIPTION

The project includes the construction of 14,400 square feet of retail with 7,200 square feet in each of two buildings. Each building will have about 5,760 square feet of general retail and one building may have 1,400 square feet of bank area while the other may have 1,440 square feet of high-turnover sit-down restaurant. The site will be served by one all-access driveway onto Milford Road.

EXISTING TRAFFIC CONDITIONS

Regional Roadway Network

The site is served by both Providence Road (Route 122) and W. Main Street (Route 140) with Milford Road and Williams Street providing a connection between these two regional roadway facilities. To the northwest, Providence Road provides linkage to the Worcester area and the Massachusetts Turnpike via either Main Street (Route 122A) or Worcester Road after connecting with Route 140. To the southwest, Providence Road parallels the Blackstone River before connecting with Route 146 in Uxbridge via Route 146A. Milford Road provides east-west linkage between Providence Road to the west and West Main Street (Route 140) in Upton to the east, where it is called Williams Street. Route 140 connects with Route 122 to the north and with Route I-495 to the southeast.

Traffic Setting

The project is situated with access on a collector type roadway. Milford Road accommodates one travel lane in each direction but has a roadway pavement width of approximately 25 feet. Milford Road is included in the Federal Highway System where it is classified as a "Secondary" roadway. These roadways are composed of arterials with statewide significance whose basic function is to move large numbers of people and vehicles by way of long distance travel corridors. Currently there is a "STOP" sign on the Milford Road southwest-bound approach at Providence Road and on the Williams Street northeast-bound approach at N. Main Street.

Existing Traffic Volumes

An automatic traffic recorder (ATR) was placed on both Milford Road to the southwest and Williams Street, to the northeast to record weekday and Saturday hourly traffic volume variations. As can be seen on Figure 3, Milford Road carries approximately 4,500 vehicles per day. This roadway also carries approximately 3,700 vehicles on a Saturday (Figure 4). As can be seen on Figure 5, Williams Street carries approximately 4,600 vehicles per day. This roadway carries about 3,500 vehicles on a Saturday (Figure 6).

The manual turning movement traffic count data was obtained in September of 2008. The morning peak hour occurs between 7:30 and 8:30 am and the evening peak hour occurs from 5:00 to 6:00 pm. These existing traffic volumes during the weekday morning peak hour are provided on Figure7. The existing traffic volumes during the weekday evening peak hour are provided on Figure 8. The existing traffic volumes during a Saturday mid-day peak hour are provided on Figure 9.

FUTURE TRAFFIC CONDITIONS

In order to assess the future traffic demands on the adjacent roadways, the latent demand or normal growth in volumes which will occur prior to opening the new retail development have to be identified. This growth in traffic volumes will be associated with normal increases due to new

development, and licensed drivers, as well as employment opportunities in the area. Adjacent parcels, which have received subdivision approval, have also been identified as latent traffic generators.

Background Traffic Growth

The existing observed traffic volumes were increased at a rate of one percent per year over five years to account for growth which may take place between now and the year 2014. This growth factor is conservatively higher than rates obtained from the Massachusetts Highway Department. Thus the 1.0 percent utilized herein is much higher than rates observed in this area of the state.

Future no-build or baseline traffic volume conditions included both normal growth volume increases as well as site specific trip generation due to the Brookmeadow housing development in Grafton. The baseline or "Base" year traffic flows onto which the site related traffic will be added for analysis purposes are shown for weekday morning and evening peak hours as well as for Saturday during the mid-day peak hour on Figures 10 through12 respectively.

Trip Generation and Distribution

It is expected that the proposed retail development will exhibit the same general trip generating characteristics as in other suburban residential communities. In addition to local rates observed and compiled by this firm, the Institute of Transportation Engineers (ITE) provides data on a variety of land uses and there is a considerable amount of empirical data available.

Figure 13 provides a trip generation summary listing the ITE equations and the resulting trip generation values used for this report. The commercial development is expected to generate approximately 47 morning peak hour trips with 26 inbound and 21 outbound. The project is expected to generate 126 evening peak hour trips with 65 inbound and 61 outbound. The project is also expected to generate 138 Saturday peak hour trips with 71 inbound and 67 outbound.

Trip distribution is based on the existing directional distribution volumes during both the morning peak hour and evening peak hour. During both morning and evening peak commuting periods, 60% of the project-related traffic is expected to travel to and from the west on Milford Road toward Providence Road in Grafton. The trip assignment at the intersection was split as the existing traffic volumes for the most part. Approximately 40% of the site related traffic will be oriented the east on Williams Street in Upton as shown on Figure 14. This projected directional distribution considered departures from the study area in the morning, arrivals to the study area in the evening and was established on a basis of type of trip, existing distributional split, and the relationship with other major roadway corridors. Projected weekday morning and evening as well as Saturday mid-day peak hour traffic volumes representing a build condition for the site in the year 2014 are provided in Figures 15 through 17.

TRAFFIC OPERATIONAL ANALYSIS

This section of the report provides a quantitative analysis of anticipated traffic operational characteristics for; existing, baseline, and builds scenarios. These series of capacity analyses were conducted for weekday morning and evening as well as Saturday peak hours to determine the potential impact of the proposed project.

Analysis Methodology and Findings

The analysis is based on the "Highway Capacity Manual" for non-signalized intersections. This manual has been published by the Transportation Board of the National Research Council and approved by the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine. Synchro version V was utilized in the assessment.

At un-signalized intersections the manual assumes that the through and right-turn movements along any main street will operate unrestricted but conflicting movements will be subjected to various periods of delay depending primarily on the frequency of adequate safe gaps to complete these movements. These periods of delay are generally categorized in "Levels of Service" (LOS) ranging from "A" for very short or no delays through "F" for extensive delays. The Massachusetts Highway Design Manual indicates that a "D" Level of Service is acceptable on roadways such as those in the study area. A table comparing levels of service and seconds of delay is provided in the Appendix of this report.

Providence Road / Milford Road

As can be seen on the Intersection Levels of Service table (Figure 18) as well as in calculations provided herein, there will not be any major change in delay between the "Baseline" and "Projected" conditions at this intersection. Providence Road will continue to enjoy an "A" level of service in both directions. Milford Road will continue to operate with average delay and a "C" level of service during both the morning and Saturday peak hours but delay will increase slightly to an acceptable "D" level during the weekday evening peak hour.

Williams Street / West Main Street (Route 140)

All turning maneuvers along West Main Street northbound and southbound will continue to operate at an "A" level of service during both commuting peak hours with little or no delay. However, Williams Street eastbound will experience about a six second increase in delay during the morning peak hour, when it will experience an "F" level even without this project. The levels of service do not change at all between the base and projected conditions due to traffic from this project.

Milford Road / Violet Lane / Site Drive

There will not be any change in delay between the "Baseline" and "Projected" conditions at this intersection. Milford Road will continue to enjoy an "A" level of service in both directions. Violet Lane will continue to operate with short delay and a "B" level of service during the morning and evening as well as Saturday peak hours and delay will increase by about one second. The new site drive itself will also enjoy short delay and "B" levels of service during all peak hours.

SIGHT DISTANCE EVALUATION

The approaching vehicle on Providence Road must be able to stop in time to avoid making contact with a vehicle emerging from the new west site drive. The required stopping sight distance is obtained from "A Policy on Geometric Design of Highways and Streets" as published by the American Association of State Highway and Transportation Officials (AASHTO) 5th Edition published in 2004. The distance for the design speed is based on the formula as follows:

$$MSSD = 1.47\ Vt + 1.075 \frac{V^2}{a}$$

Where t = brake reaction time, 2.5 sec.
V = design speed, mph
a = deceleration rate, 11.2 ft/sec^2

A speed survey was conducted on Milford Road during non-peak hours when motorists were free to travel at speeds they felt were comfortable and when their speed was unrestricted by other vehicles.

Speed was recorded for each direction where the average speed was calculated as 38.3 mph. However, the 85th percentile speed, or speed at which eighty-five percent of all motorists observed were traveling at or below was 42 mph (Figure 16). This characteristic is commonly utilized as the roadway design speed. Therefore, the stopping sight distance on Providence Road is computed as follows:

$$MSSD = 1.47 * 42 * 2.5 + 1.075 * \frac{(42)^2}{11.2}$$

$$MSSD = 154 + 169 = 223 \text{ feet}$$

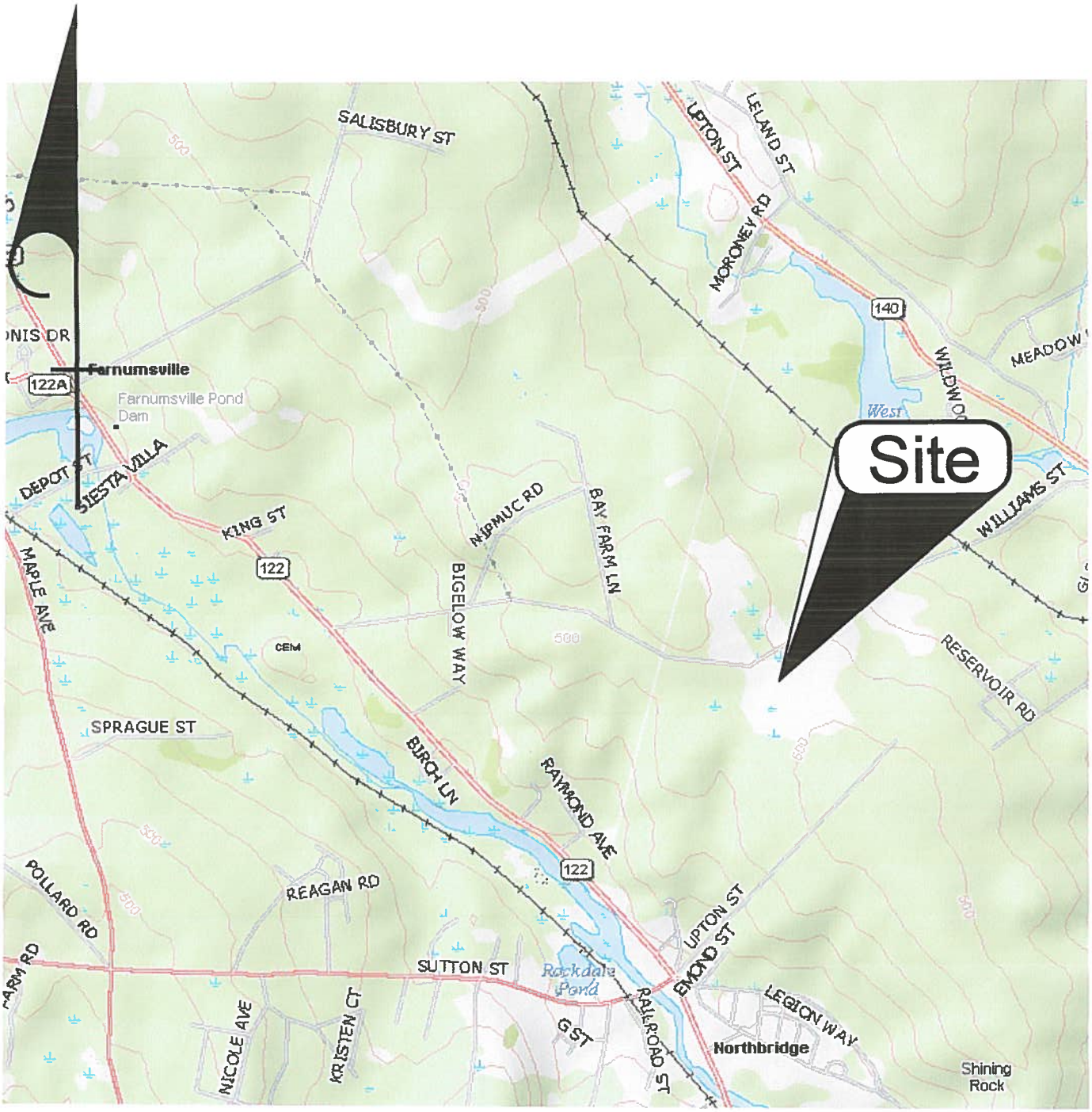
Milford Road is blessed with over 500 feet of stopping sight distance at the proposed driveway and the required minimum stopping sight distance will be provided.

CRASH ASSESSMENT

The Providence Road corridor was reviewed for accident or crash history. More specifically, the intersections of Providence Road at both Milford Road and Main Street were researched. Crash data was obtained from the Massachusetts Highway Department and Registry of Motor Vehicles records over the latest available three-year period.

Year	Providence Road at Milford Road No. Accidents	W. Main Street at Williams Street No. Accidents	Milford Road at Violet Lane No. Accidents
2006	0	1	0
2005	3	0	1
2004	0	0	0

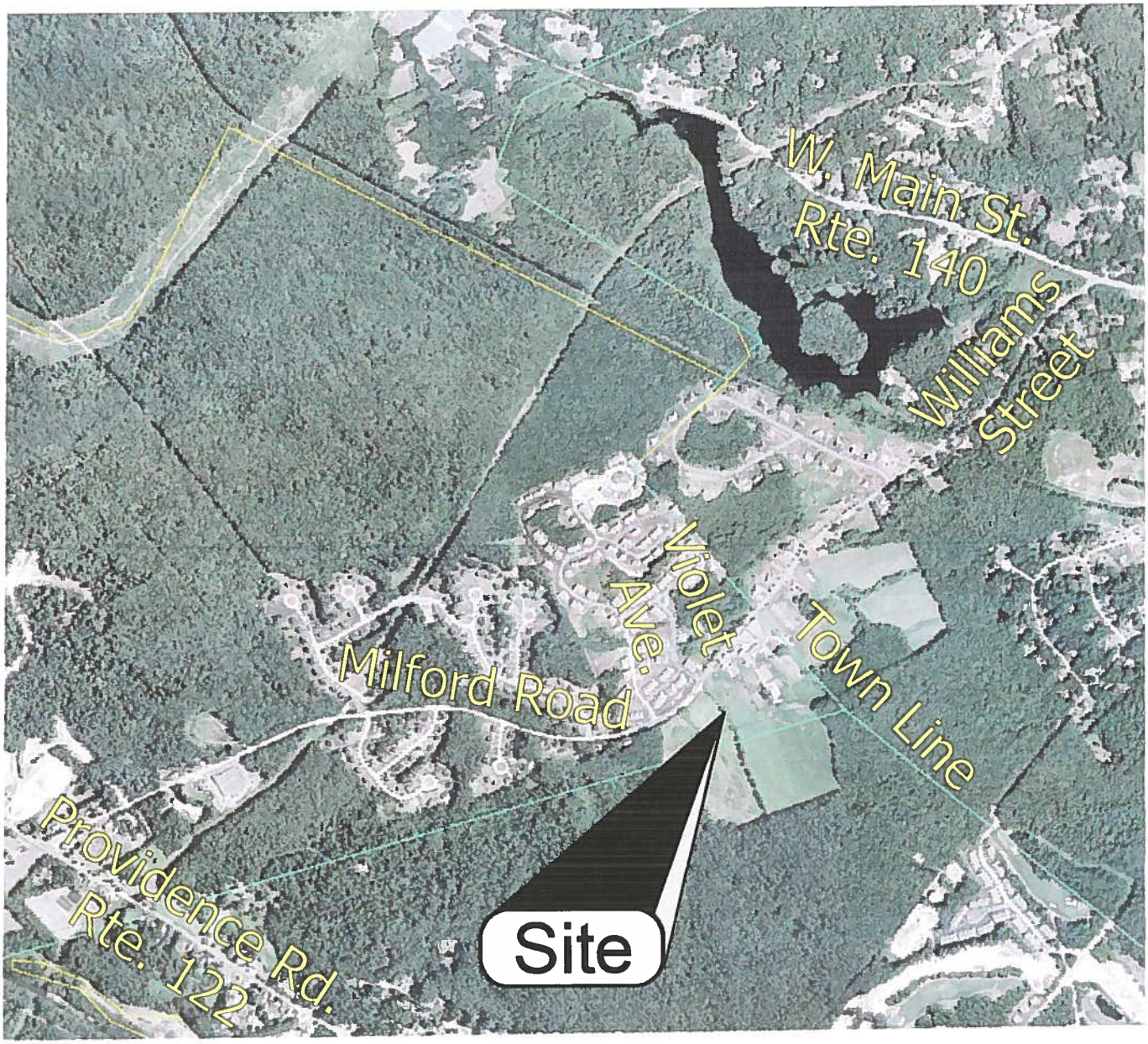
There were no fatalities recorded and most were rear-end type crashes. This crash history is not considered unique or unusually hazardous.



General Location Map

Figure 1

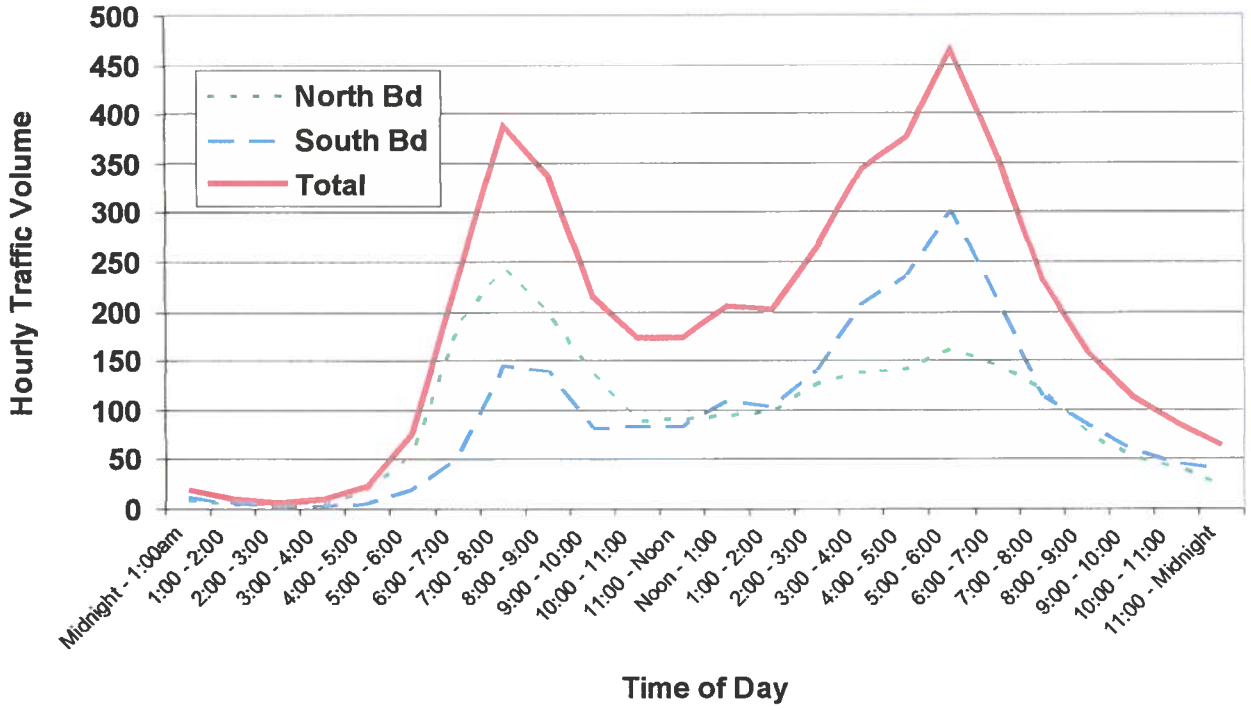
Gillon Associates



Locus Map

Figure 2

GA Gillon

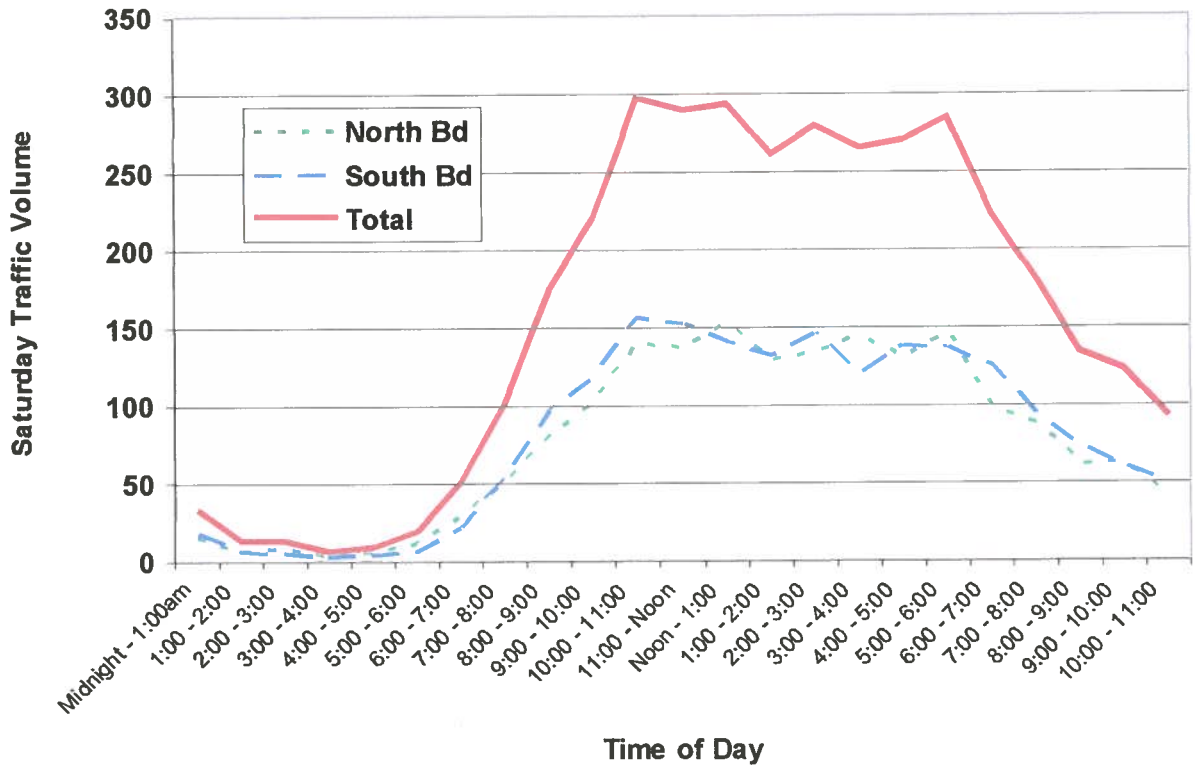


	Thursday 11-Sep-08			Friday 12-Sep-08			Average Weekday		
Time	North Bd	South Bd	Total	North Bd	South Bd	Total	North Bd	South Bd	Total
Midnight - 1:00am	7	8	15	8	13	21	8	11	18
1:00 - 2:00	4	6	10	5	5	10	5	6	10
2:00 - 3:00	3	3	6	3	2	5	3	3	6
3:00 - 4:00	7	1	8	5	4	9	6	3	9
4:00 - 5:00	18	5	23	14	7	21	16	6	22
5:00 - 6:00	57	19	76	53	20	73	55	20	75
6:00 - 7:00	193	51	244	177	50	227	185	51	236
7:00 - 8:00	252	146	398	233	142	375	243	144	387
8:00 - 9:00	210	144	354	186	134	320	198	139	337
9:00 - 10:00	142	83	225	127	77	204	135	80	215
10:00 - 11:00	83	85	168	94	82	176	89	84	172
11:00 - Noon	88	79	167	92	87	179	90	83	173
Noon - 1:00	91	103	194	98	116	214	95	110	204
1:00 - 2:00	97	102	199	100	105	205	99	104	202
2:00 - 3:00	134	140	274	119	137	256	127	139	265
3:00 - 4:00	122	198	320	152	215	367	137	207	344
4:00 - 5:00	146	234	380	135	237	372	141	236	376
5:00 - 6:00	160	311	471	165	292	457	163	302	464
6:00 - 7:00	128	234	362	162	185	347	145	210	355
7:00 - 8:00	120	111	231	116	114	230	118	113	231
8:00 - 9:00	71	99	170	80	69	149	76	84	160
9:00 - 10:00	59	52	111	48	68	116	54	60	114
10:00 - 11:00	43	42	85	41	47	88	42	45	87
11:00 - Midnight	20	37	57	28	43	71	24	40	64
Total	2255	2293	4548	2241	2251	4492	2248	2272	4520

Milford Street (North of Route 122)
Weekday Hourly Traffic Volume

Figure 3

Gillon Associates

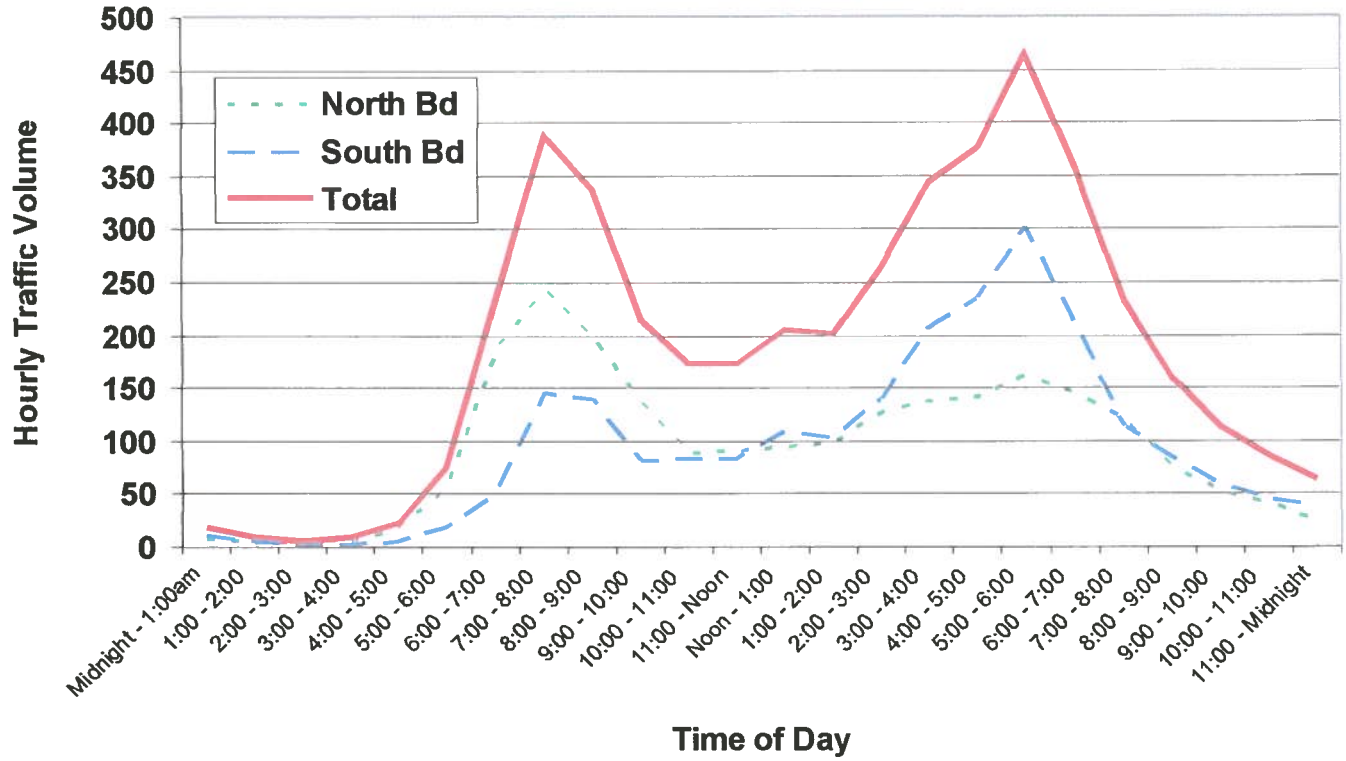


Midnight - 1:00am	15	18	33
1:00 - 2:00	6	7	13
2:00 - 3:00	8	5	13
3:00 - 4:00	4	2	6
4:00 - 5:00	5	4	9
5:00 - 6:00	12	7	19
6:00 - 7:00	29	22	51
7:00 - 8:00	50	52	102
8:00 - 9:00	79	96	175
9:00 - 10:00	103	118	221
10:00 - 11:00	140	157	297
11:00 - Noon	137	153	290
Noon - 1:00	152	141	293
1:00 - 2:00	129	132	261
2:00 - 3:00	134	146	280
3:00 - 4:00	145	121	266
4:00 - 5:00	131	139	270
5:00 - 6:00	147	137	284
6:00 - 7:00	97	126	223
7:00 - 8:00	88	93	181
8:00 - 9:00	62	73	135
9:00 - 10:00	63	60	123
10:00 - 11:00	41	51	92
11:00 - Midnight	33	27	60
	1810	1887	3697

Milford Street (North of Route 122)
Saturday Hourly Traffic Volume

Figure 4

Gillon Associates

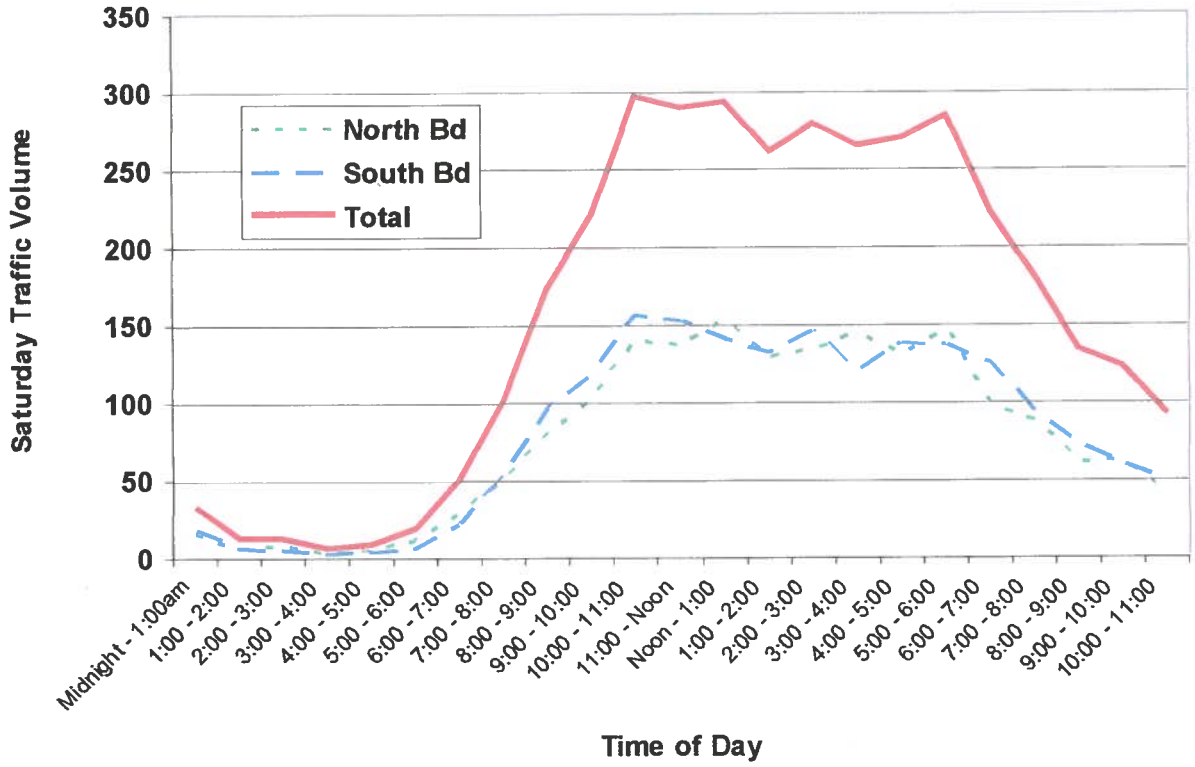


	Thursday 11-Sep-08			Friday 12-Sep-08			Average Weekday		
Time	North Bd	South Bd	Total	North Bd	South Bd	Total	North Bd	South Bd	Total
Midnight - 1:00am	5	10	15	3	20	23	4	15	19
1:00 - 2:00	2	10	12	3	3	6	3	7	9
2:00 - 3:00	3	3	6	3	2	5	3	3	6
3:00 - 4:00	6	3	9	4	6	10	5	5	10
4:00 - 5:00	22	2	24	22	2	24	22	2	24
5:00 - 6:00	79	14	93	71	15	86	75	15	90
6:00 - 7:00	253	39	292	227	36	263	240	38	278
7:00 - 8:00	349	92	441	327	80	407	338	86	424
8:00 - 9:00	308	85	393	281	78	359	295	82	376
9:00 - 10:00	182	76	258	160	65	225	171	71	242
10:00 - 11:00	105	81	186	120	80	200	113	81	193
11:00 - Noon	94	78	172	95	80	175	95	79	174
Noon - 1:00	88	81	169	95	96	191	92	89	180
1:00 - 2:00	95	104	199	100	107	207	98	106	203
2:00 - 3:00	105	142	247	103	162	265	104	152	256
3:00 - 4:00	104	219	323	106	206	312	105	213	318
4:00 - 5:00	120	258	378	103	251	354	112	255	366
5:00 - 6:00	125	372	497	116	329	445	121	351	471
6:00 - 7:00	88	292	380	111	269	380	100	281	380
7:00 - 8:00	76	151	227	64	145	209	70	148	218
8:00 - 9:00	40	125	165	42	70	112	41	98	139
9:00 - 10:00	22	65	87	31	69	100	27	67	94
10:00 - 11:00	24	56	80	38	65	103	31	61	92
11:00 - Midnight	13	27	40	17	41	58	15	34	49
Total	2308	2385	4693	2242	2277	4519	2275	2331	4606

Williams Street (South of Route 140)
Weekday Hourly Traffic Volume

Figure 5

Gillon Associates

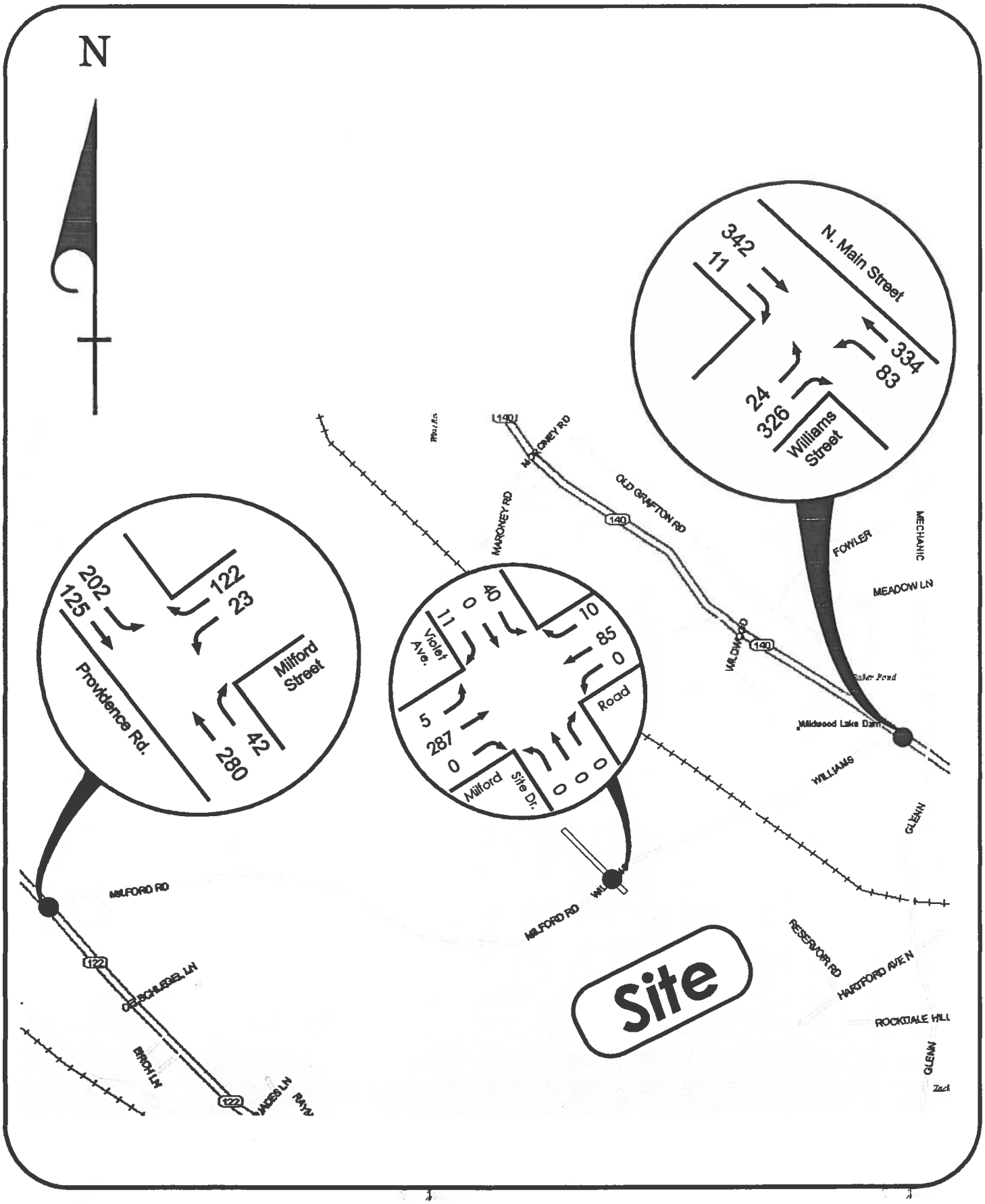


Midnight - 1:00am	[illegible]	[illegible]	[illegible]
1:00 - 2:00	3	8	11
2:00 - 3:00	4	5	9
3:00 - 4:00	1	5	6
4:00 - 5:00	11	7	18
5:00 - 6:00	17	6	23
6:00 - 7:00	40	18	58
7:00 - 8:00	72	43	115
8:00 - 9:00	98	54	152
9:00 - 10:00	122	82	204
10:00 - 11:00	132	120	252
11:00 - Noon	135	116	251
Noon - 1:00	136	135	271
1:00 - 2:00	118	124	242
2:00 - 3:00	136	139	275
3:00 - 4:00	118	112	230
4:00 - 5:00	105	145	250
5:00 - 6:00	124	143	267
6:00 - 7:00	96	130	226
7:00 - 8:00	67	90	157
8:00 - 9:00	47	89	136
9:00 - 10:00	44	60	104
10:00 - 11:00	34	60	94
11:00 - Midnight	29	31	60
	1699	1751	3450

Williams Street (South of Route 140)
Saturday Hourly Traffic Volume

Figure 6

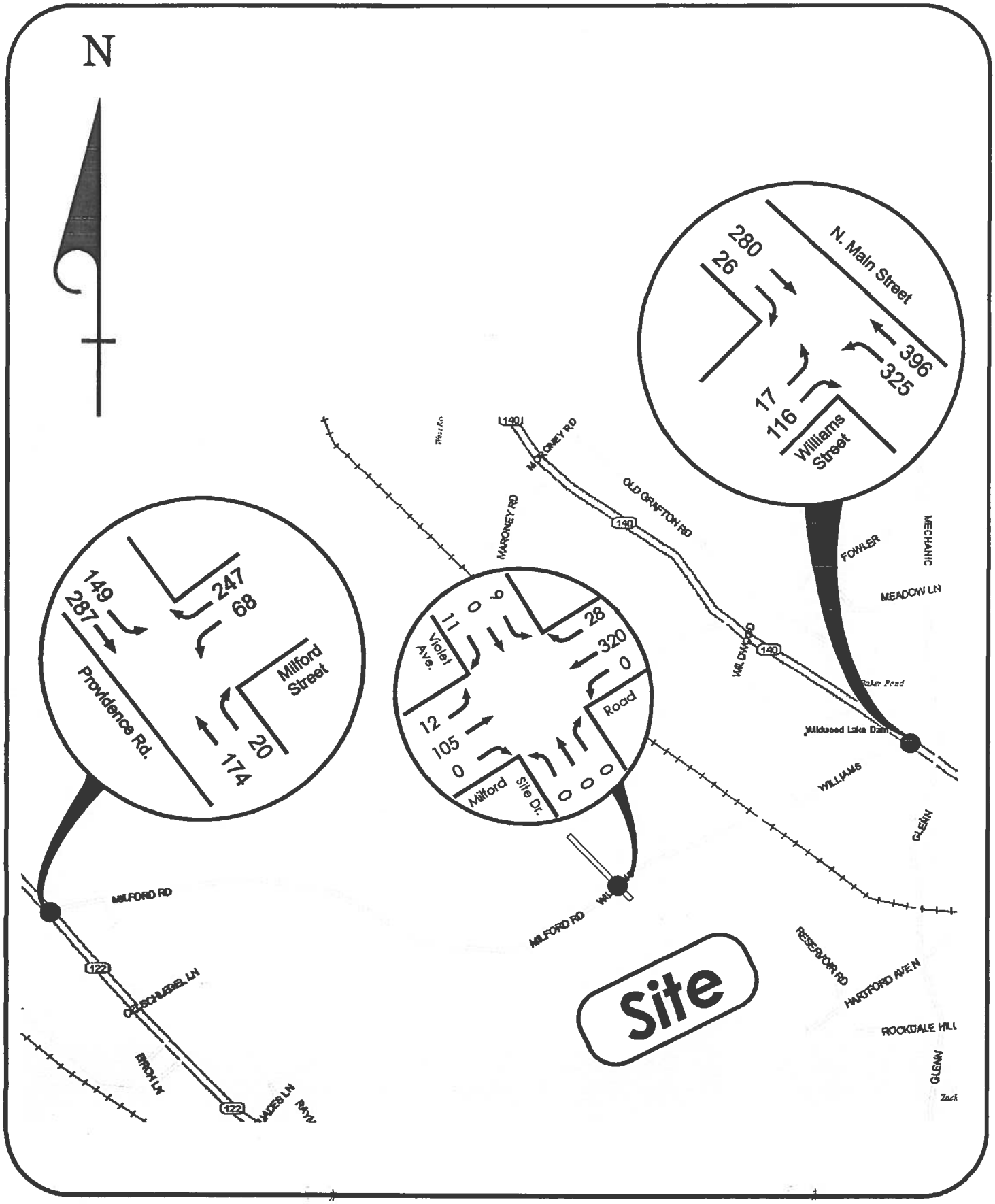
Gillon Associates



Existing Weekday Morning Peak Hour Traffic Volume

Figure 7

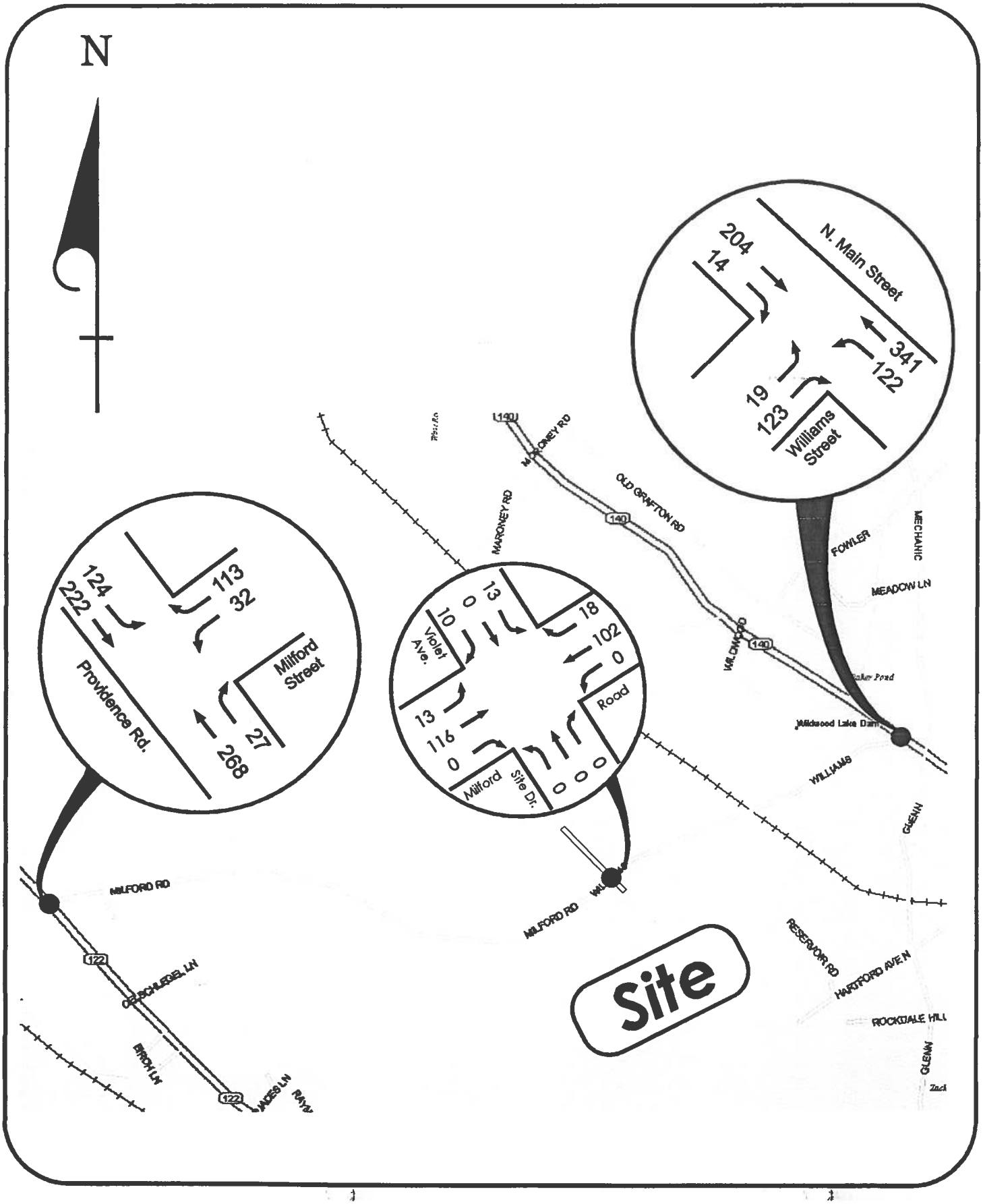
Gillon Associates



Existing Weekday Evening Peak Hour Traffic Volume

Figure 8

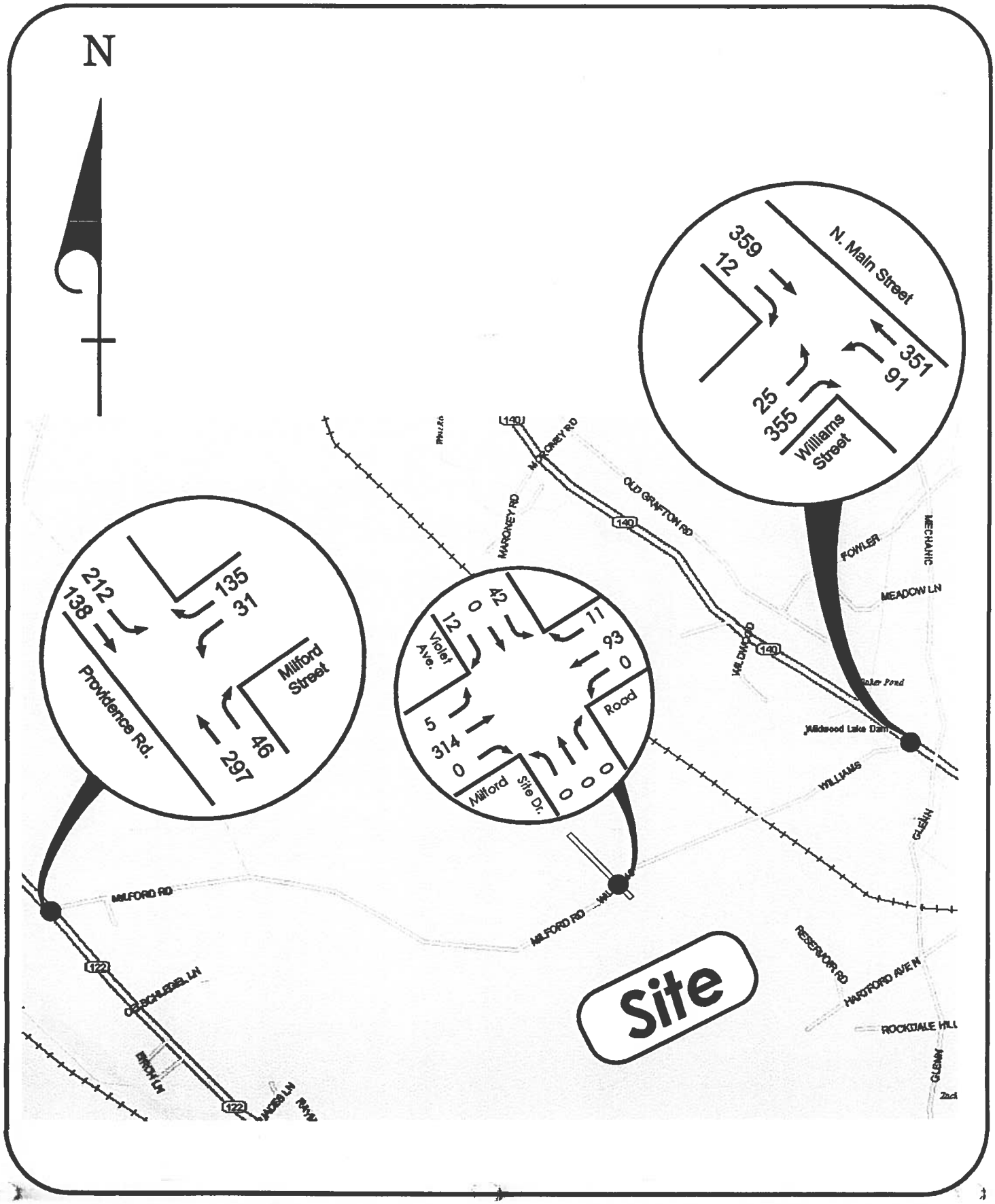
Gillon Associates



Existing Saturday Mid-Day Peak Hour Traffic Volume

Figure 9

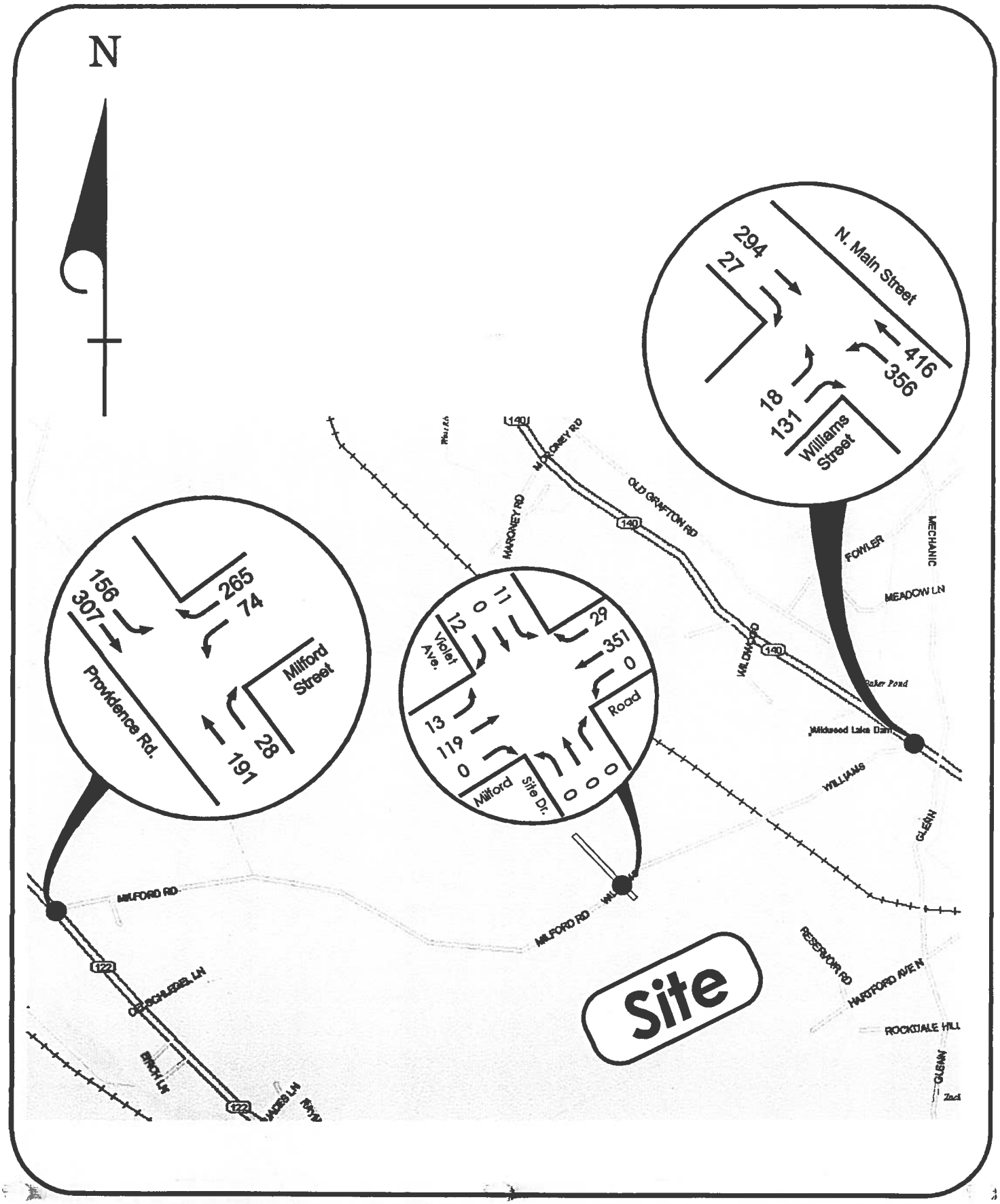
Gillon Associates



Base Weekday Morning Peak Hour Traffic Volume

Figure 10

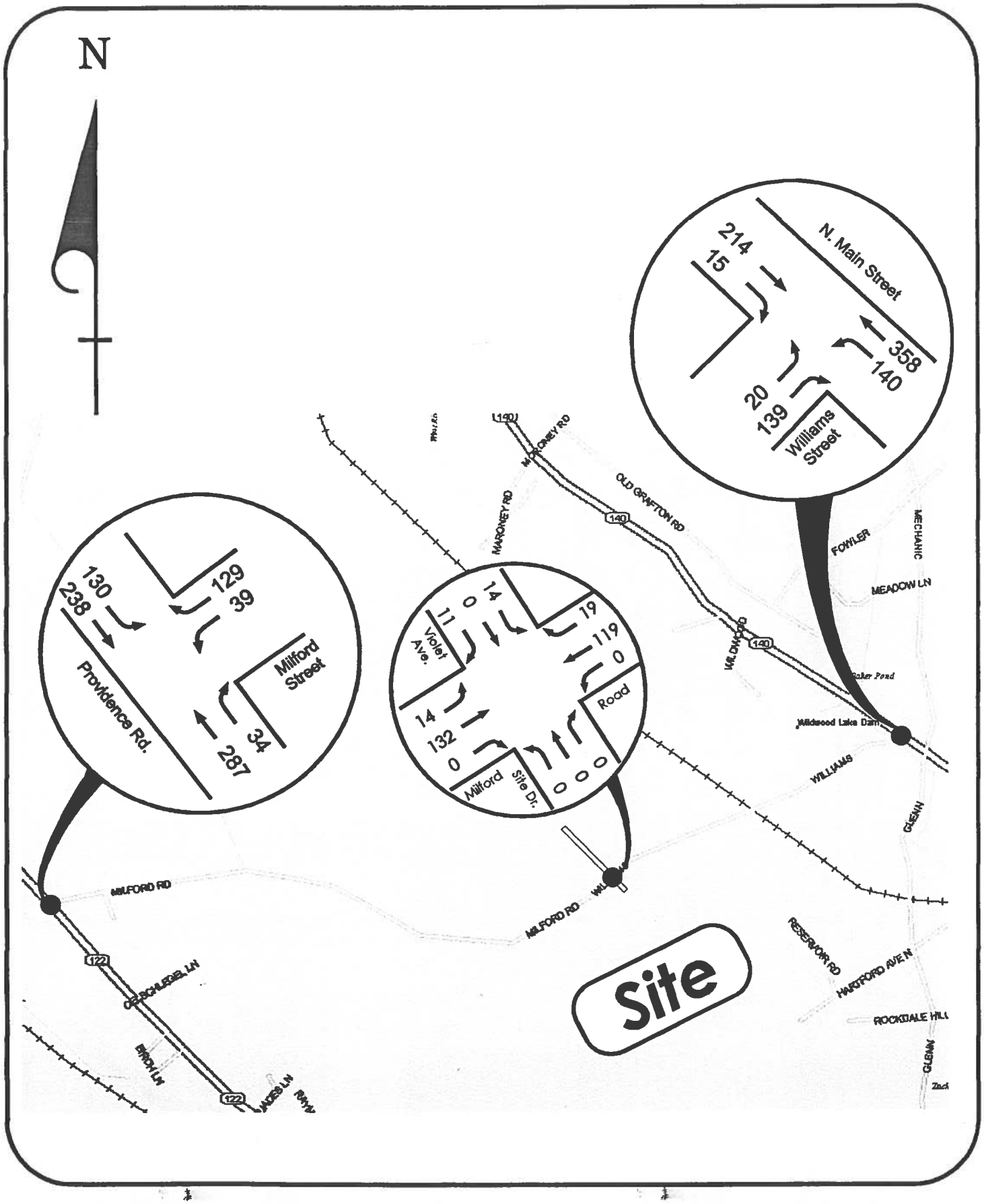
Gillon Associates



Base Weekday Evening Peak Hour Traffic Volume

Figure 11

Gillon Associates



Base Saturday Mid-Day Peak Hour Traffic Volume

Figure 12

Gillon Associates

	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Retail								
Source of Data								
ITE Report (7th Edition)								
Land Use Code: 820								
Volume 3, Pages 1452 -1455								
Based On ITE Curve								
Trips per Unit	T = 1.03 (x)		T = 3.75 (x)			T = 4.97 (x)		
Directional Split	61%	39%	48%	52%		52%	48%	
Trips Based on 11.52 KGSF	7	5	12	22	22	44	30	27	57
High-Turnover Sit-Down Restaurant								
Source of Data								
ITE Report (7th Edition)								
Land Use Code: 932								
Volume 3, Pages 1722 - 1740								
Trips per KGSF	T = 11.52 (x)		T = 10.92 (x)			T = 20 (x)		
Directional Split	52%	48%	61%	39%		50%	50%	
Trips	9	8	17	10	6	16	14	14	28
(Based on 1.44 KGSF)								
Drive-in Bank								
Source of Data								
ITE Report (7th Edition)								
Land Use Code: 912								
Volume 3, Pages 1675 - 1702								
Trips per KGSF	T = 12.34 (x)		T = 45.74 (x)			T = 37.08 (x)		
Directional Split	56%	44%	50%	50%		51%	49%	
Trips	10	8	18	33	33	66	27	26	53
(Based on 1.44 KGSF)								
Total	26	21	47	65	61	126	71	67	138
Pass-By (25%)	7	5	12	16	15	31	18	16	34
Non-Pass-By (75%)	19	16	35	49	46	95	53	51	104

Weekday Retail	**Weekday Restaurant**	**Weekday Bank**	**TOTAL**
T = 42.94 (x)	T = 127.15 (x)	T = 246.49 (x)	
T = 495	T = 183	T = 355	1033

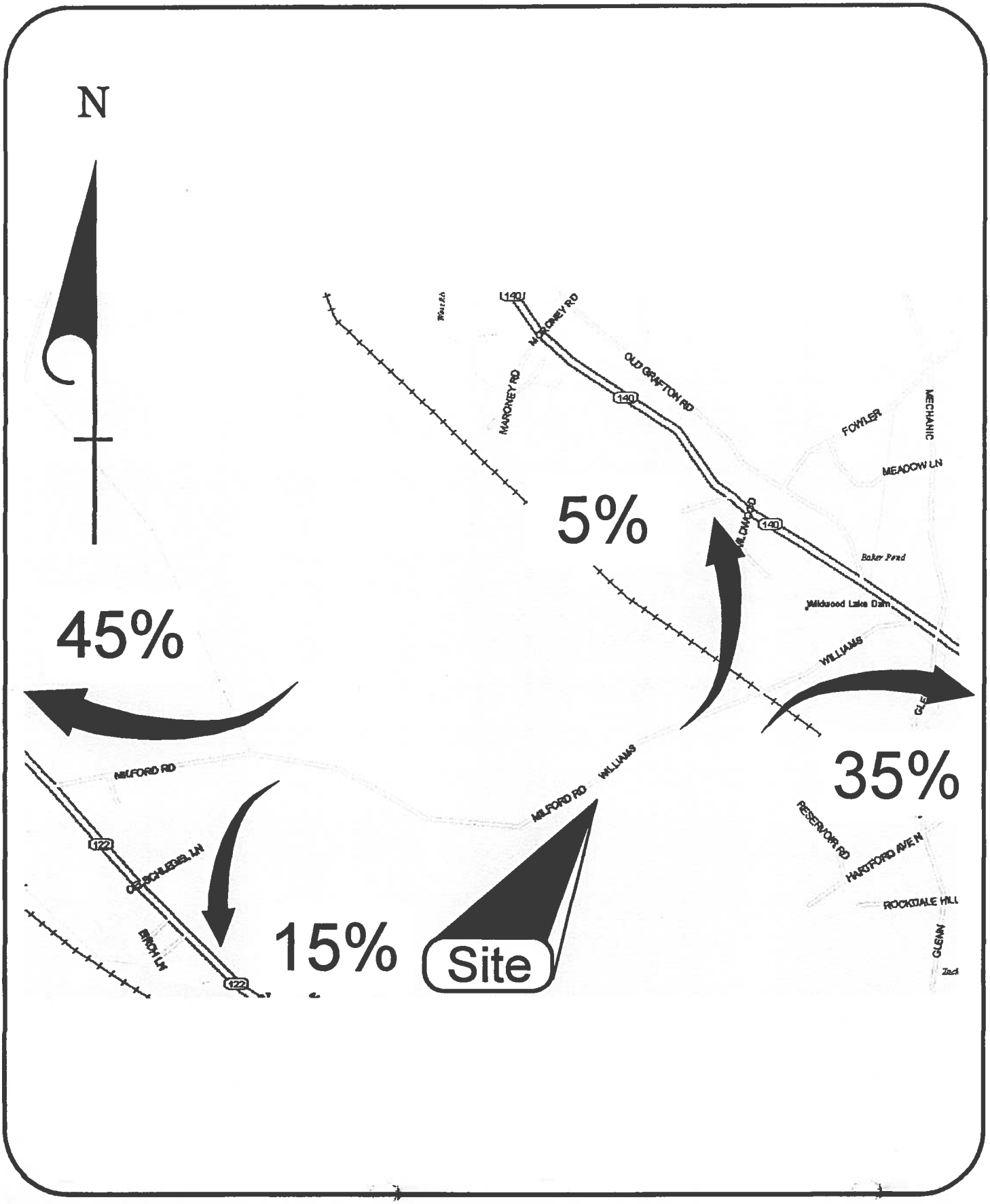
Weekday Pass -by = 258

Weekday new trips = 775
(388 inbound and 388 outbound +/ -)

Trip Generation Summary

Figure 13

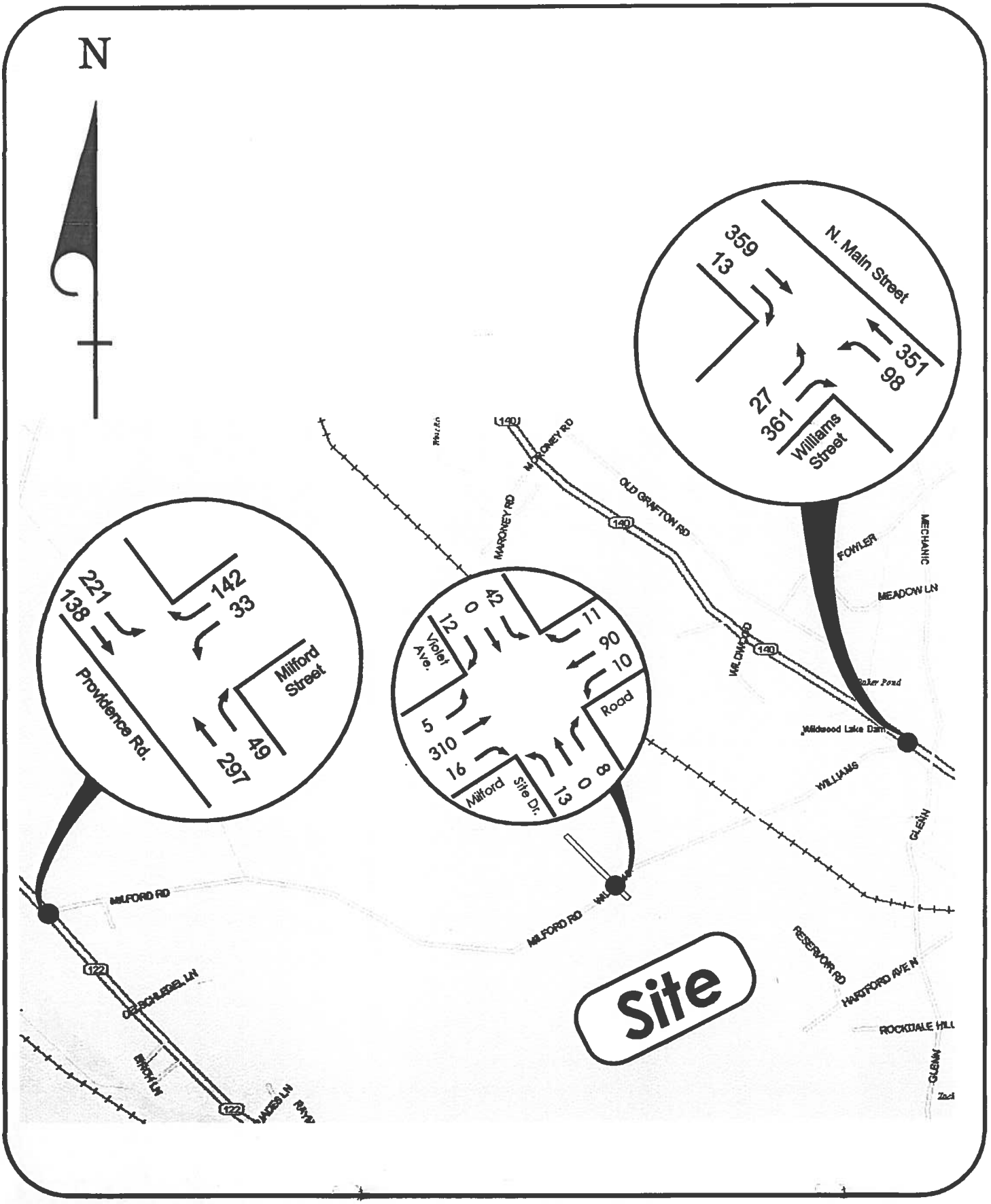
Gillon Associates



Directional Distribution

Figure 14

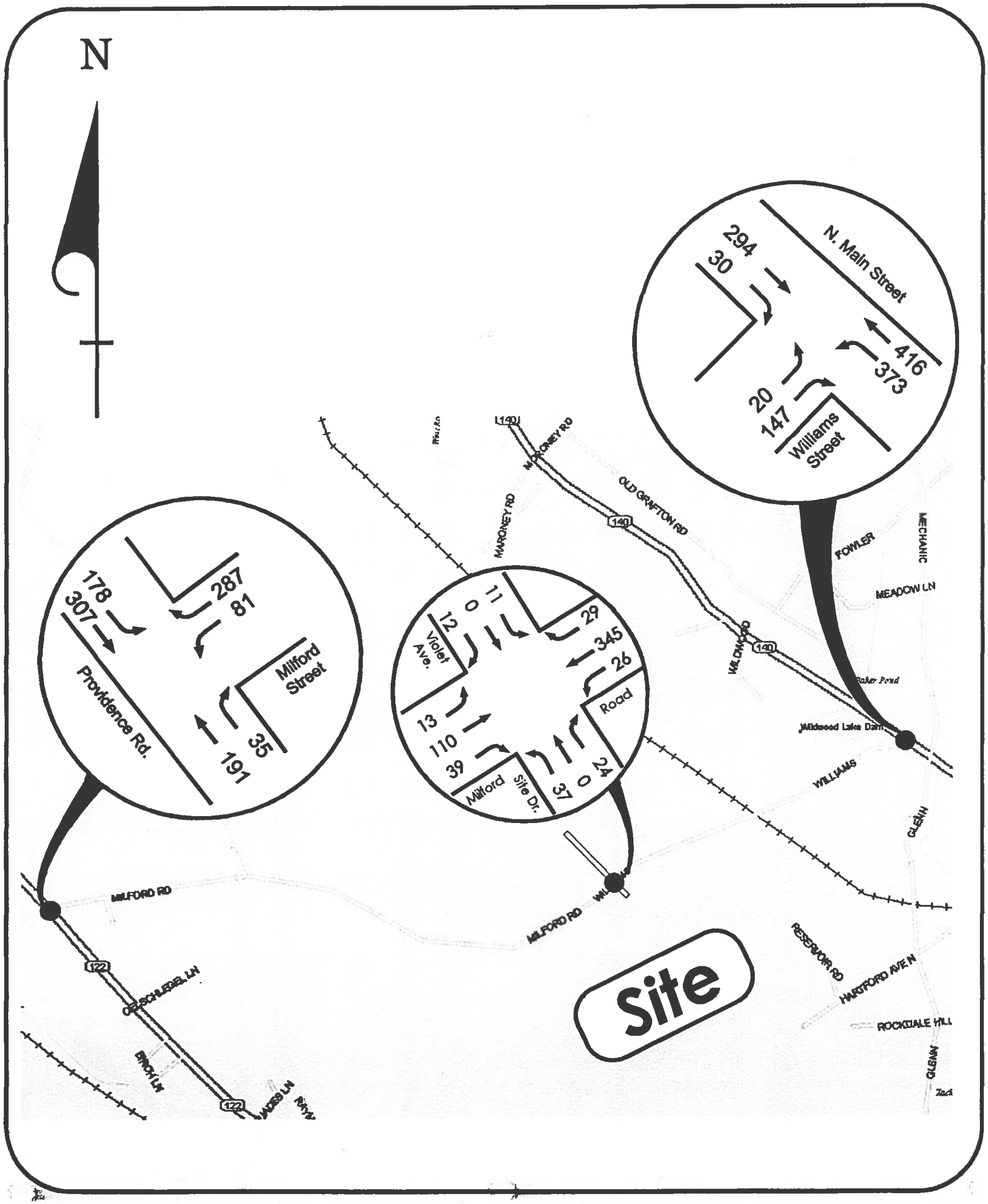
Gillon Associates



Projected Weekday Morning Peak Hour Traffic Volume

Figure 15

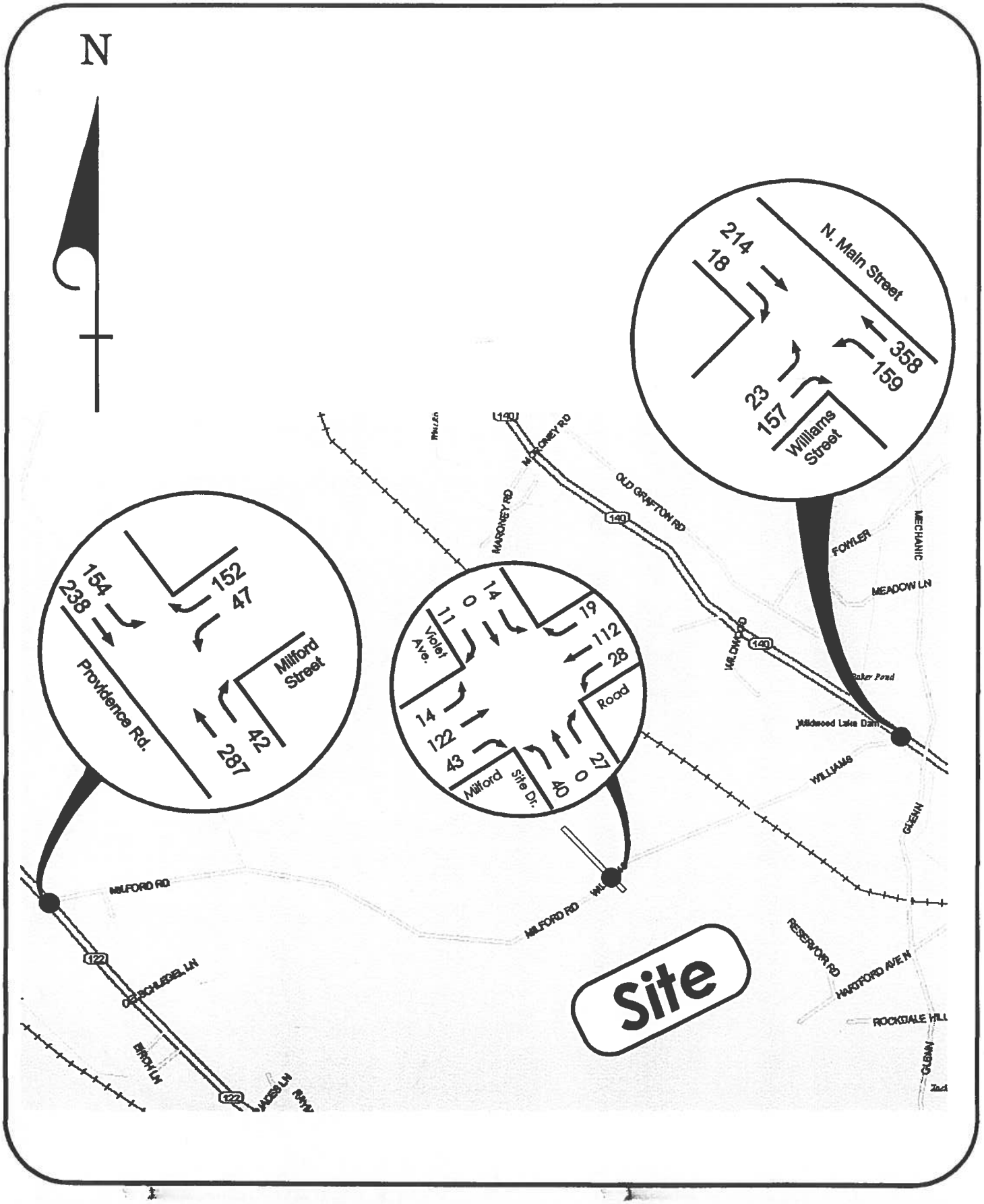
Gillon Associates



Projected Weekday Evening Peak Hour Traffic Volume

Figure 16

Gillon Associates



Projected Saturday Mid-Day Peak Hour Traffic Volume

Figure 17

Gillon Associates

	Existing 2009			Baseline 2014			Projected 2014		
	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat
North Main Street at Williams Street									
"1-Way STOP" Sign Controlled									
North Main Street East Bd.	A	A	A	A	A	A	A	A	A
North Main Street West Bd.	A	A	A	A	A	A	A	A	A
Williams Street North Bd.	E	D	C	F	E	C	F	E	C
Delay (Seconds)	36.7	28.0	15.0	50.1	36.8	16.1	56.7	47.5	17.6
Milford Road / Violet Ave. / Site Dr.									
"1-Way STOP" Sign Controlled									
Milford Road North Bd.	A	A	A	A	A	A	A	A	A
Milford Road South Bd.	A	A	A	A	A	A	A	A	A
Violet Ave. East Bd.	B	B	A	B	B	B	B	B	B
Delay (Seconds)	11.7	11.7	9.9	12.2	12.3	10.2	12.7	13.1	10.9
New Site Drive West Bd.	-	-	-	-	-	-	B	B	B
Delay (Seconds)	-	-	-	-	-	-	12.1	13.7	11.4
Providence Road at Milford Road									
"1-Way STOP" Sign Controlled									
Providence Road North Bd.	A	A	A	A	A	A	A	A	A
Providence Road South Bd.	A	A	A	A	A	A	A	A	A
Milford Road West Bd.	B	C	B	C	C	C	C	D	C
Delay (Seconds)	14.4	19.4	14.2	16.6	23.8	15.8	17.4	31.1	18.3

Intersection Levels of Service

Figure 18

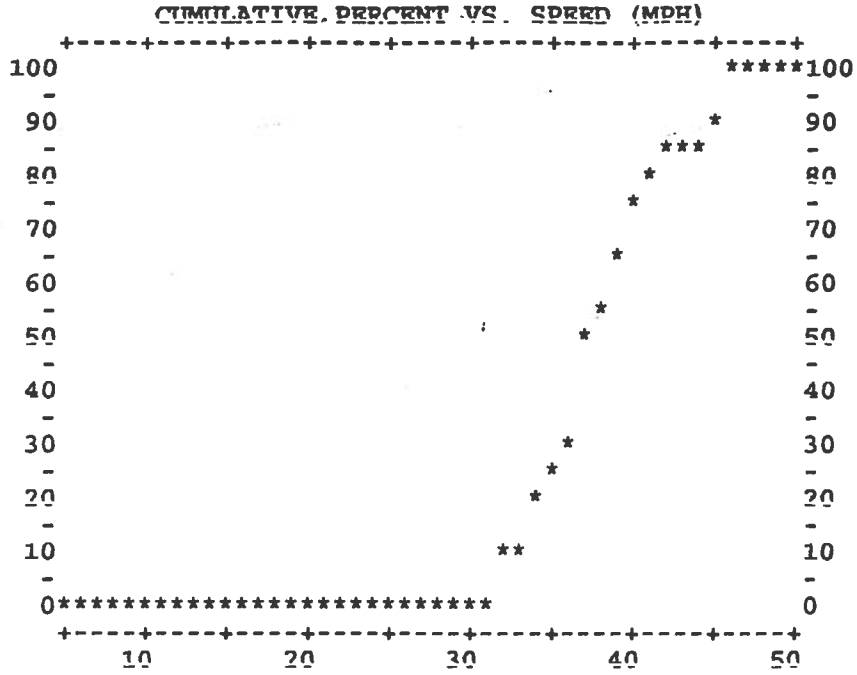
Gillon Associates

DIRECTION(S).....Both
DATA COLLECTED ON..11/30/2008
BEGINNING AT..... 3:00
POSTED SPEED LIMIT.35 MPH
REPORT DATE 5/18/2009

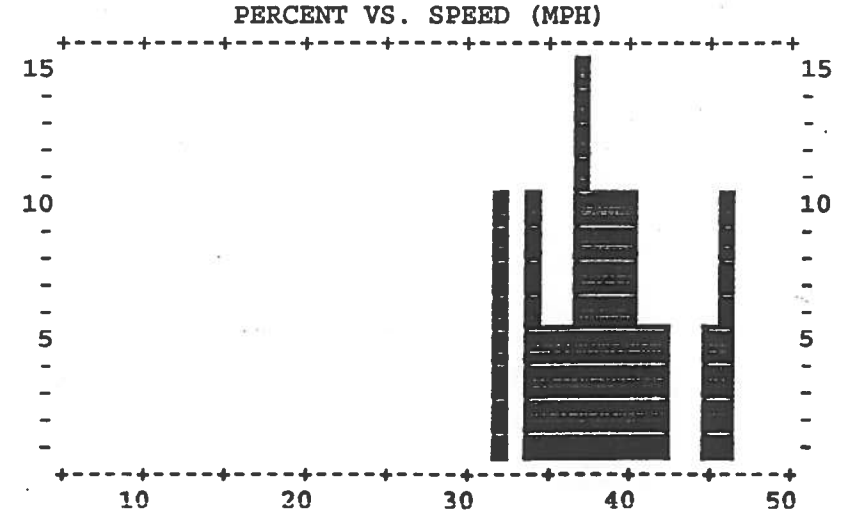
50TH PERCENTILE SPEED.....38
85TH PERCENTILE SPEED.....42
10-MPH PACE SPEED.....32 through 41
PERCENT IN PACE SPEED.....81.0
PERCENT OVER PACE SPEED..... 19.0
PERCENT UNDER PACE SPEED..... 0.0
RANGE OF SPEEDS.....32 to 46
SPEEDS OBSERVED.....21
AVERAGE SPEED.....38.3

MPH	NO.	PCT.	CUM PCT.
<5	0	0.0	0.0
5	0	0.0	0.0
6	0	0.0	0.0
7	0	0.0	0.0
8	0	0.0	0.0
9	0	0.0	0.0
10	0	0.0	0.0
11	0	0.0	0.0
12	0	0.0	0.0
13	0	0.0	0.0
14	0	0.0	0.0
15	0	0.0	0.0
16	0	0.0	0.0
17	0	0.0	0.0
18	0	0.0	0.0
19	0	0.0	0.0
20	0	0.0	0.0
21	0	0.0	0.0
22	0	0.0	0.0
23	0	0.0	0.0
24	0	0.0	0.0
25	0	0.0	0.0
26	0	0.0	0.0
27	0	0.0	0.0
28	0	0.0	0.0
29	0	0.0	0.0
30	0	0.0	0.0
31	0	0.0	0.0
32	2	9.5	9.5
33	0	0.0	9.5
34	2	9.5	19.0
35	1	4.8	23.8
36	1	4.8	28.6
37	4	19.0	47.6
38	2	9.5	57.1
39	2	9.5	66.7
40	2	9.5	76.2
41	1	4.8	81.0
42	1	4.8	85.7
43	0	0.0	85.7
44	0	0.0	85.7
45	1	4.8	90.5
46	2	9.5	100
47	0	0.0	100
48	0	0.0	100
49	0	0.0	100
50	0	0.0	100
>50	0	0.0	100

CUMULATIVE PERCENT VS. SPEED (MPH)



PERCENT VS. SPEED (MPH)



Milford Road Speed Characteristics

Figure 19

Gillon Associates

Crash Date	Crash Time	Crash Severity	Number of Vehicles	Total Nonfatal Injuries	Total Fatal Injuries	Manner of Collision	Vehicles Travel Directions	Most Harmful Events	Road Surface Condition	Ambient Light	Weather Condition	At Roadway Intersection
15-May-2006	7:34 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Eastbound / V2:Eastbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Rain	WILLIAMS STREET / WEST MAIN STREET
30-Mar-2005	1:15 PM	Non-fatal injury	2	4	0	Sideswipe, opposite direction	V1:Northbound / V2:Southbound	V1: Collision with tree / V2: Collision with motor vehicle in traffic	Dry	Daylight	Clear	PROVIDENCE ROAD / MILFORD ROAD
26-May-2005	6:40 AM	Property damage only (none injured)	2	0	0	Rear-end	V1:Southbound / V2:Southbound	V1: Not reported / V2: Not reported	Dry	Dawn	Cloudy	PROVIDENCE ROAD Rte 122 / MILFORD ROAD
22-Nov-2005	2:22 PM	Non-fatal injury	2	3	0	Rear-end	V1:Northbound / V2:Northbound	V1: Collision with motor vehicle in traffic / V2: Collision with motor vehicle in traffic	Wet	Daylight	Rain/Cloudy	PROVIDENCE ROAD Rte 122 / MILFORD ROAD
14-May-2005	4:59 PM	Property damage only (none injured)	1	0	0	Single veh. crash	V1:Eastbound	V1: Collision with guardrail	Dry	Daylight	Clear	WILLIAMS STREET / WEST MAIN STREET

Three Year Crash Data - Milford Road & Williams Street

Figure 20

Gillon Associates

APPENDIX

Signalized Intersections

LOS	Control Delay per Vehicle (s/veh)
A	≤ 10
B	> 10–20
C	> 20–35
D	> 35–55
E	> 55–80
F	> 80

Un-Signalized Intersections

Level of Service	Average Control Delay (s/veh)
A	0–10
B	> 10–15
C	> 15–25
D	> 25–35
E	> 35–50
F	> 50

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	202	125	280	42	23	122
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	224	139	311	47	26	136
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	358				922	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				90	81
cM capacity (veh/h)	1201				244	707

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	363	358	161
Volume Left	224	0	26
Volume Right	0	47	136
cSH	1201	1700	543
Volume to Capacity	0.19	0.21	0.30
Queue Length (ft)	17	0	31
Control Delay (s)	6.0	0.0	14.4
Lane LOS	A		B
Approach Delay (s)	6.0	0.0	14.4
Approach LOS			B

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	58.7%	ICU Level of Service	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	149	287	174	20	68	247
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	166	319	193	22	76	274
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	216				854	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				74	67
cM capacity (veh/h)	1354				289	836

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	484	216	350
Volume Left	166	0	76
Volume Right	0	22	274
cSH	1354	1700	593
Volume to Capacity	0.12	0.13	0.59
Queue Length (ft)	10	0	96
Control Delay (s)	3.5	0.0	19.4
Lane LOS	A		C
Approach Delay (s)	3.5	0.0	19.4
Approach LOS			C

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	68.6%	ICU Level of Service	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	149	287	174	20	68	247
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	166	319	193	22	76	274
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	216				854	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				74	67
cM capacity (veh/h)	1354				289	836

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	484	216	350
Volume Left	166	0	76
Volume Right	0	22	274
cSH	1354	1700	593
Volume to Capacity	0.12	0.13	0.59
Queue Length (ft)	10	0	96
Control Delay (s)	3.5	0.0	19.4
Lane LOS	A		C
Approach Delay (s)	3.5	0.0	19.4
Approach LOS			C

Intersection Summary			
Average Delay	8.1		
Intersection Capacity Utilization	68.6%	ICU Level of Service	B

Movement	EB	EB	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	124	222	268	27	32	113
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	138	247	298	30	36	126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	328				835	313
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				88	83
cM capacity (veh/h)	1232				300	727

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	384	328	161
Volume Left	138	0	36
Volume Right	0	30	126
cSH	1232	1700	553
Volume to Capacity	0.11	0.19	0.29
Queue Length (ft)	9	0	30
Control Delay (s)	3.7	0.0	14.2
Lane LOS	A		B
Approach Delay (s)	3.7	0.0	14.2
Approach LOS			B

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	57.8%	ICU Level of Service	A

Movement	EB	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	212	138	297	46	31	135
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	236	153	330	51	34	150
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	381				980	356
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	80				84	78
cM capacity (veh/h)	1177				222	688

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	389	381	184
Volume Left	236	0	34
Volume Right	0	51	150
cSH	1177	1700	494
Volume to Capacity	0.20	0.22	0.37
Queue Length (ft)	19	0	43
Control Delay (s)	6.1	0.0	16.6
Lane LOS	A		C
Approach Delay (s)	6.1	0.0	16.6
Approach LOS			C

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	62.7%	ICU Level of Service	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	156	307	191	28	74	265
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	173	341	212	31	82	294
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	243				916	228
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				69	64
cM capacity (veh/h)	1323				263	812

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	514	243	377
Volume Left	173	0	82
Volume Right	0	31	294
cSH	1323	1700	558
Volume to Capacity	0.13	0.14	0.68
Queue Length (ft)	11	0	127
Control Delay (s)	3.6	0.0	23.8
Lane LOS	A		C
Approach Delay (s)	3.6	0.0	23.8
Approach LOS			C

Intersection Summary			
Average Delay	9.6		
Intersection Capacity Utilization	73.3%	ICU Level of Service	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	130	238	287	34	39	129
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	144	264	319	38	43	143
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	357				891	338
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				84	80
cM capacity (veh/h)	1202				275	704

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	409	357	187
Volume Left	144	0	43
Volume Right	0	38	143
cSH	1202	1700	517
Volume to Capacity	0.12	0.21	0.36
Queue Length (ft)	10	0	41
Control Delay (s)	3.7	0.0	15.8
Lane LOS	A		C
Approach Delay (s)	3.7	0.0	15.8
Approach LOS			C

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	62.2%	ICU Level of Service	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	221	138	297	49	33	142
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	246	153	330	54	37	158
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	384				1002	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	79				83	77
cM capacity (veh/h)	1174				213	687

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	399	384	194
Volume Left	246	0	37
Volume Right	0	54	158
cSH	1174	1700	484
Volume to Capacity	0.21	0.23	0.40
Queue Length (ft)	20	0	48
Control Delay (s)	6.2	0.0	17.4
Lane LOS	A		C
Approach Delay (s)	6.2	0.0	17.4
Approach LOS			C

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	64.1%	ICU Level of Service	B

Movement	EB	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	178	307	191	35	81	287
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	198	341	212	39	90	319
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	251				968	232
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				62	61
cM capacity (veh/h)	1314				239	807

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	539	251	409
Volume Left	198	0	90
Volume Right	0	39	319
cSH	1314	1700	530
Volume to Capacity	0.15	0.15	0.77
Queue Length (ft)	13	0	173
Control Delay (s)	4.0	0.0	31.1
Lane LOS	A		D
Approach Delay (s)	4.0	0.0	31.1
Approach LOS			D

Intersection Summary			
Average Delay	12.4		
Intersection Capacity Utilization	77.1%	ICU Level of Service	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		-2%	2%		0%	
Volume (veh/h)	154	238	287	42	47	152
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	171	264	319	47	52	169
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume	366				949	342
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				79	76
cM capacity (veh/h)	1193				248	700

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	436	366	221
Volume Left	171	0	52
Volume Right	0	47	169
cSH	1193	1700	489
Volume to Capacity	0.14	0.22	0.45
Queue Length (ft)	13	0	58
Control Delay (s)	4.2	0.0	18.3
Lane LOS	A		C
Approach Delay (s)	4.2	0.0	18.3
Approach LOS			C

Intersection Summary			
Average Delay	5.8		
Intersection Capacity Utilization	66.3%	ICU Level of Service	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	342	11	83	334	24	326
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	380	12	92	371	27	362
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			492		1042	486
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			91		87	32
cM capacity (veh/h)			982		212	533

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	392	463	389
Volume Left	0	92	27
Volume Right	12	0	362
cSH	1700	982	483
Volume to Capacity	0.23	0.09	0.81
Queue Length (ft)	0	8	189
Control Delay (s)	0.0	2.7	36.7
Lane LOS		A	E
Approach Delay (s)	0.0	2.7	36.7
Approach LOS			E

Intersection Summary			
Average Delay	12.5		
Intersection Capacity Utilization	79.4%	ICU Level of Service	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	280	26	325	396	17	116
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	311	29	361	440	19	129
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			440		1588	426
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			65		73	78
cM capacity (veh/h)			1027		71	577

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	340	801	148
Volume Left	0	361	19
Volume Right	29	0	129
cSH	1700	1027	301
Volume to Capacity	0.20	0.35	0.49
Queue Length (ft)	0	40	64
Control Delay (s)	0.0	7.4	28.0
Lane LOS		A	D
Approach Delay (s)	0.0	7.4	28.0
Approach LOS			D

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	80.8%	ICU Level of Service	D

Movement	EBT	EBR	WB	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	204	14	122	341	19	123
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	227	16	136	379	21	137
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			342		984	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		90	79
cM capacity (veh/h)			1115		222	649

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	242	514	158
Volume Left	0	136	21
Volume Right	16	0	137
cSH	1700	1115	516
Volume to Capacity	0.14	0.12	0.31
Queue Length (ft)	0	10	32
Control Delay (s)	0.0	3.3	15.0
Lane LOS		A	C
Approach Delay (s)	0.0	3.3	15.0
Approach LOS			C

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	60.4%	ICU Level of Service	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	359	12	91	334	25	355
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	399	13	101	371	28	394
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			512		1079	506
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		86	24
cM capacity (veh/h)			965		199	520

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	412	472	422
Volume Left	0	101	28
Volume Right	13	0	394
cSH	1700	965	470
Volume to Capacity	0.24	0.10	0.90
Queue Length (ft)	0	9	249
Control Delay (s)	0.0	2.9	50.1
Lane LOS		A	F
Approach Delay (s)	0.0	2.9	50.1
Approach LOS			F

Intersection Summary			
Average Delay	17.2		
Intersection Capacity Utilization	83.0%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	294	27	356	416	18	131
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	327	30	396	462	20	146
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			457		1695	442
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			61		65	74
cM capacity (veh/h)			1012		57	565

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	357	858	166
Volume Left	0	396	20
Volume Right	30	0	146
cSH	1700	1012	272
Volume to Capacity	0.21	0.39	0.61
Queue Length (ft)	0	47	91
Control Delay (s)	0.0	8.1	36.8
Lane LOS		A	E
Approach Delay (s)	0.0	8.1	36.8
Approach LOS			E

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	85.8%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	214	15	140	358	20	139
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	238	17	156	398	22	154
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			354		1055	346
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			86		89	76
cM capacity (veh/h)			1104		197	639

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	254	553	177
Volume Left	0	156	22
Volume Right	17	0	154
cSH	1700	1104	498
Volume to Capacity	0.15	0.14	0.35
Queue Length (ft)	0	12	40
Control Delay (s)	0.0	3.6	16.1
Lane LOS		A	C
Approach Delay (s)	0.0	3.6	16.1
Approach LOS			C

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	64.2%	ICU Level of Service	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	359	13	98	351	27	361
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	399	14	109	390	30	401
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			513		1114	506
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			89		84	23
cM capacity (veh/h)			964		188	519

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	413	499	431
Volume Left	0	109	30
Volume Right	14	0	401
cSH	1700	964	462
Volume to Capacity	0.24	0.11	0.93
Queue Length (ft)	0	10	273
Control Delay (s)	0.0	3.1	56.7
Lane LOS		A	F
Approach Delay (s)	0.0	3.1	56.7
Approach LOS			F

Intersection Summary			
Average Delay	19.3		
Intersection Capacity Utilization	85.1%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	294	30	373	416	20	147
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	327	33	414	462	22	163
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			460		1734	443
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			59		57	71
cM capacity (veh/h)			1009		52	563

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	360	877	186
Volume Left	0	414	22
Volume Right	33	0	163
cSH	1700	1009	259
Volume to Capacity	0.21	0.41	0.72
Queue Length (ft)	0	51	123
Control Delay (s)	0.0	8.5	47.5
Lane LOS		A	E
Approach Delay (s)	0.0	8.5	47.5
Approach LOS			E

Intersection Summary

Average Delay	11.4		
Intersection Capacity Utilization	88.3%	ICU Level of Service	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	-2%			2%	-2%	
Volume (veh/h)	214	18	159	358	23	157
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	238	20	177	398	26	174
Pedestrians					100	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					8	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
vC, conflicting volume			358		1099	348
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			84		86	73
cM capacity (veh/h)			1101		181	638

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	258	574	200
Volume Left	0	177	26
Volume Right	20	0	174
cSH	1700	1101	482
Volume to Capacity	0.15	0.16	0.41
Queue Length (ft)	0	14	50
Control Delay (s)	0.0	4.0	17.6
Lane LOS		A	C
Approach Delay (s)	0.0	4.0	17.6
Approach LOS			C

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	67.1%	ICU Level of Service	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	40	0	11	0	0	0	5	287	0	0	85	10
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	44	0	12	0	0	0	6	319	0	0	94	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	430	430	100	442	436	319	106			319		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	100	99	100	100	100	100			100		
cM capacity (veh/h)	534	516	956	517	512	722	1486			1241		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	57	0	324	106
Volume Left	44	0	6	0
Volume Right	12	0	0	11
cSH	590	1700	1486	1241
Volume to Capacity	0.10	0.00	0.00	0.00
Queue Length (ft)	8	0	0	0
Control Delay (s)	11.7	0.0	0.2	0.0
Lane LOS	B	A	A	
Approach Delay (s)	11.7	0.0	0.2	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	28.5%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	9	0	11	0	0	0	12	105	0	0	320	28
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	10	0	12	0	0	0	13	117	0	0	356	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	514	514	371	527	530	117	387			117		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	100	100	100	99			100		
cM capacity (veh/h)	467	459	675	449	449	935	1172			1472		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	22	0	130	387
Volume Left	10	0	13	0
Volume Right	12	0	0	31
cSH	562	1700	1172	1472
Volume to Capacity	0.04	0.04	0.01	0.00
Queue Length (ft)	3	0	1	0
Control Delay (s)	11.7	0.0	0.9	0.0
Lane LOS	B	A	A	
Approach Delay (s)	11.7	0.0	0.9	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	30.6%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	42	0	12	0	0	0	5	314	0	0	93	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	47	0	13	0	0	0	6	349	0	0	103	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	469	469	109	483	476	349	116			349		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	99	100	100	100	100			100		
cM capacity (veh/h)	503	490	944	485	486	694	1473			1210		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	60	0	354	116
Volume Left	47	0	6	0
Volume Right	13	0	0	12
cSH	561	1700	1473	1210
Volume to Capacity	0.11	0.00	0.00	0.00
Queue Length (ft)	9	0	0	0
Control Delay (s)	12.2	0.0	0.2	0.0
Lane LOS	B	A	A	
Approach Delay (s)	12.2	0.0	0.2	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	11	0	12	0	0	0	13	119	0	0	351	29
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	12	0	13	0	0	0	14	132	0	0	390	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	567	567	406	581	583	132	422			132		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	98	100	100	100	99			100		
cM capacity (veh/h)	430	428	645	412	418	917	1137			1453		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	26	0	147	422
Volume Left	12	0	14	0
Volume Right	13	0	0	32
cSH	521	1700	1137	1453
Volume to Capacity	0.05	0.04	0.01	0.00
Queue Length (ft)	4	0	1	0
Control Delay (s)	12.3	0.0	0.9	0.0
Lane LOS	B	A	A	
Approach Delay (s)	12.3	0.0	0.9	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	14	0	11	0	0	0	14	132	0	0	119	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	16	0	12	0	0	0	16	147	0	0	132	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	321	321	143	333	331	147	153			147		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	99	100	100	100	99			100		
cM capacity (veh/h)	627	590	905	607	582	900	1427			1435		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	28	0	162	153
Volume Left	16	0	16	0
Volume Right	12	0	0	21
cSH	725	1700	1427	1435
Volume to Capacity	0.04	0.14	0.01	0.00
Queue Length (ft)	3	0	1	0
Control Delay (s)	10.2	0.0	0.8	0.0
Lane LOS	B	A	A	
Approach Delay (s)	10.2	0.0	0.8	0.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	42	0	12	13	0	8	5	310	16	10	90	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	47	0	13	14	0	9	6	344	18	11	100	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	502	502	106	506	499	353	112			362		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	100	99	97	100	99	100			99		
cM capacity (veh/h)	469	466	948	465	467	690	1477			1196		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	60	23	368	123
Volume Left	47	14	6	11
Volume Right	13	9	18	12
cSH	529	531	1477	1196
Volume to Capacity	0.11	0.04	0.00	0.01
Queue Length (ft)	10	3	0	1
Control Delay (s)	12.7	12.1	0.1	0.8
Lane LOS	B	B	A	A
Approach Delay (s)	12.7	12.1	0.1	0.8
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	11	0	12	37	0	24	13	110	39	26	345	29
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	12	0	13	41	0	27	14	122	43	29	383	32
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	657	652	399	643	646	144	416			166		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	98	89	100	97	99			98		
cM capacity (veh/h)	358	375	651	369	377	903	1143			1413		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	26	68	180	444
Volume Left	12	41	14	29
Volume Right	13	27	43	32
cSH	468	480	1143	1413
Volume to Capacity	0.05	0.14	0.01	0.02
Queue Length (ft)	4	12	1	2
Control Delay (s)	13.1	13.7	0.8	0.7
Lane LOS	B	B	A	A
Approach Delay (s)	13.1	13.7	0.8	0.7
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			2%			0%			0%	
Volume (veh/h)	14	0	11	40	0	27	14	122	43	28	112	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (veh/h)	16	0	12	44	0	30	16	136	48	31	124	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
vC, conflicting volume	418	412	135	400	398	159	146			183		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	99	92	100	97	99			98		
cM capacity (veh/h)	514	513	914	539	521	886	1437			1392		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	28	74	199	177
Volume Left	16	44	16	31
Volume Right	12	30	48	21
cSH	637	640	1437	1392
Volume to Capacity	0.04	0.12	0.01	0.02
Queue Length (ft)	3	10	1	2
Control Delay (s)	10.9	11.4	0.7	1.5
Lane LOS	B	B	A	A
Approach Delay (s)	10.9	11.4	0.7	1.5
Approach LOS	B	B		

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	30.1%	ICU Level of Service	A

Data Acquisition, Transformation & Analysis

D.A.T.A, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

N/S: Milford Road
E/W: Rt. 122
City, State: Grafton, MA
Client: Rocco Addeo

File Name : AM_Milford @ Rt. 122
Site Code :
Start Date : 9/11/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	Milford Road From North					Rt. 122 From East					None From South					Rt. 122 From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	0	40	0	43	0	44	10	0	54	0	0	0	0	0	45	16	0	0	61	158
07:15 AM	6	0	27	0	33	0	84	9	0	93	0	0	0	0	0	53	32	0	0	85	211
07:30 AM	6	0	33	0	39	0	74	12	0	86	0	0	0	0	0	54	24	0	0	78	203
07:45 AM	6	0	27	0	33	0	75	13	0	88	0	0	0	0	0	54	29	0	0	83	204
Total	21	0	127	0	148	0	277	44	0	321	0	0	0	0	0	206	101	0	0	307	776
08:00 AM	5	0	35	0	40	0	47	8	0	55	0	0	0	0	0	41	40	0	0	81	176
08:15 AM	9	0	32	0	41	0	60	11	0	71	0	0	0	0	0	53	28	0	0	81	193
08:30 AM	7	0	30	3	40	0	55	5	0	60	0	0	0	0	0	35	28	0	0	63	163
08:45 AM	4	0	19	0	23	0	40	10	0	50	0	0	0	0	0	39	38	0	0	77	150
Total	25	0	116	3	144	0	202	34	0	236	0	0	0	0	0	168	134	0	0	302	682
Grand Total	46	0	243	3	292	0	479	78	0	557	0	0	0	0	0	374	235	0	0	609	1458
Apprch %	15.8	0	83.2	1		0	86	14	0		0	0	0	0		61.4	38.6	0	0		
Total %	3.2	0	16.7	0.2	20	0	32.9	5.3	0	38.2	0	0	0	0	0	25.7	16.1	0	0	41.8	
PCs and Peds																					
% PCs and Peds	93.5	0	93	0	92.1	0	95.8	94.9	0	95.7	0	0	0	0	0	96.3	94.9	0	0	95.7	95
HVs and Bikes																					
% HVs and Bikes	6.5	0	7	100	7.9	0	4.2	5.1	0	4.3	0	0	0	0	0	3.7	5.1	0	0	4.3	5
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Milford Road From North					Rt. 122 From East					None From South					Rt. 122 From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	6	0	27	0	33	0	84	9	0	93	0	0	0	0	0	53	32	0	0	85	211
07:30 AM	6	0	33	0	39	0	74	12	0	86	0	0	0	0	0	54	24	0	0	78	203
07:45 AM	6	0	27	0	33	0	75	13	0	88	0	0	0	0	0	54	29	0	0	83	204
08:00 AM	5	0	35	0	40	0	47	8	0	55	0	0	0	0	0	41	40	0	0	81	176
Total Volume	23	0	122	0	145	0	280	42	0	322	0	0	0	0	0	202	125	0	0	327	794
% App. Total	15.9	0	84.1	0		0	87	13	0		0	0	0	0		61.8	38.2	0	0		
PHF	.958	.000	.871	.000	.906	.000	.833	.808	.000	.866	.000	.000	.000	.000	.000	.935	.781	.000	.000	.962	.941

Data Acquisition, Transformation & Analysis

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50 Alden Avenue
Belchertown, MA 01007
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N/S: Milford Road
E/W: Rt. 122
City, State: Grafton, MA
Client: Rocco Addeo

File Name : PM_Milford @ Rt. 122
Site Code :
Start Date : 9/11/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	Milford Road From North					Rt. 122 From East					None From South					Rt. 122 From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	9	0	44	1	54	0	48	10	0	58	0	0	0	0	0	25	69	0	0	94	206
04:15 PM	9	0	50	0	59	0	40	6	0	46	0	0	0	0	0	28	86	0	0	114	219
04:30 PM	15	0	51	1	67	0	49	6	0	55	0	0	0	0	0	37	55	0	0	92	214
04:45 PM	9	0	50	0	59	0	45	5	0	50	0	0	0	0	0	30	58	0	0	88	197
Total	42	0	195	2	239	0	182	27	0	209	0	0	0	0	0	120	268	0	0	388	836
05:00 PM	18	0	51	0	69	0	31	5	0	36	0	0	0	0	0	49	70	0	0	119	224
05:15 PM	14	0	62	0	76	0	55	5	0	60	0	0	0	0	0	39	92	0	0	131	267
05:30 PM	20	0	72	0	92	0	49	7	0	56	0	0	0	0	0	31	59	0	0	90	238
05:45 PM	16	0	62	0	78	0	39	3	0	42	0	0	0	0	0	30	66	0	0	96	216
Total	68	0	247	0	315	0	174	20	0	194	0	0	0	0	0	149	287	0	0	436	945
Grand Total	110	0	442	2	554	0	356	47	0	403	0	0	0	0	0	269	555	0	0	824	1781
Apprch %	19.9	0	79.8	0.4		0	88.3	11.7	0		0	0	0	0		32.6	67.4	0	0		
Total %	6.2	0	24.8	0.1	31.1	0	20	2.6	0	22.6	0	0	0	0	0	15.1	31.2	0	0	46.3	
PCs and Peds																					
% PCs and Peds	97.3	0	98.6	0	98	0	98.3	100	0	98.5	0	0	0	0	0	99.3	99.1	0	0	99.2	98.7
HVs and Bikes																					
% HVs and Bikes	2.7	0	1.4	100	2	0	1.7	0	0	1.5	0	0	0	0	0	0.7	0.9	0	0	0.8	1.3
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Milford Road From North					Rt. 122 From East					None From South					Rt. 122 From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	18	0	51	0	69	0	31	5	0	36	0	0	0	0	0	49	70	0	0	119	224
05:15 PM	14	0	62	0	76	0	55	5	0	60	0	0	0	0	0	39	92	0	0	131	267
05:30 PM	20	0	72	0	92	0	49	7	0	56	0	0	0	0	0	31	59	0	0	90	238
05:45 PM	16	0	62	0	78	0	39	3	0	42	0	0	0	0	0	30	66	0	0	96	216
Total Volume	68	0	247	0	315	0	174	20	0	194	0	0	0	0	0	149	287	0	0	436	945
% App. Total	21.6	0	78.4	0		0	89.7	10.3	0		0	0	0	0		34.2	65.8	0	0		
PHF	.850	.000	.858	.000	.856	.000	.791	.714	.000	.808	.000	.000	.000	.000	.000	.760	.780	.000	.000	.832	.885

Data Acquisition, Transformation & Analysis

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N/S: Milford Road
E/W: Rt. 122
City, State: Grafton, MA
Client: Rocco Addeo

File Name : SAT_Milford @ Rt. 122
Site Code :
Start Date : 9/13/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	Milford Road From North					Rt. 122 From East					None From South					Rt. 122 From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	4	0	27	1	32	0	53	7	0	60	0	0	0	0	0	20	66	0	0	86	178
11:15 AM	5	0	34	1	40	0	50	7	0	57	0	0	0	0	0	33	41	0	0	74	171
11:30 AM	6	0	41	0	47	0	52	7	0	59	0	0	0	0	0	31	58	0	0	89	195
11:45 AM	6	0	24	1	31	0	56	11	0	67	0	0	0	0	0	37	50	0	0	87	185
Total	21	0	126	3	150	0	211	32	0	243	0	0	0	0	0	121	215	0	0	336	729
12:00 PM	3	0	25	0	28	0	57	8	2	67	0	0	0	0	0	24	54	0	0	78	173
12:15 PM	8	0	26	0	34	0	71	3	0	74	0	0	0	0	0	27	61	0	0	88	196
12:30 PM	13	0	33	0	46	0	80	12	0	92	0	0	0	0	0	44	50	0	0	94	232
12:45 PM	8	0	29	0	37	0	60	4	0	64	0	0	0	0	0	29	57	0	0	86	187
Total	32	0	113	0	145	0	268	27	2	297	0	0	0	0	0	124	222	0	0	346	788
Grand Total	53	0	239	3	295	0	479	59	2	540	0	0	0	0	0	245	437	0	0	682	1517
Apprch %	18	0	81	1		0	88.7	10.9	0.4		0	0	0	0		35.9	64.1	0	0		
Total %	3.5	0	15.8	0.2	19.4	0	31.6	3.9	0.1	35.6	0	0	0	0	0	16.2	28.8	0	0	45	
PCs and Peds																					
% PCs and Peds	100	0	99.2	0	98.3	0	99	100	100	99.1	0	0	0	0	0	100	99.1	0	0	99.4	99.1
HVs and Bikes																					
% HVs and Bikes	0	0	0.8	100	1.7	0	1	0	0	0.9	0	0	0	0	0	0	0.9	0	0	0.6	0.9
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Milford Road From North					Rt. 122 From East					None From South					Rt. 122 From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	3	0	25	0	28	0	57	8	2	67	0	0	0	0	0	24	54	0	0	78	173
12:15 PM	8	0	26	0	34	0	71	3	0	74	0	0	0	0	0	27	61	0	0	88	196
12:30 PM	13	0	33	0	46	0	80	12	0	92	0	0	0	0	0	44	50	0	0	94	232
12:45 PM	8	0	29	0	37	0	60	4	0	64	0	0	0	0	0	29	57	0	0	86	187
Total Volume	32	0	113	0	145	0	268	27	2	297	0	0	0	0	0	124	222	0	0	346	788
% App. Total	22.1	0	77.9	0		0	90.2	9.1	0.7		0	0	0	0		35.8	64.2	0	0		
PHF	.615	.000	.856	.000	.788	.000	.838	.563	.250	.807	.000	.000	.000	.000	.000	.705	.910	.000	.000	.920	.849

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N/S: Williams Street
E/W: Main Street
City, State: Grafton, MA
Client: Rocco Addeo

File Name : AM_Williams @ Main
Site Code :
Start Date : 9/11/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	None From North					Main Street From East					Williams Street From South					West Main Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	17	70	0	1	88	7	0	82	0	89	0	71	2	0	73	250
07:15 AM	0	0	0	0	0	14	88	0	0	102	3	0	72	1	76	0	98	2	0	100	278
07:30 AM	0	0	0	0	0	24	104	0	0	128	9	0	86	1	96	0	92	1	0	93	317
07:45 AM	0	0	0	0	0	28	72	0	0	100	5	0	86	0	91	0	81	6	0	87	278
Total	0	0	0	0	0	83	334	0	1	418	24	0	326	2	352	0	342	11	0	353	1123
08:00 AM	0	0	0	0	0	15	78	0	0	93	4	0	70	1	75	0	69	0	0	69	237
08:15 AM	0	0	0	0	0	16	83	0	0	99	11	0	74	0	85	0	75	5	0	80	264
08:30 AM	0	0	0	1	1	17	52	0	0	69	4	0	79	0	83	0	80	4	0	84	237
08:45 AM	0	0	0	0	0	17	52	0	2	71	2	0	67	1	70	0	70	2	0	72	213
Total	0	0	0	1	1	65	265	0	2	332	21	0	290	2	313	0	294	11	0	305	951
Grand Total	0	0	0	1	1	148	599	0	3	750	45	0	616	4	665	0	636	22	0	658	2074
Apprch %	0	0	0	100		19.7	79.9	0	0.4		6.8	0	92.6	0.6		0	96.7	3.3	0		
Total %	0	0	0	0	0	7.1	28.9	0	0.1	36.2	2.2	0	29.7	0.2	32.1	0	30.7	1.1	0	31.7	
PCs and Peds																					
% PCs and Peds	0	0	0	0	0	89.9	94.8	0	100	93.9	97.8	0	96.8	0	96.2	0	94.5	81.8	0	94.1	94.6
HVs and Bikes																					
% HVs and Bikes	0	0	0	100	100	10.1	5.2	0	0	6.1	2.2	0	3.2	100	3.8	0	5.5	18.2	0	5.9	5.4
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	None From North					Main Street From East					Williams Street From South					West Main Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	17	70	0	1	88	7	0	82	0	89	0	71	2	0	73	250
07:15 AM	0	0	0	0	0	14	88	0	0	102	3	0	72	1	76	0	98	2	0	100	278
07:30 AM	0	0	0	0	0	24	104	0	0	128	9	0	86	1	96	0	92	1	0	93	317
07:45 AM	0	0	0	0	0	28	72	0	0	100	5	0	86	0	91	0	81	6	0	87	278
Total Volume	0	0	0	0	0	83	334	0	1	418	24	0	326	2	352	0	342	11	0	353	1123
% App. Total	0	0	0	0		19.9	79.9	0	0.2		6.8	0	92.6	0.6		0	96.9	3.1	0		
PHF	.000	.000	.000	.000	.000	.741	.803	.000	.250	.816	.667	.000	.948	.500	.917	.000	.872	.458	.000	.883	.886

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N/S: Williams Street
E/W: Main Street
City, State: Grafton, MA
Client: Rocco Addeo

File Name : PM_Williams @ Main
Site Code :
Start Date : 9/11/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	None From North					Main Street From East					Williams Street From South					West Main Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	65	71	0	1	137	2	0	30	1	33	0	65	5	0	70	240
04:15 PM	0	0	0	1	1	63	90	0	0	153	7	0	23	1	31	0	59	4	0	63	248
04:30 PM	0	0	0	1	1	64	78	0	1	143	4	0	25	2	31	0	76	0	0	76	251
04:45 PM	0	0	0	0	0	65	95	0	0	160	5	0	25	0	30	0	62	3	0	65	255
Total	0	0	0	2	2	257	334	0	2	593	18	0	103	4	125	0	262	12	0	274	994
05:00 PM	0	0	0	2	2	70	118	0	0	188	5	0	39	0	44	0	70	6	0	76	310
05:15 PM	0	0	0	0	0	93	94	0	0	187	5	0	24	0	29	0	87	7	0	94	310
05:30 PM	0	0	0	0	0	97	89	0	0	186	2	0	28	0	30	0	61	10	0	71	287
05:45 PM	0	0	0	1	1	87	80	0	0	167	2	0	18	1	21	0	61	4	1	66	255
Total	0	0	0	3	3	347	381	0	0	728	14	0	109	1	124	0	279	27	1	307	1162
Grand Total	0	0	0	5	5	604	715	0	2	1321	32	0	212	5	249	0	541	39	1	581	2156
Apprch %	0	0	0	100		45.7	54.1	0	0.2		12.9	0	85.1	2		0	93.1	6.7	0.2		
Total %	0	0	0	0.2	0.2	28	33.2	0	0.1	61.3	1.5	0	9.8	0.2	11.5	0	25.1	1.8	0	26.9	
PCs and Peds																					
% PCs and Peds	0	0	0	40	40	98.3	97.2	0	50	97.7	93.8	0	99.1	0	96.4	0	96.7	100	0	96.7	97.1
HVs and Bikes																					
% HVs and Bikes	0	0	0	60	60	1.7	2.8	0	50	2.3	6.2	0	0.9	100	3.6	0	3.3	0	100	3.3	2.9
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	None From North					Main Street From East					Williams Street From South					West Main Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	65	95	0	0	160	5	0	25	0	30	0	62	3	0	65	255
05:00 PM	0	0	0	2	2	70	118	0	0	188	5	0	39	0	44	0	70	6	0	76	310
05:15 PM	0	0	0	0	0	93	94	0	0	187	5	0	24	0	29	0	87	7	0	94	310
05:30 PM	0	0	0	0	0	97	89	0	0	186	2	0	28	0	30	0	61	10	0	71	287
Total Volume	0	0	0	2	2	325	396	0	0	721	17	0	116	0	133	0	280	26	0	306	1162
% App. Total	0	0	0	100		45.1	54.9	0	0		12.8	0	87.2	0		0	91.5	8.5	0		
PHF	.000	.000	.000	.250	.250	.838	.839	.000	.000	.959	.850	.000	.744	.000	.756	.000	.805	.650	.000	.814	.937

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N/S: Williams Street
E/W: Main Street
City, State: Grafton, MA
Client: Rocco Addeo

File Name : SAT_Williams @ Main
Site Code :
Start Date : 9/13/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	None From North					Main Street From East					Williams Street From South					West Main Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	0	0	1	1	24	45	0	0	69	4	0	26	0	30	0	53	3	0	56	156
11:15 AM	0	0	0	1	1	28	76	0	0	104	4	0	35	0	39	0	43	4	0	47	191
11:30 AM	0	0	0	1	1	22	43	0	0	65	5	0	21	0	26	0	45	2	1	48	140
11:45 AM	0	0	0	0	0	26	49	0	1	76	8	0	35	0	43	0	49	3	0	52	171
Total	0	0	0	3	3	100	213	0	1	314	21	0	117	0	138	0	190	12	1	203	658
12:00 PM	0	0	0	2	2	27	180	0	1	208	4	0	27	0	31	0	38	4	0	42	283
12:15 PM	0	0	0	0	0	32	55	0	0	87	2	0	30	5	37	0	65	6	0	71	195
12:30 PM	0	0	0	2	2	37	57	0	0	94	5	0	31	0	36	0	52	1	0	53	185
12:45 PM	0	0	0	2	2	33	45	0	1	79	1	0	29	0	30	0	57	3	0	60	171
Total	0	0	0	6	6	129	337	0	2	468	12	0	117	5	134	0	212	14	0	226	834
Grand Total	0	0	0	9	9	229	550	0	3	782	33	0	234	5	272	0	402	26	1	429	1492
Apprch %	0	0	0	100		29.3	70.3	0	0.4		12.1	0	86	1.8		0	93.7	6.1	0.2		
Total %	0	0	0	0.6	0.6	15.3	36.9	0	0.2	52.4	2.2	0	15.7	0.3	18.2	0	26.9	1.7	0.1	28.8	
PCs and Peds																					
% PCs and Peds	0	0	0	22.2	22.2	99.6	99.5	0	66.7	99.4	100	0	99.6	60	98.9	0	98.3	100	0	98.1	98.5
HVs and Bikes																					
% HVs and Bikes	0	0	0	77.8	77.8	0.4	0.5	0	33.3	0.6	0	0	0.4	40	1.1	0	1.7	0	100	1.9	1.5
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	None From North					Main Street From East					Williams Street From South					West Main Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	0	0	0	0	0	26	49	0	1	76	8	0	35	0	43	0	49	3	0	52	171
12:00 PM	0	0	0	2	2	27	180	0	1	208	4	0	27	0	31	0	38	4	0	42	283
12:15 PM	0	0	0	0	0	32	55	0	0	87	2	0	30	5	37	0	65	6	0	71	195
12:30 PM	0	0	0	2	2	37	57	0	0	94	5	0	31	0	36	0	52	1	0	53	185
Total Volume	0	0	0	4	4	122	341	0	2	465	19	0	123	5	147	0	204	14	0	218	834
% App. Total	0	0	0	100		26.2	73.3	0	0.4		12.9	0	83.7	3.4		0	93.6	6.4	0		
PHF	.000	.000	.000	.500	.500	.824	.474	.000	.500	.559	.594	.000	.879	.250	.855	.000	.785	.583	.000	.768	.737

Data Acquisition, Transformation & Analysis

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N/S: Williams Street
E/W: Violet Ave
City, State: Grafton, MA
Client: Rocco Addeo

File Name : AM_Williams BTW Poles 40 & 41
Site Code :
Start Date : 9/11/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	Williams Street From North					None From East					Williams Street From South					Violet Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	17	0	1	18	0	0	0	0	0	1	65	0	0	66	10	0	3	2	15	99
07:15 AM	0	16	0	0	16	0	0	0	0	0	2	76	0	0	78	13	0	3	0	16	110
07:30 AM	0	16	3	0	19	0	0	0	0	0	0	75	0	0	75	9	0	2	0	11	105
07:45 AM	0	30	3	0	33	0	0	0	0	0	0	72	0	0	72	12	0	3	0	15	120
Total	0	79	6	1	86	0	0	0	0	0	3	288	0	0	291	44	0	11	2	57	434
08:00 AM	0	17	3	0	20	0	0	0	0	0	2	71	0	0	73	4	0	2	0	6	99
08:15 AM	0	22	1	0	23	0	0	0	1	1	3	69	0	0	72	15	0	4	2	21	117
08:30 AM	0	14	2	0	16	0	0	0	0	0	0	52	0	0	52	15	0	1	0	16	84
08:45 AM	0	19	1	0	20	0	0	0	0	0	1	59	0	0	60	2	0	2	0	4	84
Total	0	72	7	0	79	0	0	0	1	1	6	251	0	0	257	36	0	9	2	47	384
Grand Total	0	151	13	1	165	0	0	0	1	1	9	539	0	0	548	80	0	20	4	104	818
Apprch %	0	91.5	7.9	0.6		0	0	0	100		1.6	98.4	0	0		76.9	0	19.2	3.8		
Total %	0	18.5	1.6	0.1	20.2	0	0	0	0.1	0.1	1.1	65.9	0	0	67	9.8	0	2.4	0.5	12.7	
PCs and Peds																					
% PCs and Peds	0	89.4	92.3	100	89.7	0	0	0	100	100	77.8	96.3	0	0	96	100	0	90	100	98.1	95
HVs and Bikes																					
% HVs and Bikes	0	10.6	7.7	0	10.3	0	0	0	0	0	22.2	3.7	0	0	4	0	0	10	0	1.9	5
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Williams Street From North					None From East					Williams Street From South					Violet Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	16	3	0	19	0	0	0	0	0	0	75	0	0	75	9	0	2	0	11	105
07:45 AM	0	30	3	0	33	0	0	0	0	0	0	72	0	0	72	12	0	3	0	15	120
08:00 AM	0	17	3	0	20	0	0	0	0	0	2	71	0	0	73	4	0	2	0	6	99
08:15 AM	0	22	1	0	23	0	0	0	1	1	3	69	0	0	72	15	0	4	2	21	117
Total Volume	0	85	10	0	95	0	0	0	1	1	5	287	0	0	292	40	0	11	2	53	441
% App. Total	0	89.5	10.5	0		0	0	0	100		1.7	98.3	0	0		75.5	0	20.8	3.8		
PHF	.000	.708	.833	.000	.720	.000	.000	.000	.250	.250	.417	.957	.000	.000	.973	.667	.000	.688	.250	.631	.919

Data Acquisition, Transformation & Analysis

DATA, Inc.
50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

N/S: Williams Street
E/W: Violet Avenue
City, State: Grafton, MA
Client: Rocco Addeo

File Name : PM_Williams BTW Poles 40 & 41
Site Code :
Start Date : 9/11/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	Williams Street From North					None From East					Williams Street From South					Violet Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	0	52	6	1	59	0	0	0	0	0	3	28	0	0	31	2	0	1	0	3	93
04:15 PM	0	60	3	0	63	0	0	0	0	0	1	24	0	0	25	1	0	0	1	2	90
04:30 PM	0	62	5	0	67	0	0	0	0	0	6	27	0	0	33	3	0	1	0	4	104
04:45 PM	0	53	3	0	56	0	0	0	0	0	0	24	0	0	24	6	0	2	0	8	88
Total	0	227	17	1	245	0	0	0	0	0	10	103	0	0	113	12	0	4	1	17	375
05:00 PM	0	69	6	0	75	0	0	0	0	0	4	39	0	0	43	4	0	2	0	6	124
05:15 PM	0	88	8	0	96	0	0	0	0	0	2	23	0	0	25	1	0	5	0	6	127
05:30 PM	0	78	5	0	83	0	0	0	0	0	3	23	0	0	26	2	0	0	0	2	111
05:45 PM	0	85	9	0	94	0	0	0	0	0	3	20	0	0	23	2	0	4	0	6	123
Total	0	320	28	0	348	0	0	0	0	0	12	105	0	0	117	9	0	11	0	20	485
Grand Total	0	547	45	1	593	0	0	0	0	0	22	208	0	0	230	21	0	15	1	37	860
Apprch %	0	92.2	7.6	0.2		0	0	0	0		9.6	90.4	0	0		56.8	0	40.5	2.7		
Total %	0	63.6	5.2	0.1	69	0	0	0	0	0	2.6	24.2	0	0	26.7	2.4	0	1.7	0.1	4.3	
PCs and Peds																					
% PCs and Peds	0	98.2	100	100	98.3	0	0	0	0	0	100	97.6	0	0	97.8	100	0	100	0	97.3	98.1
HVs and Bikes																					
% HVs and Bikes	0	1.8	0	0	1.7	0	0	0	0	0	0	2.4	0	0	2.2	0	0	0	100	2.7	1.9
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Williams Street From North					None From East					Williams Street From South					Violet Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	69	6	0	75	0	0	0	0	0	4	39	0	0	43	4	0	2	0	6	124
05:15 PM	0	88	8	0	96	0	0	0	0	0	2	23	0	0	25	1	0	5	0	6	127
05:30 PM	0	78	5	0	83	0	0	0	0	0	3	23	0	0	26	2	0	0	0	2	111
05:45 PM	0	85	9	0	94	0	0	0	0	0	3	20	0	0	23	2	0	4	0	6	123
Total Volume	0	320	28	0	348	0	0	0	0	0	12	105	0	0	117	9	0	11	0	20	485
% App. Total	0	92	8	0		0	0	0	0		10.3	89.7	0	0		45	0	55	0		
PHF	.000	.909	.778	.000	.906	.000	.000	.000	.000	.000	.750	.673	.000	.000	.680	.563	.000	.550	.000	.833	.955

Data Acquisition, Transformation & Analysis

DATA, Inc.
50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

N/S: Williams Street
E/W: Violet Avenue
City, State: Grafton, MA
Client: Rocco Addeo

File Name : SAT_Williams BTW Poles 40 & 41
Site Code :
Start Date : 9/13/2008
Page No : 1

Groups Printed- PCs and Peds - HVs and Bikes - Busses

	Williams Street From North					None From East					Williams Street From South					Violet Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	24	1	1	26	0	0	0	0	0	3	24	0	0	27	8	0	2	0	10	63
11:15 AM	0	23	2	0	25	0	0	0	0	0	3	31	0	0	34	3	0	1	0	4	63
11:30 AM	0	23	1	0	24	0	0	0	0	0	2	23	0	0	25	3	0	4	0	7	56
11:45 AM	0	22	4	0	26	0	0	0	0	0	1	31	0	0	32	6	0	4	7	17	75
Total	0	92	8	1	101	0	0	0	0	0	9	109	0	0	118	20	0	11	7	38	257
12:00 PM	0	17	4	0	21	0	0	0	0	0	4	27	0	0	31	5	0	3	0	8	60
12:15 PM	0	33	6	0	39	0	0	0	0	0	3	26	0	0	29	2	0	1	2	5	73
12:30 PM	0	30	4	0	34	0	0	0	0	0	5	32	0	0	37	0	0	2	0	2	73
12:45 PM	0	23	5	0	28	0	0	0	0	0	5	25	0	0	30	1	0	5	0	6	64
Total	0	103	19	0	122	0	0	0	0	0	17	110	0	0	127	8	0	11	2	21	270
Grand Total	0	195	27	1	223	0	0	0	0	0	26	219	0	0	245	28	0	22	9	59	527
Apprch %	0	87.4	12.1	0.4		0	0	0	0		10.6	89.4	0	0		47.5	0	37.3	15.3		
Total %	0	37	5.1	0.2	42.3	0	0	0	0	0	4.9	41.6	0	0	46.5	5.3	0	4.2	1.7	11.2	
PCs and Peds																					
% PCs and Peds	0	99	100	100	99.1	0	0	0	0	0	100	99.5	0	0	99.6	100	0	100	100	100	99.4
HVs and Bikes																					
% HVs and Bikes	0	1	0	0	0.9	0	0	0	0	0	0	0.5	0	0	0.4	0	0	0	0	0	0.6
Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Williams Street From North					None From East					Williams Street From South					Violet Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	0	22	4	0	26	0	0	0	0	0	1	31	0	0	32	6	0	4	7	17	75
12:00 PM	0	17	4	0	21	0	0	0	0	0	4	27	0	0	31	5	0	3	0	8	60
12:15 PM	0	33	6	0	39	0	0	0	0	0	3	26	0	0	29	2	0	1	2	5	73
12:30 PM	0	30	4	0	34	0	0	0	0	0	5	32	0	0	37	0	0	2	0	2	73
Total Volume	0	102	18	0	120	0	0	0	0	0	13	116	0	0	129	13	0	10	9	32	281
% App. Total	0	85	15	0		0	0	0	0		10.1	89.9	0	0		40.6	0	31.2	28.1		
PHF	.000	.773	.750	.000	.769	.000	.000	.000	.000	.000	.650	.906	.000	.000	.872	.542	.000	.625	.321	.471	.937

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Northbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
09/11/08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
00:30	0	0	0	0	0	1	0	1	1	0	0	0	0	0	3
00:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	0	0	0	0	1	1	1	1	1	0	0	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
01:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
02:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	0	0	0	0	0	0	0	2	0	0	1	0	0	0	3
03:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	1	0	0	0	0	0	1	0	0	1	0	0	0	0	3
03:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	1	0	0	0	0	0	3	1	0	1	0	0	0	0	6
04:00	0	0	1	0	0	0	1	0	1	1	0	0	0	0	4
04:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
04:30	0	0	0	0	0	2	2	2	1	0	0	0	0	0	7
04:45	0	0	0	0	0	2	0	3	4	0	0	0	0	0	9
	0	0	1	0	0	4	4	5	6	2	0	0	0	0	22
05:00	0	0	0	0	0	0	1	2	4	1	2	0	0	0	10
05:15	2	0	3	1	3	0	1	4	0	2	0	0	0	0	16
05:30	0	0	1	0	2	2	1	5	5	1	1	1	1	0	20
05:45	0	1	1	0	2	3	9	9	3	3	2	0	0	0	33
	2	1	5	1	7	5	12	20	12	7	5	1	1	0	79
06:00	1	0	0	2	0	9	13	5	7	1	0	0	0	0	38
06:15	11	3	4	8	6	17	11	6	1	2	0	1	1	0	71
06:30	6	2	1	4	10	20	9	10	1	3	0	0	0	0	66
06:45	7	2	2	7	8	13	20	10	7	1	0	1	0	0	78
	25	7	7	21	24	59	53	31	16	7	0	2	1	0	253
07:00	14	0	6	5	16	19	20	9	2	1	0	0	0	0	92
07:15	22	1	3	1	8	13	14	8	5	1	0	0	0	0	76
07:30	19	3	6	11	16	3	11	9	8	4	0	0	0	0	90
07:45	7	7	9	10	12	21	11	8	3	3	0	0	0	0	91
	62	11	24	27	52	56	56	34	18	9	0	0	0	0	349
08:00	10	2	1	2	7	19	13	19	5	3	1	0	0	0	82
08:15	6	5	2	13	7	16	12	13	6	1	0	0	0	0	81
08:30	11	6	1	8	11	19	12	7	3	2	0	0	0	0	80
08:45	17	5	3	8	4	6	9	8	3	2	0	0	0	0	65
	44	18	7	31	29	60	46	47	17	8	1	0	0	0	308
09:00	0	0	2	4	8	9	17	17	6	5	0	0	0	0	68
09:15	4	0	1	2	1	9	4	7	6	2	1	0	0	0	37
09:30	0	0	0	0	8	7	8	8	8	3	1	0	0	0	43
09:45	8	2	2	0	0	7	5	8	1	0	0	1	0	0	34
	12	2	5	6	17	32	34	40	21	10	2	1	0	0	182
10:00	0	0	0	0	1	4	12	3	4	4	0	0	0	0	28
10:15	0	0	0	0	2	4	4	6	1	3	1	0	0	0	21
10:30	0	0	0	1	2	3	11	5	3	3	1	0	0	0	29
10:45	0	0	0	0	1	4	8	8	4	1	1	0	0	0	27
	0	0	0	1	6	15	35	22	12	11	3	0	0	0	105
11:00	2	0	0	0	3	2	3	4	3	2	1	1	1	0	22
11:15	0	0	0	0	4	3	4	6	3	1	0	0	0	0	21
11:30	0	1	2	0	1	3	7	6	4	0	2	0	0	0	26
11:45	0	0	0	0	3	3	4	10	3	2	0	0	0	0	25
	2	1	2	0	11	11	18	26	13	5	3	1	1	0	94
Total	148	40	51	87	147	243	263	229	116	61	15	5	3	0	1408

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Northbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
12 PM	3	0	0	1	0	3	2	2	1	1	0	0	0	0	13
12:15	2	1	0	0	2	1	2	5	2	3	1	0	0	0	19
12:30	1	0	2	3	1	6	4	10	4	3	0	1	0	0	35
12:45	1	0	0	1	0	4	4	5	2	3	0	0	1	0	21
	7	1	2	5	3	14	12	22	9	10	1	1	1	0	88
13:00	1	0	1	1	3	5	2	3	7	2	0	0	0	0	25
13:15	2	0	0	1	0	5	5	5	7	3	1	0	0	0	29
13:30	2	0	1	2	2	2	4	2	2	0	1	0	1	0	19
13:45	1	1	2	2	5	1	3	5	2	0	0	0	0	0	22
	6	1	4	6	10	13	14	15	18	5	2	0	1	0	95
14:00	0	1	0	0	2	4	4	4	2	2	0	0	0	0	19
14:15	1	0	1	1	3	5	4	2	5	3	0	0	0	0	25
14:30	0	0	0	1	1	5	6	7	4	1	2	0	0	0	27
14:45	1	1	3	5	5	3	4	9	1	1	1	0	0	0	34
	2	2	4	7	11	17	18	22	12	7	3	0	0	0	105
15:00	0	0	0	0	3	5	4	7	4	1	0	0	0	0	24
15:15	1	0	0	1	0	1	4	2	4	0	1	0	1	1	16
15:30	2	0	4	9	6	9	2	4	0	1	0	0	0	0	37
15:45	1	1	1	3	3	7	5	2	2	2	0	0	0	0	27
	4	1	5	13	12	22	15	15	10	4	1	0	1	1	104
16:00	2	0	1	3	7	7	3	6	2	1	0	0	0	0	32
16:15	1	0	1	4	3	6	6	4	4	0	0	0	0	0	29
16:30	0	1	0	4	6	8	6	4	2	0	0	0	0	0	31
16:45	0	0	1	0	3	2	4	11	6	1	0	0	0	0	28
	3	1	3	11	19	23	19	25	14	2	0	0	0	0	120
17:00	2	1	0	1	9	9	12	7	4	0	0	0	0	0	45
17:15	3	0	0	1	1	7	9	4	3	1	0	0	0	0	29
17:30	5	0	0	4	2	6	5	3	1	1	1	0	0	0	28
17:45	1	0	0	2	3	4	4	5	3	1	0	0	0	0	23
	11	1	0	8	15	26	30	19	11	3	1	0	0	0	125
18:00	3	0	2	1	0	6	4	6	1	2	0	0	1	0	26
18:15	1	0	0	1	0	4	5	5	4	1	0	0	0	0	21
18:30	0	1	1	0	1	6	4	3	3	1	0	0	0	0	20
18:45	1	0	0	2	2	2	6	3	4	1	0	0	0	0	21
	5	1	3	4	3	18	19	17	12	5	0	0	1	0	88
19:00	1	0	0	2	2	3	6	2	3	1	1	0	0	0	21
19:15	0	0	0	1	2	3	6	3	0	4	1	0	0	0	20
19:30	1	0	0	0	1	2	4	4	4	0	1	0	0	0	17
19:45	2	1	0	1	4	0	1	3	3	0	3	0	0	0	18
	4	1	0	4	9	8	17	12	10	5	6	0	0	0	76
20:00	1	0	0	1	0	1	1	0	3	0	0	0	2	1	10
20:15	0	0	0	0	0	4	2	2	2	0	0	0	0	0	10
20:30	0	0	0	0	1	1	2	1	3	1	2	0	0	0	11
20:45	0	0	0	0	0	0	0	2	5	0	2	0	0	0	9
	1	0	0	1	1	6	5	5	13	1	4	0	2	1	40
21:00	0	0	0	0	0	2	1	1	2	0	1	0	0	0	7
21:15	0	0	0	0	0	2	1	2	0	0	0	0	0	0	5
21:30	0	0	0	0	1	1	0	1	3	0	0	0	0	0	6
21:45	0	0	0	0	0	0	1	2	0	0	1	0	0	0	4
	0	0	0	0	1	5	3	6	5	0	2	0	0	0	22
22:00	0	0	0	0	0	1	0	4	0	0	1	0	0	0	6
22:15	1	0	0	1	0	0	2	0	2	2	0	0	0	0	8
22:30	0	0	0	0	1	0	2	2	1	0	1	0	0	0	7
22:45	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3
	1	0	0	1	1	1	4	7	5	2	2	0	0	0	24
23:00	0	0	0	1	0	0	2	1	0	0	0	1	0	0	5
23:15	0	0	0	0	0	1	0	0	2	0	0	0	0	0	3
23:30	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
23:45	0	0	0	0	0	1	0	1	0	1	0	0	0	0	3
	0	0	0	1	1	3	2	2	2	1	0	1	0	0	13
Total	44	9	21	61	86	158	158	167	121	45	22	2	6	2	900

Data Acquisition, Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Northbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
09/12/08	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
	0	0	0	0	0	0	2	1	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2
01:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	1	1	0	0	1	0	0	0	0	3
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	2	0	0	1	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:30	0	0	0	0	0	1	1	0	0	0	1	0	0	0	3
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	1	0	1	1	0	0	0	1	0	0	0	4
04:00	0	0	0	2	1	0	0	0	0	0	0	1	0	0	4
04:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
04:30	0	0	0	1	0	2	2	3	1	2	0	0	0	0	11
04:45	0	0	0	0	0	0	0	0	3	1	0	1	0	0	5
	0	0	0	3	1	2	2	3	6	3	0	2	0	0	22
05:00	1	0	0	0	0	2	0	4	2	0	1	0	0	0	10
05:15	2	0	0	0	0	2	2	4	2	0	0	1	0	0	13
05:30	0	0	0	1	0	4	5	9	2	0	2	0	0	0	23
05:45	2	0	1	0	1	5	2	4	8	1	0	0	1	0	25
	5	0	1	1	1	13	9	21	14	1	3	1	1	0	71
06:00	1	1	0	0	4	8	6	6	4	1	0	0	0	0	31
06:15	9	1	3	3	3	17	10	5	6	1	0	0	0	0	58
06:30	13	3	4	4	7	7	12	12	7	2	1	0	0	0	72
06:45	3	3	4	3	7	16	9	13	7	0	0	0	1	0	66
	26	8	11	10	21	48	37	36	24	4	1	0	1	0	227
07:00	1	3	5	7	7	13	15	10	5	4	0	1	0	0	71
07:15	12	5	2	7	8	16	13	9	4	1	2	0	0	0	79
07:30	17	2	6	6	12	9	12	12	10	2	0	0	0	0	88
07:45	6	3	6	9	15	18	16	9	3	1	2	1	0	0	89
	36	13	19	29	42	56	56	40	22	8	4	2	0	0	327
08:00	11	5	4	3	12	8	19	10	2	4	1	0	0	0	79
08:15	1	0	4	3	20	13	22	11	2	1	0	0	0	0	77
08:30	1	0	1	2	9	5	13	9	6	5	1	0	0	0	52
08:45	24	2	5	4	9	4	9	9	4	2	1	0	0	0	73
	37	7	14	12	50	30	63	39	14	12	3	0	0	0	281
09:00	2	0	3	2	7	11	13	9	4	3	0	0	0	0	54
09:15	2	0	0	2	4	4	5	7	3	1	2	0	0	0	30
09:30	2	0	0	0	4	5	9	8	6	3	2	1	0	0	40
09:45	0	0	1	3	3	2	7	7	6	3	2	2	0	0	36
	6	0	4	7	18	22	34	31	19	10	6	3	0	0	160
10:00	1	0	0	1	2	5	6	5	3	1	1	0	0	0	25
10:15	0	1	0	0	3	6	6	9	12	1	0	0	0	0	38
10:30	0	0	0	1	2	4	9	3	5	1	0	0	0	0	25
10:45	0	0	0	1	6	7	3	11	1	1	2	0	0	0	32
	1	1	0	3	13	22	24	28	21	4	3	0	0	0	120
11:00	2	1	1	1	0	3	1	1	3	4	2	0	0	0	19
11:15	0	3	2	2	0	1	3	6	5	0	1	1	0	0	24
11:30	1	0	2	6	1	3	7	3	3	2	2	0	0	0	30
11:45	0	0	1	1	4	1	5	5	4	1	0	0	0	0	22
	3	4	6	10	5	8	16	15	15	7	5	1	0	0	95
Total	114	33	55	76	151	205	245	214	136	50	26	9	2	0	1316

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Northbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
12 PM	3	1	2	1	6	1	5	9	0	1	0	0	0	0	29
12:15	0	0	0	2	3	3	4	5	2	1	0	0	0	0	20
12:30	0	0	0	1	0	2	5	2	3	1	0	0	0	0	14
12:45	2	1	1	0	2	3	5	8	4	3	3	0	0	0	32
	5	2	3	4	11	9	19	24	9	6	3	0	0	0	95
13:00	0	0	0	0	2	1	5	3	1	1	1	0	1	0	15
13:15	0	0	0	0	1	6	6	5	3	3	1	0	0	0	25
13:30	0	1	3	3	5	5	3	3	1	1	1	0	0	0	26
13:45	5	1	2	5	4	5	4	4	1	2	0	1	0	0	34
	5	2	5	8	12	17	18	15	6	7	3	1	1	0	100
14:00	1	1	0	0	1	2	5	4	3	3	1	0	0	0	21
14:15	1	0	1	0	1	1	5	9	10	1	0	0	1	0	30
14:30	1	0	0	0	1	6	6	7	2	0	1	2	0	0	26
14:45	0	0	0	1	3	6	1	7	3	3	0	1	0	1	26
	3	1	1	1	6	15	17	27	18	7	2	3	1	1	103
15:00	5	0	0	0	2	6	5	4	3	2	2	0	0	0	29
15:15	1	0	1	1	1	5	11	2	2	1	0	0	0	0	25
15:30	0	3	2	0	2	3	4	2	4	0	0	0	0	0	20
15:45	1	0	0	2	1	5	9	9	1	2	2	0	0	0	32
	7	3	3	3	6	19	29	17	10	5	4	0	0	0	106
16:00	0	0	0	0	1	5	5	4	2	3	0	0	0	0	20
16:15	1	0	0	0	0	5	11	9	3	0	0	0	0	0	29
16:30	2	0	1	1	0	7	8	2	4	4	1	0	0	0	30
16:45	0	0	0	0	2	2	5	4	10	1	0	0	0	0	24
	3	0	1	1	3	19	29	19	19	8	1	0	0	0	103
17:00	2	0	1	1	3	9	13	6	2	1	1	0	1	0	40
17:15	1	1	0	1	3	7	9	4	1	2	0	0	0	0	29
17:30	1	1	2	3	5	2	3	1	4	3	0	0	0	0	25
17:45	1	1	0	0	2	5	5	3	3	1	1	0	0	0	22
	5	3	3	5	13	23	30	14	10	7	2	0	1	0	116
18:00	1	0	1	1	0	7	5	7	3	0	0	0	0	0	25
18:15	1	0	0	0	1	5	8	6	4	0	0	0	1	0	26
18:30	1	1	0	2	3	4	7	8	5	2	0	0	0	0	33
18:45	0	0	0	1	4	3	9	7	2	1	0	0	0	0	27
	3	1	1	4	8	19	29	28	14	3	0	0	1	0	111
19:00	0	0	0	3	5	7	3	4	1	0	0	0	0	0	23
19:15	0	1	1	2	6	1	4	0	1	0	0	0	0	0	16
19:30	1	0	0	0	2	7	3	3	2	1	0	0	0	0	19
19:45	0	0	0	0	1	0	1	1	1	1	0	1	0	0	6
	1	1	1	5	14	15	11	8	5	2	0	1	0	0	64
20:00	0	0	0	0	1	4	2	3	1	1	0	0	0	0	12
20:15	0	0	0	0	3	5	1	1	2	0	0	0	0	0	12
20:30	0	0	0	1	0	1	2	1	0	0	0	0	0	0	5
20:45	0	0	0	4	2	1	5	0	1	0	0	0	0	0	13
	0	0	0	5	6	11	10	5	4	1	0	0	0	0	42
21:00	0	0	1	0	1	2	3	3	1	1	0	0	0	0	12
21:15	0	0	0	0	1	1	4	0	0	0	0	1	0	0	7
21:30	0	0	0	0	0	1	2	0	1	2	0	0	0	0	6
21:45	1	0	0	0	1	0	1	1	1	0	1	0	0	0	6
	1	0	1	0	3	4	10	4	3	3	1	1	0	0	31
22:00	0	0	0	0	1	0	6	3	0	0	0	0	0	0	10
22:15	0	0	0	0	0	2	2	5	2	0	0	0	0	0	11
22:30	0	0	2	0	1	0	4	3	1	2	0	0	0	0	13
22:45	0	0	1	0	0	0	0	3	0	0	0	0	0	0	4
	0	0	3	0	2	2	12	14	3	2	0	0	0	0	38
23:00	0	0	0	0	1	2	0	0	0	0	0	0	0	1	4
23:15	0	1	1	0	1	1	2	0	0	0	0	0	0	0	6
23:30	0	0	0	0	0	1	3	1	0	0	0	0	0	0	5
23:45	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
	0	1	1	0	3	4	5	1	0	0	0	0	1	1	17
Total	33	14	23	36	87	157	219	176	101	51	16	6	5	2	926

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Northbound

Start	1	21	23	25	27	29	31	33	35	37	39	41	43	45	
Time	20	22	24	26	28	30	32	34	36	38	40	42	44	999	Total
09/13/08	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
00:15	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
00:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
00:45	0	0	0	0	0	2	1	1	1	0	0	0	0	0	5
	0	0	0	0	0	2	2	2	3	0	1	0	0	0	10
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	1	0	0	0	2	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
02:15	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	1	0	0	0	1	1	0	0	1	0	0	0	4
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
04:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:15	0	1	0	1	0	1	0	0	0	0	0	0	0	0	3
04:30	1	0	0	0	1	1	0	0	0	1	1	1	0	0	6
04:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	1	1	0	1	1	2	0	1	1	1	1	1	0	0	11
05:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
05:15	0	0	0	1	0	0	1	1	4	0	0	1	0	0	8
05:30	0	0	0	0	0	3	0	2	1	0	0	0	0	0	6
05:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
	0	0	0	1	0	3	1	3	7	1	0	1	0	0	17
06:00	0	0	0	0	0	3	3	1	0	1	0	0	0	0	8
06:15	0	0	0	0	2	2	1	2	3	0	1	0	0	0	11
06:30	0	0	1	1	0	0	2	1	2	1	0	0	0	0	8
06:45	2	1	4	0	1	1	1	1	1	0	1	0	0	0	13
	2	1	5	1	3	6	7	5	6	2	2	0	0	0	40
07:00	0	0	0	0	1	2	2	2	1	0	0	0	0	0	8
07:15	0	0	0	1	2	4	3	0	4	2	1	1	1	0	19
07:30	2	2	1	0	0	1	2	3	3	1	0	0	0	0	15
07:45	1	1	0	0	0	5	7	7	8	0	1	0	0	0	30
	3	3	1	1	3	12	14	12	16	3	2	1	1	0	72
08:00	1	0	0	1	0	3	5	7	2	0	1	0	0	0	20
08:15	0	0	0	0	1	1	10	7	4	1	2	1	0	0	27
08:30	0	1	0	0	2	2	8	8	3	2	0	0	0	0	26
08:45	2	0	1	1	2	3	6	2	4	4	0	0	0	0	25
	3	1	1	2	5	9	29	24	13	7	3	1	0	0	98
09:00	1	0	0	1	2	8	5	9	4	1	0	1	0	0	32
09:15	0	0	0	0	2	4	16	9	5	1	1	0	0	0	38
09:30	0	0	0	2	2	4	9	6	1	2	0	0	0	0	26
09:45	0	0	1	1	1	3	7	6	4	3	0	0	0	0	26
	1	0	1	4	7	19	37	30	14	7	1	1	0	0	122
10:00	1	0	1	0	6	1	11	7	3	2	1	0	0	0	33
10:15	1	0	0	0	3	5	8	6	5	0	0	0	0	0	28
10:30	2	0	0	1	2	3	13	10	5	0	0	0	0	0	36
10:45	3	0	1	5	3	6	8	5	3	1	0	0	0	0	35
	7	0	2	6	14	15	40	28	16	3	1	0	0	0	132
11:00	1	0	0	2	4	11	7	3	2	0	0	1	0	0	31
11:15	1	1	2	7	7	8	7	4	2	0	1	0	0	0	40
11:30	1	0	0	2	6	4	3	5	3	2	0	0	0	0	26
11:45	0	1	1	2	5	8	10	6	3	1	0	1	0	0	38
	3	2	3	13	22	31	27	18	10	3	1	2	0	0	135
Total	20	8	14	29	56	99	158	124	88	28	13	7	1	0	645

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
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Location 1: Williams Street
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Date Start: 11-Sep-08
Site Code:

Northbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
12 PM	0	0	0	0	2	6	10	9	3	1	1	0	0	0	32
12:15	2	1	1	4	7	6	5	4	2	0	0	0	1	0	33
12:30	0	0	0	3	7	8	11	7	1	0	0	0	0	0	37
12:45	2	1	1	3	2	10	4	7	1	3	0	0	0	0	34
	4	2	2	10	18	30	30	27	7	4	1	0	1	0	136
13:00	0	0	0	1	3	5	9	3	4	4	0	1	0	0	30
13:15	1	0	0	0	1	5	7	9	4	5	0	0	0	0	32
13:30	1	0	0	0	0	4	7	8	5	0	0	0	1	0	26
13:45	2	0	0	1	0	4	9	6	4	4	0	0	0	0	30
	4	0	0	2	4	18	32	26	17	13	0	1	1	0	118
14:00	1	0	0	0	2	5	5	1	4	4	0	1	0	0	23
14:15	1	0	1	1	7	3	10	6	8	2	1	0	0	0	40
14:30	3	0	0	0	4	5	9	7	5	7	0	0	1	0	41
14:45	4	0	0	4	0	5	8	4	3	2	2	0	0	0	32
	9	0	1	5	13	18	32	18	20	15	3	1	1	0	136
15:00	0	0	0	2	1	5	5	4	4	0	1	0	0	0	22
15:15	2	0	1	3	0	3	5	9	6	3	0	0	0	1	33
15:30	2	0	1	1	4	5	8	8	3	3	2	0	1	0	38
15:45	0	0	0	0	0	2	7	4	7	2	1	2	0	0	25
	4	0	2	6	5	15	25	25	20	8	4	2	1	1	118
16:00	0	0	0	2	0	3	4	4	1	4	2	2	0	0	22
16:15	0	0	0	1	3	4	5	6	3	1	0	0	0	0	23
16:30	2	0	0	2	0	4	5	11	5	2	0	0	0	0	31
16:45	0	0	0	0	2	1	5	10	4	5	1	0	0	1	29
	2	0	0	5	5	12	19	31	13	12	3	2	0	1	105
17:00	1	0	0	1	2	6	11	9	6	1	1	0	0	0	38
17:15	2	0	0	1	2	2	8	4	5	0	1	0	0	0	25
17:30	2	0	0	0	5	7	9	7	5	1	1	0	0	0	37
17:45	3	0	0	3	2	3	3	4	1	3	1	1	0	0	24
	8	0	0	5	11	18	31	24	17	5	4	1	0	0	124
18:00	0	1	4	0	3	5	4	6	2	4	0	0	0	0	29
18:15	0	0	0	0	0	1	5	7	4	1	1	1	0	0	20
18:30	1	0	0	0	3	3	4	6	2	1	1	0	0	0	21
18:45	0	0	0	0	3	2	6	5	5	2	3	0	0	0	26
	1	1	4	0	9	11	19	24	13	8	5	1	0	0	96
19:00	0	0	0	2	4	2	4	5	7	0	0	0	0	0	24
19:15	0	0	0	1	0	8	3	2	0	2	0	1	0	0	17
19:30	0	0	0	0	1	3	1	1	2	0	2	0	0	0	10
19:45	1	0	0	0	1	1	4	6	1	1	0	1	0	0	16
	1	0	0	3	6	14	12	14	10	3	2	2	0	0	67
20:00	0	1	0	0	1	2	3	2	3	0	0	1	0	0	13
20:15	0	0	0	0	2	3	3	2	3	1	1	0	0	0	15
20:30	0	0	0	0	1	1	2	3	2	2	2	0	0	0	13
20:45	0	0	0	0	0	0	1	1	1	1	1	1	0	0	6
	0	1	0	0	4	6	9	8	9	4	4	2	0	0	47
21:00	0	0	0	0	1	2	3	0	3	1	1	0	0	0	11
21:15	0	0	0	0	2	4	4	2	0	0	0	0	0	0	12
21:30	1	0	0	1	1	1	2	1	3	0	1	0	0	0	11
21:45	0	0	0	0	0	1	3	2	2	1	0	0	0	1	10
	1	0	0	1	4	8	12	5	8	2	2	0	0	1	44
22:00	0	0	0	0	0	0	0	3	2	0	0	1	0	0	6
22:15	0	0	0	0	2	0	1	5	0	1	0	0	0	0	9
22:30	0	0	0	0	0	0	1	4	2	1	0	2	0	0	10
22:45	0	0	0	1	2	2	2	2	0	0	0	0	0	0	9
	0	0	0	1	4	2	4	14	4	2	0	3	0	0	34
23:00	0	0	1	0	1	1	4	2	1	0	1	0	0	0	11
23:15	0	0	0	1	0	3	1	2	1	0	0	0	0	0	8
23:30	0	0	0	0	1	2	0	2	0	1	0	0	0	0	6
23:45	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
	0	0	1	1	2	6	5	8	4	1	1	0	0	0	29
Total	34	4	10	39	85	158	230	224	142	77	29	15	4	3	1054
Grand Total	393	108	174	328	612	1018	1273	1134	704	312	121	44	21	7	6249

15th Percentile :	26 MPH
50th Percentile :	31 MPH
85th Percentile :	35 MPH
95th Percentile :	38 MPH

Stats

Mean Speed(Average) :	30 MPH
10 MPH Pace Speed :	27-36 MPH
Number in Pace :	4741
Percent in Pace :	75.9%

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
09/11/08	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
00:15	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
00:30	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
00:45	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
	0	0	0	0	1	2	1	3	2	0	1	0	0	0	10
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:15	0	0	0	1	1	1	1	1	0	0	0	0	0	0	5
01:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
01:45	0	0	0	0	0	0	1	1	1	0	0	0	0	0	3
	0	0	0	1	2	1	3	2	1	0	0	0	0	0	10
02:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
02:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
	0	0	0	0	0	0	1	0	1	1	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
03:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	0	1	0	0	0	2	0	0	0	0	0	0	0	3
04:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
05:00	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
05:15	0	0	0	1	0	1	0	0	0	0	1	0	0	0	3
05:30	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
05:45	0	0	0	1	1	2	1	1	0	0	0	0	0	0	6
	0	0	0	2	1	5	3	1	0	1	1	0	0	0	14
06:00	0	0	1	0	1	1	0	1	1	0	0	0	0	0	5
06:15	1	0	0	0	0	2	0	0	0	0	0	0	0	0	3
06:30	2	1	0	1	2	2	2	1	1	0	0	0	0	0	12
06:45	1	0	1	1	3	2	4	4	2	0	1	0	0	0	19
	4	1	2	2	6	7	6	6	4	0	1	0	0	0	39
07:00	2	0	2	2	7	5	1	2	0	0	2	0	0	0	23
07:15	4	0	0	0	5	2	1	1	1	1	0	0	0	0	15
07:30	4	0	0	1	7	4	3	2	0	0	0	0	0	0	21
07:45	4	1	4	3	10	7	2	1	0	1	0	0	0	0	33
	14	1	6	6	29	18	7	6	1	2	2	0	0	0	92
08:00	1	0	2	0	1	1	5	7	1	0	0	0	0	0	18
08:15	3	1	0	0	5	5	5	1	1	0	2	0	0	0	23
08:30	1	0	0	2	3	6	3	4	0	2	0	0	0	0	21
08:45	1	0	0	1	2	4	7	3	3	1	0	1	0	0	23
	6	1	2	3	11	16	20	15	5	3	2	1	0	0	85
09:00	1	1	0	1	6	3	4	2	2	3	0	0	0	0	23
09:15	3	1	0	0	1	1	2	5	3	1	0	0	0	0	17
09:30	2	0	1	1	0	1	8	3	2	1	1	0	0	0	20
09:45	2	0	0	0	2	5	3	3	1	0	0	0	0	0	16
	8	2	1	2	9	10	17	13	8	5	1	0	0	0	76
10:00	0	0	0	0	1	3	4	3	4	0	1	0	0	0	16
10:15	0	0	0	1	0	3	6	7	5	2	0	0	0	0	24
10:30	0	0	1	0	0	4	5	5	3	0	1	0	0	0	19
10:45	2	0	1	0	5	6	1	6	1	0	0	0	0	0	22
	2	0	2	1	6	16	16	21	13	2	2	0	0	0	81
11:00	2	0	0	0	2	3	3	3	2	1	0	0	0	0	16
11:15	1	0	0	0	2	5	4	4	3	3	0	1	0	0	23
11:30	0	0	2	3	0	2	3	3	3	3	0	0	0	0	19
11:45	1	0	1	0	2	2	5	3	2	2	0	2	0	0	20
	4	0	3	3	6	12	15	13	10	9	0	3	0	0	78
Total	38	5	17	20	72	87	92	80	45	23	10	4	0	0	493

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
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888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
09/12/08	0	0	2	0	0	0	1	0	1	2	1	0	0	1	8
00:15	0	0	1	0	0	0	1	2	1	0	0	0	0	0	5
00:30	0	0	0	0	0	0	1	1	0	2	0	0	0	1	5
00:45	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
	0	0	3	0	0	1	4	3	2	4	1	0	0	2	20
01:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	1	0	2	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3
	0	0	0	1	0	2	0	0	2	1	0	0	0	0	6
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	1	0	0	0	0	1	0	1	0	1	0	0	0	0	4
05:30	0	0	0	0	3	0	1	0	0	0	0	0	0	0	4
05:45	0	0	0	0	3	2	1	0	0	1	0	0	0	0	7
	1	0	0	0	6	3	2	1	0	2	0	0	0	0	15
06:00	1	0	0	0	2	1	0	0	0	0	0	0	0	0	4
06:15	2	0	0	1	0	0	1	0	0	0	0	0	0	0	4
06:30	0	0	0	1	5	2	0	0	0	0	0	0	0	0	8
06:45	3	0	0	1	3	3	2	6	0	1	1	0	0	0	20
	6	0	0	3	10	6	3	6	0	1	1	0	0	0	36
07:00	2	0	0	0	0	1	3	7	2	1	0	0	0	0	16
07:15	2	1	0	0	3	2	3	0	2	0	0	0	0	0	13
07:30	2	0	1	1	4	4	0	3	0	0	0	1	0	0	16
07:45	2	1	1	2	3	10	2	8	4	1	1	0	0	0	35
	8	2	2	3	10	17	8	18	8	2	1	1	0	0	80
08:00	3	0	0	0	0	2	5	3	1	1	0	1	0	0	16
08:15	0	0	0	2	2	4	5	4	0	3	0	0	0	0	20
08:30	1	0	0	2	5	3	4	2	3	0	1	0	0	0	21
08:45	3	0	0	2	2	3	6	3	1	0	1	0	0	0	21
	7	0	0	6	9	12	20	12	5	4	2	1	0	0	78
09:00	1	1	0	0	2	1	3	3	3	0	0	1	0	0	15
09:15	0	0	0	1	3	4	5	4	3	0	0	1	0	0	21
09:30	1	0	0	0	1	2	8	8	0	0	0	0	0	0	20
09:45	1	0	0	0	0	1	2	0	3	2	0	0	0	0	9
	3	1	0	1	6	8	18	15	9	2	0	2	0	0	65
10:00	1	0	0	2	4	5	4	5	1	1	0	0	0	0	23
10:15	1	1	5	2	2	4	8	4	3	0	0	0	0	0	30
10:30	0	0	0	1	0	4	3	0	2	2	1	0	0	0	13
10:45	0	0	0	1	0	3	3	2	4	1	0	0	0	0	14
	2	1	5	6	6	16	18	11	10	4	1	0	0	0	80
11:00	1	0	0	2	4	8	7	4	2	1	0	0	0	0	29
11:15	0	0	0	1	2	3	4	2	2	0	0	0	0	0	14
11:30	0	0	3	0	3	4	3	2	1	1	0	0	0	0	17
11:45	0	0	0	0	1	4	7	3	4	0	1	0	0	0	20
	1	0	3	3	10	19	21	11	9	2	1	0	0	0	80
Total	28	4	13	23	58	85	97	77	46	22	8	4	0	2	467

Data Acquisition,Transformation & Analysis, Inc.

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Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start	1	21	23	25	27	29	31	33	35	37	39	41	43	45	
Time	20	22	24	26	28	30	32	34	36	38	40	42	44	999	Total
12 PM	1	1	1	1	1	2	6	1	4	1	0	0	0	0	19
12:15	0	0	0	0	1	5	7	3	3	3	0	0	0	0	22
12:30	0	2	1	1	7	6	1	2	3	2	0	0	1	0	26
12:45	0	0	0	2	3	5	7	5	3	1	2	1	0	0	29
	1	3	2	4	12	18	21	11	13	7	2	1	1	0	96
13:00	0	0	1	3	4	4	3	4	3	1	0	0	1	0	24
13:15	0	0	0	1	4	3	7	13	4	2	0	0	0	0	34
13:30	0	0	0	1	1	4	2	11	3	3	0	0	0	0	25
13:45	0	0	0	0	5	6	7	3	1	1	0	1	0	0	24
	0	0	1	5	14	17	19	31	11	7	0	1	1	0	107
14:00	0	1	0	1	3	5	12	11	3	0	0	0	0	0	36
14:15	1	0	1	3	2	7	8	9	3	5	2	1	0	0	42
14:30	2	1	0	1	3	6	8	7	5	3	1	0	0	1	38
14:45	0	0	3	1	3	13	8	11	4	3	0	0	0	0	46
	3	2	4	6	11	31	36	38	15	11	3	1	0	1	162
15:00	4	0	2	3	8	7	13	12	9	2	1	0	0	0	61
15:15	5	1	2	0	2	5	11	5	9	2	1	1	0	0	44
15:30	0	0	0	0	3	8	15	10	7	2	3	0	0	0	48
15:45	1	0	0	1	3	4	12	14	12	3	3	0	0	0	53
	10	1	4	4	16	24	51	41	37	9	8	1	0	0	206
16:00	0	0	0	3	7	14	9	9	11	3	0	0	0	0	56
16:15	3	0	0	1	5	14	16	18	9	6	1	0	0	0	73
16:30	2	0	1	3	6	12	13	11	8	3	1	0	0	0	60
16:45	1	0	0	0	10	19	9	15	5	2	0	0	1	0	62
	6	0	1	7	28	59	47	53	33	14	2	0	1	0	251
17:00	2	0	0	1	10	10	15	23	9	7	0	2	1	0	80
17:15	0	0	0	3	5	16	21	20	16	3	0	0	0	0	84
17:30	1	0	0	4	4	16	25	12	9	10	1	0	0	0	82
17:45	1	0	0	1	10	11	20	19	15	5	1	0	0	0	83
	4	0	0	9	29	53	81	74	49	25	2	2	1	0	329
18:00	1	0	0	2	7	13	24	20	13	2	3	0	0	0	85
18:15	3	0	0	1	5	20	22	16	10	5	1	0	1	0	84
18:30	1	0	1	4	5	10	20	13	1	3	1	1	0	0	60
18:45	1	1	1	2	1	12	8	8	4	1	0	1	0	0	40
	6	1	2	9	18	55	74	57	28	11	5	2	1	0	269
19:00	0	0	0	2	11	9	9	4	3	4	0	0	0	0	42
19:15	0	1	2	2	5	8	10	7	6	0	0	0	0	0	41
19:30	0	0	0	2	2	12	6	4	5	1	2	0	0	0	34
19:45	0	0	0	3	2	11	2	6	2	1	1	0	0	0	28
	0	1	2	9	20	40	27	21	16	6	3	0	0	0	145
20:00	1	0	1	1	1	4	5	4	3	0	0	0	0	0	20
20:15	0	0	0	0	3	7	2	4	2	0	0	0	0	0	18
20:30	1	0	1	1	5	2	8	1	1	0	0	0	0	0	20
20:45	0	0	2	2	2	0	1	1	3	0	1	0	0	0	12
	2	0	4	4	11	13	16	10	9	0	1	0	0	0	70
21:00	0	0	1	0	1	3	2	3	5	0	0	0	0	0	15
21:15	0	0	1	2	3	8	6	5	3	0	0	0	0	0	28
21:30	0	0	0	0	3	5	3	1	1	0	0	0	0	0	13
21:45	0	0	0	0	2	0	5	4	1	1	0	0	0	0	13
	0	0	2	2	9	16	16	13	10	1	0	0	0	0	69
22:00	0	0	2	4	5	2	5	2	0	1	0	0	0	0	21
22:15	0	0	0	3	2	3	7	4	1	1	0	0	0	0	21
22:30	0	0	0	1	3	1	2	2	0	0	0	0	0	1	10
22:45	0	0	0	1	2	4	2	2	2	0	0	0	0	0	13
	0	0	2	9	12	10	16	10	3	2	0	0	0	1	65
23:00	0	0	1	1	2	2	1	1	1	0	0	0	0	0	9
23:15	0	0	0	2	1	3	1	0	2	1	1	0	0	0	11
23:30	0	0	2	2	1	2	1	1	1	1	0	0	0	0	11
23:45	0	0	0	0	0	5	2	2	1	0	0	0	0	0	10
	0	0	3	5	4	12	5	4	5	2	1	0	0	0	41
Total	32	8	27	73	184	348	409	363	229	95	27	8	5	2	1810

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
09/13/08	0	0	0	0	1	1	1	3	4	0	0	0	0	0	10
00:15	0	0	0	0	0	2	1	1	1	0	0	1	0	0	6
00:30	0	0	0	0	2	4	3	0	1	0	0	0	0	0	10
00:45	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3
	0	0	0	0	3	8	7	4	6	0	0	1	0	0	29
01:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
01:15	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
01:30	0	0	0	0	0	0	0	0	2	0	1	0	0	0	3
01:45	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
	0	0	0	0	1	1	1	2	2	0	1	0	0	0	8
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:15	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
02:30	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
02:45	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
	0	0	0	0	0	1	2	1	0	0	0	0	0	1	5
03:00	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
03:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
03:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
03:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	0	0	0	0	0	0	2	3	0	0	0	0	0	0	5
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
04:45	0	0	1	0	2	0	0	1	0	0	0	0	0	0	4
	0	0	2	0	3	0	0	1	1	0	0	0	0	0	7
05:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
05:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
05:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:45	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
	0	0	1	0	1	1	1	2	0	0	0	0	0	0	6
06:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
06:15	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
06:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:45	4	1	0	0	2	1	1	3	2	0	0	0	0	0	14
	4	1	1	1	2	1	2	3	3	0	0	0	0	0	18
07:00	0	0	2	0	1	0	0	1	0	0	0	0	0	0	4
07:15	0	0	0	0	3	2	0	4	2	0	0	0	0	0	11
07:30	0	0	0	1	2	1	1	1	1	0	2	1	0	0	10
07:45	0	0	1	1	2	3	4	3	1	0	2	0	0	1	18
	0	0	3	2	8	6	5	9	4	0	4	1	0	1	43
08:00	0	0	0	0	0	5	2	1	2	1	0	0	0	0	11
08:15	0	0	0	0	0	3	4	2	0	2	1	0	0	0	12
08:30	1	0	0	0	0	2	4	6	1	1	0	0	0	0	15
08:45	1	0	1	1	1	3	3	4	2	0	0	0	0	0	16
	2	0	1	1	1	13	13	13	5	4	1	0	0	0	54
09:00	0	0	1	0	1	8	3	1	0	1	0	0	0	0	15
09:15	0	0	1	2	2	3	5	8	4	1	0	1	0	0	27
09:30	0	0	0	0	3	3	6	2	1	2	0	0	1	0	18
09:45	1	0	0	1	4	3	4	4	5	0	0	0	0	0	22
	1	0	2	3	10	17	18	15	10	4	0	1	1	0	82
10:00	1	1	0	1	0	2	5	2	4	3	0	1	1	0	21
10:15	1	0	0	0	6	4	10	5	1	6	1	0	0	0	34
10:30	0	0	0	0	3	2	11	4	4	1	1	0	0	0	26
10:45	0	0	3	5	5	5	8	4	4	3	2	0	0	0	39
	2	1	3	6	14	13	34	15	13	13	4	1	1	0	120
11:00	3	0	1	2	3	5	5	6	4	1	0	0	0	0	30
11:15	0	0	2	4	7	11	6	3	2	0	0	0	0	0	35
11:30	1	0	0	3	3	2	4	7	0	0	0	0	0	0	20
11:45	0	0	0	0	4	10	8	6	1	0	2	0	0	0	31
	4	0	3	9	17	28	23	22	7	1	2	0	0	0	116
Total	13	2	16	22	60	89	108	90	51	22	12	4	2	2	493

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Williams Street
Location 2: South of Main Street
City, State: Grafton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start Time	1 20	21 22	23 24	25 26	27 28	29 30	31 32	33 34	35 36	37 38	39 40	41 42	43 44	45 999	Total
12 PM	0	0	0	2	3	10	6	4	2	0	0	0	0	0	27
12:15	2	0	2	1	10	8	5	6	2	1	0	0	0	0	37
12:30	0	0	3	4	5	9	8	3	1	0	0	0	0	0	33
12:45	2	0	4	4	6	12	4	3	2	1	0	0	0	0	38
	4	0	9	11	24	39	23	16	7	2	0	0	0	0	135
13:00	1	0	0	1	1	7	7	5	0	0	0	0	0	0	22
13:15	0	0	2	1	1	3	8	6	4	1	0	0	0	0	26
13:30	1	0	0	2	4	5	10	10	4	2	1	1	0	0	40
13:45	0	0	2	4	4	10	9	4	2	1	0	0	0	0	36
	2	0	4	8	10	25	34	25	10	4	1	1	0	0	124
14:00	0	0	1	4	2	7	5	6	5	0	0	1	0	0	31
14:15	0	1	0	1	5	4	8	9	6	1	0	0	0	0	35
14:30	0	1	2	3	5	11	4	5	1	1	0	0	0	0	33
14:45	1	0	1	1	6	6	9	10	4	1	1	0	0	0	40
	1	2	4	9	18	28	26	30	16	3	1	1	0	0	139
15:00	0	0	1	0	2	1	10	5	3	2	0	0	1	0	25
15:15	0	0	2	3	3	2	2	7	6	0	1	0	0	0	26
15:30	0	0	0	0	2	5	11	2	3	1	1	0	0	1	26
15:45	0	1	1	2	3	7	11	3	4	2	1	0	0	0	35
	0	1	4	5	10	15	34	17	16	5	3	0	1	1	112
16:00	0	0	0	0	1	12	10	8	8	1	1	0	0	0	41
16:15	1	1	1	1	4	4	12	9	3	1	1	2	0	0	40
16:30	1	0	0	1	1	4	3	5	9	2	1	0	0	0	27
16:45	2	0	0	4	3	6	8	6	3	4	0	0	0	1	37
	4	1	1	6	9	26	33	28	23	8	3	2	0	1	145
17:00	0	0	0	4	7	6	10	6	1	1	0	0	0	0	35
17:15	0	0	0	4	4	5	7	6	3	0	1	0	0	1	31
17:30	2	0	0	3	4	4	14	9	6	1	1	0	0	0	44
17:45	1	0	0	0	3	7	14	5	3	0	0	0	0	0	33
	3	0	0	11	18	22	45	26	13	2	2	0	0	1	143
18:00	0	0	1	4	3	4	13	7	4	1	2	0	0	0	39
18:15	0	0	2	0	2	3	11	6	7	2	0	0	0	0	33
18:30	0	0	0	2	3	7	7	6	2	1	1	0	0	0	29
18:45	0	0	0	6	5	7	4	1	4	0	2	0	0	0	29
	0	0	3	12	13	21	35	20	17	4	5	0	0	0	130
19:00	0	0	0	0	4	3	3	6	5	0	0	0	0	0	21
19:15	0	0	2	0	3	4	4	9	4	1	1	0	0	0	28
19:30	0	0	1	2	3	6	5	3	1	1	0	0	0	0	22
19:45	0	0	0	0	2	6	9	1	0	1	0	0	0	0	19
	0	0	3	2	12	19	21	19	10	3	1	0	0	0	90
20:00	0	0	1	1	1	6	3	5	3	0	0	0	0	0	20
20:15	0	1	1	2	4	3	6	2	3	0	1	0	0	0	23
20:30	0	1	1	2	7	4	4	5	3	1	0	0	0	0	28
20:45	0	0	1	1	3	1	7	1	3	1	0	0	0	0	18
	0	2	4	6	15	14	20	13	12	2	1	0	0	0	89
21:00	0	0	0	0	0	5	3	2	3	1	0	0	0	0	14
21:15	0	0	0	1	1	2	7	5	2	0	0	0	0	0	18
21:30	1	0	2	0	0	5	4	2	2	0	0	0	0	0	16
21:45	0	0	1	2	0	4	1	2	1	1	0	0	0	0	12
	1	0	3	3	1	16	15	11	8	2	0	0	0	0	60
22:00	0	0	0	1	5	4	5	4	2	1	0	0	0	0	22
22:15	0	0	0	0	3	3	6	2	0	2	0	0	0	1	17
22:30	0	0	0	2	1	4	5	0	1	0	0	0	0	0	13
22:45	0	0	1	0	1	1	1	2	1	1	0	0	0	0	8
	0	0	1	3	10	12	17	8	4	4	0	0	0	1	60
23:00	0	0	0	0	0	3	1	1	2	1	0	0	0	0	8
23:15	0	0	0	0	0	3	1	1	0	0	1	0	0	0	6
23:30	0	0	0	0	2	1	0	2	0	0	2	0	0	0	7
23:45	0	0	0	0	1	2	3	1	3	0	0	0	0	0	10
	0	0	0	0	3	9	5	5	5	1	3	0	0	0	31
Total	15	6	36	76	143	246	308	218	141	40	20	4	1	4	1258
Grand Total	164	33	147	306	720	1247	1403	1202	735	288	108	34	13	13	6413

15th Percentile :	27 MPH
50th Percentile :	31 MPH
85th Percentile :	35 MPH
95th Percentile :	37 MPH

Stats

Mean Speed(Average) :	31 MPH
10 MPH Pace Speed :	27-36 MPH
Number in Pace :	5307
Percent in Pace :	82.8%

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 *or www.datayourequested.com*

Location 1: Milford Road
Location 2: North of Rt. 122
City, State: Upton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
09/11/08	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
00:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
01:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
01:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:15	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
05:30	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:45	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
	0	14	4	0	1	0	0	0	0	0	0	0	0	0	19
06:00	0	5	3	0	0	0	0	0	0	0	0	0	0	0	8
06:15	1	8	1	0	0	1	0	0	0	0	0	0	0	1	12
06:30	0	5	2	0	1	0	0	0	0	0	0	0	0	0	8
06:45	0	17	5	0	1	0	0	0	0	0	0	0	0	0	23
	1	35	11	0	2	1	0	0	0	0	0	0	0	1	51
07:00	0	26	11	1	3	0	0	0	0	0	0	0	0	0	41
07:15	0	16	11	0	2	1	0	0	0	0	0	0	0	0	30
07:30	1	31	7	1	0	0	0	0	0	0	0	0	0	1	41
07:45	0	23	7	0	1	0	0	0	1	0	0	0	0	2	34
	1	96	36	2	6	1	0	0	1	0	0	0	0	3	146
08:00	0	24	9	0	3	2	0	1	0	1	0	0	0	3	43
08:15	0	22	6	1	1	0	0	0	0	0	0	0	0	0	30
08:30	0	25	16	0	2	0	0	0	1	0	0	0	0	1	45
08:45	0	20	4	0	1	0	0	0	0	0	0	0	0	1	26
	0	91	35	1	7	2	0	1	1	1	0	0	0	5	144
09:00	0	12	4	0	0	1	0	1	0	0	0	0	0	0	18
09:15	0	14	6	0	0	2	0	0	0	0	0	0	0	4	26
09:30	1	16	4	0	0	0	0	0	0	1	0	0	0	1	23
09:45	0	9	7	0	0	0	0	0	0	0	0	0	0	0	16
	1	51	21	0	0	3	0	1	0	1	0	0	0	5	83
10:00	0	11	2	0	1	0	0	1	0	0	0	0	0	1	16
10:15	2	18	2	0	0	0	0	0	0	0	0	0	0	0	22
10:30	0	12	5	0	1	0	0	0	0	0	0	0	0	0	18
10:45	2	19	6	0	0	0	0	0	0	0	0	0	0	2	29
	4	60	15	0	2	0	0	1	0	0	0	0	0	3	85
11:00	0	13	1	0	1	0	0	0	0	0	0	0	0	1	16
11:15	0	18	2	0	3	0	0	1	0	0	0	0	0	0	24
11:30	0	12	3	0	0	1	0	0	1	0	0	0	0	0	17
11:45	0	12	6	0	4	0	0	0	0	0	0	0	0	0	22
	0	55	12	0	8	1	0	1	1	0	0	0	0	1	79
Total	7	421	138	3	26	8	0	4	3	2	0	0	0	18	630
Percent	1.1%	66.8%	21.9%	0.5%	4.1%	1.3%	0.0%	0.6%	0.5%	0.3%	0.0%	0.0%	0.0%	2.9%	

Data Acquisition, Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Milford Road
Location 2: North of Rt. 122
City, State: Upton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
12 PM	1	19	5	0	1	0	0	1	0	0	0	0	0	0	27
12:15	2	9	6	0	3	0	0	0	0	0	0	0	0	1	21
12:30	0	23	6	0	1	0	0	1	1	0	0	0	0	1	33
12:45	0	12	7	1	2	0	0	0	0	0	0	0	0	0	22
	3	63	24	1	7	0	0	2	1	0	0	0	0	2	103
13:00	0	18	8	0	0	0	0	1	0	0	0	0	0	0	27
13:15	0	12	4	1	1	1	0	1	0	0	0	0	0	0	20
13:30	0	17	6	1	1	0	0	0	0	0	0	0	0	0	25
13:45	1	18	9	0	2	0	0	0	0	0	0	0	0	0	30
	1	65	27	2	4	1	0	2	0	0	0	0	0	0	102
14:00	0	10	5	0	0	0	0	2	0	0	0	0	0	0	17
14:15	0	20	9	1	3	0	0	0	0	0	0	0	0	0	33
14:30	2	19	15	1	2	1	0	1	0	0	0	0	0	0	41
14:45	1	38	8	0	0	0	0	0	0	0	0	0	0	2	49
	3	87	37	2	5	1	0	3	0	0	0	0	0	2	140
15:00	1	36	15	0	3	0	0	0	0	0	0	0	0	1	56
15:15	2	37	11	1	2	0	0	0	0	0	0	0	0	1	54
15:30	0	28	12	0	3	0	0	1	0	0	0	0	0	1	45
15:45	1	27	13	0	1	0	0	0	0	0	0	0	0	1	43
	4	128	51	1	9	0	0	1	0	0	0	0	0	4	198
16:00	1	31	12	0	5	0	0	0	0	0	0	0	0	1	50
16:15	1	46	13	0	3	0	0	1	0	0	0	0	0	0	64
16:30	1	46	12	0	2	0	0	0	3	0	0	0	0	0	64
16:45	2	41	10	0	1	0	0	0	0	0	0	0	0	2	56
	5	164	47	0	11	0	0	1	3	0	0	0	0	3	234
17:00	3	43	13	0	1	0	0	0	0	0	0	0	0	1	61
17:15	0	58	8	0	4	1	0	0	0	0	0	0	0	0	71
17:30	2	78	14	0	2	0	0	1	0	0	0	0	0	4	101
17:45	0	58	13	0	5	0	0	0	1	0	0	0	0	1	78
	5	237	48	0	12	1	0	1	1	0	0	0	0	6	311
18:00	2	60	8	0	1	0	0	0	0	0	0	0	0	2	73
18:15	1	48	13	0	1	0	0	0	0	0	0	0	0	0	63
18:30	0	44	6	0	0	0	0	0	0	0	0	0	0	0	50
18:45	0	39	7	0	1	0	0	0	1	0	0	0	0	0	48
	3	191	34	0	3	0	0	0	1	0	0	0	0	2	234
19:00	0	32	5	0	0	0	0	0	0	0	0	0	0	0	37
19:15	0	22	5	0	1	0	0	0	0	0	0	0	0	0	28
19:30	0	14	5	1	0	0	0	0	0	0	0	0	0	0	20
19:45	0	18	6	0	2	0	0	0	0	0	0	0	0	0	26
	0	86	21	1	3	0	0	0	0	0	0	0	0	0	111
20:00	0	29	5	0	0	0	0	0	0	0	0	0	0	0	34
20:15	0	16	4	0	0	0	0	0	0	0	0	0	0	0	20
20:30	0	29	2	0	0	0	0	0	0	0	0	0	0	1	32
20:45	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
	0	86	12	0	0	0	0	0	0	0	0	0	0	1	99
21:00	2	11	2	0	0	0	0	0	0	0	0	0	0	0	15
21:15	0	10	4	0	0	0	0	0	0	0	0	0	0	1	15
21:30	0	11	2	0	0	0	0	0	0	0	0	0	0	0	13
21:45	0	5	4	0	0	0	0	0	0	0	0	0	0	0	9
	2	37	12	0	0	0	0	0	0	0	0	0	0	1	52
22:00	0	7	4	0	0	0	0	0	0	0	0	0	0	0	11
22:15	0	17	2	0	0	0	0	0	0	0	0	0	0	0	19
22:30	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
22:45	0	2	3	0	0	0	0	0	0	0	0	0	0	0	5
	0	31	11	0	0	0	0	0	0	0	0	0	0	0	42
23:00	0	9	4	0	1	0	0	0	0	0	0	0	0	0	14
23:15	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
23:30	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
23:45	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
	0	28	8	0	1	0	0	0	0	0	0	0	0	0	37
Total	26	1203	332	7	55	3	0	10	6	0	0	0	0	21	1663
Percent	1.6%	72.3%	20.0%	0.4%	3.3%	0.2%	0.0%	0.6%	0.4%	0.0%	0.0%	0.0%	0.0%	1.3%	

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
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Location 1: Milford Road
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City, State: Upton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
09/12/08	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
00:15	0	4	0	1	0	0	0	0	0	0	0	0	0	0	5
00:30	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
00:45	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	0	11	1	1	0	0	0	0	0	0	0	0	0	0	13
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
	1	4	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:30	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	3	0	0	1	0	0	0	0	0	0	0	0	0	4
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
04:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
05:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
05:15	0	3	1	0	1	0	0	0	0	0	0	0	0	0	5
05:30	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
05:45	0	1	3	0	2	0	0	0	0	0	0	0	0	0	6
	0	10	7	0	3	0	0	0	0	0	0	0	0	0	20
06:00	0	8	2	0	0	0	0	0	0	0	0	0	0	0	10
06:15	0	6	2	0	1	1	0	0	0	0	0	0	0	0	10
06:30	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
06:45	1	16	2	0	1	1	0	0	0	0	0	0	0	1	22
	1	37	7	0	2	2	0	0	0	0	0	0	0	1	50
07:00	0	20	12	0	1	0	0	0	1	0	0	0	0	0	34
07:15	1	21	8	0	1	0	0	1	0	0	0	0	0	1	33
07:30	1	32	5	0	1	0	0	0	0	0	0	0	0	0	39
07:45	0	21	10	1	0	0	0	0	0	0	0	0	0	4	36
	2	94	35	1	3	0	0	1	1	0	0	0	0	5	142
08:00	0	33	6	0	3	0	0	0	0	0	0	0	0	2	44
08:15	0	24	7	0	0	0	0	0	0	0	0	0	0	0	31
08:30	0	26	6	0	1	0	0	1	0	0	0	0	0	0	34
08:45	0	19	3	0	2	1	0	0	0	0	0	0	0	0	25
	0	102	22	0	6	1	0	1	0	0	0	0	0	2	134
09:00	0	15	4	1	0	0	0	0	0	0	0	0	0	2	22
09:15	0	14	6	0	1	1	0	1	0	0	0	0	0	0	23
09:30	0	16	7	0	0	0	0	0	0	0	0	0	0	0	23
09:45	0	8	0	0	1	0	0	0	0	0	0	0	0	0	9
	0	53	17	1	2	1	0	1	0	0	0	0	0	2	77
10:00	0	16	5	0	0	0	0	0	0	0	0	0	0	0	21
10:15	0	21	6	1	1	0	0	0	0	0	0	0	0	2	31
10:30	0	13	5	1	0	0	0	0	0	0	0	0	0	0	19
10:45	0	6	5	0	0	0	0	0	0	0	0	0	0	0	11
	0	56	21	2	1	0	0	0	0	0	0	0	0	2	82
11:00	0	14	7	1	0	0	0	0	1	0	0	0	0	0	23
11:15	0	12	10	0	1	0	0	0	0	0	0	0	0	0	23
11:30	0	11	6	1	1	0	0	0	0	0	0	0	0	0	19
11:45	0	11	9	0	1	0	0	1	0	0	0	0	0	0	22
	0	48	32	2	3	0	0	1	1	0	0	0	0	0	87
Total	4	426	143	7	21	4	0	4	2	0	0	0	0	12	623
Percent	0.6%	68.4%	23.0%	1.1%	3.4%	0.6%	0.0%	0.6%	0.3%	0.0%	0.0%	0.0%	0.0%	1.9%	

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Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
12 PM	0	20	12	0	4	1	0	0	0	0	0	0	0	0	37
12:15	2	14	5	0	2	0	0	0	1	0	0	0	0	0	24
12:30	0	9	7	0	1	0	0	1	0	0	0	0	0	1	19
12:45	0	26	6	0	3	0	0	1	0	0	0	0	0	0	36
	2	69	30	0	10	1	0	2	1	0	0	0	0	1	116
13:00	1	18	5	0	0	0	0	0	1	0	0	0	0	0	25
13:15	0	17	8	0	0	0	0	2	1	0	0	0	0	0	28
13:30	0	12	8	0	1	0	0	0	0	0	0	0	0	0	21
13:45	1	21	7	0	1	0	0	0	0	0	0	0	0	1	31
	2	68	28	0	2	0	0	2	2	0	0	0	0	1	105
14:00	0	20	7	0	2	0	0	1	0	0	0	0	0	0	30
14:15	1	17	7	1	3	0	0	0	0	0	0	0	0	0	29
14:30	0	26	8	1	1	0	0	0	0	0	0	0	0	1	37
14:45	1	26	10	0	4	0	0	0	0	0	0	0	0	0	41
	2	89	32	2	10	0	0	1	0	0	0	0	0	1	137
15:00	4	45	15	1	5	0	0	0	0	0	0	0	0	1	71
15:15	2	35	14	4	4	0	0	1	0	0	0	0	0	1	61
15:30	1	32	4	0	6	0	0	0	0	0	0	0	0	0	43
15:45	1	31	5	0	1	0	0	0	0	0	0	0	0	2	40
	8	143	38	5	16	0	0	1	0	0	0	0	0	4	215
16:00	3	32	9	0	3	0	0	0	0	0	0	0	0	0	47
16:15	2	53	9	0	1	0	0	1	0	0	0	0	0	2	68
16:30	0	46	15	0	0	2	0	0	0	0	0	0	0	1	64
16:45	1	39	14	0	3	0	0	1	0	0	0	0	0	0	58
	6	170	47	0	7	2	0	2	0	0	0	0	0	3	237
17:00	1	56	13	0	3	0	0	0	0	0	0	0	0	0	73
17:15	0	46	19	0	0	0	0	0	0	0	0	0	0	1	66
17:30	0	55	14	0	3	0	0	0	0	0	0	0	0	3	75
17:45	0	57	18	1	1	0	0	0	0	0	0	0	0	1	78
	1	214	64	1	7	0	0	0	0	0	0	0	0	5	292
18:00	0	47	8	0	2	0	0	0	0	0	0	0	0	0	57
18:15	0	33	8	0	1	0	0	0	0	0	0	0	0	1	43
18:30	1	43	8	0	0	0	0	0	0	0	0	0	0	0	52
18:45	0	29	4	0	0	0	0	0	0	0	0	0	0	0	33
	1	152	28	0	3	0	0	0	0	0	0	0	0	1	185
19:00	0	25	6	0	1	0	0	0	0	0	0	0	0	0	32
19:15	0	27	3	0	0	0	0	0	1	0	0	0	0	1	32
19:30	0	25	5	0	0	0	0	0	0	0	0	0	0	2	32
19:45	0	12	4	0	1	0	0	0	0	0	0	0	0	1	18
	0	89	18	0	2	0	0	0	1	0	0	0	0	4	114
20:00	0	22	3	0	0	0	0	0	0	0	0	0	0	0	25
20:15	0	8	3	0	0	0	0	0	0	0	0	0	0	1	12
20:30	0	15	3	0	0	0	0	0	0	0	0	0	0	0	18
20:45	0	13	1	0	0	0	0	0	0	0	0	0	0	0	14
	0	58	10	0	0	0	0	0	0	0	0	0	0	1	69
21:00	0	10	3	0	0	0	0	0	0	0	0	0	0	0	13
21:15	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12
21:30	0	20	2	0	0	0	0	0	0	0	0	0	0	0	22
21:45	0	17	4	0	0	0	0	0	0	0	0	0	0	0	21
	0	57	11	0	0	0	0	0	0	0	0	0	0	0	68
22:00	0	9	4	0	0	0	0	0	0	0	0	0	0	0	13
22:15	0	7	6	0	0	0	0	1	0	0	0	0	0	0	14
22:30	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
22:45	0	8	2	0	0	0	0	0	0	0	0	0	0	0	10
	0	34	12	0	0	0	0	1	0	0	0	0	0	0	47
23:00	0	11	7	0	0	0	0	0	0	0	0	0	0	0	18
23:15	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
23:30	0	5	3	0	0	0	0	0	0	0	0	0	0	0	8
23:45	0	7	5	0	0	0	0	0	0	0	0	0	0	0	12
	0	27	16	0	0	0	0	0	0	0	0	0	0	0	43
Total	22	1170	334	8	57	3	0	9	4	0	0	0	0	21	1628
Percent	1.4%	71.9%	20.5%	0.5%	3.5%	0.2%	0.0%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	1.3%	

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09/13/08	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
00:15	0	3	2	0	0	0	0	0	0	0	0	0	0	1	6
00:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
00:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	0	14	3	0	0	0	0	0	0	0	0	0	0	1	18
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
01:45	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
	0	5	1	1	0	0	0	0	0	0	0	0	0	0	7
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:15	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
06:30	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
06:45	0	9	1	0	0	0	0	0	0	0	0	0	0	1	11
	0	19	2	0	0	0	0	0	0	0	0	0	0	1	22
07:00	0	7	4	0	1	0	0	0	0	0	0	0	0	0	12
07:15	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
07:30	0	9	7	0	0	0	0	0	0	0	0	0	0	0	16
07:45	0	6	7	0	0	0	0	0	0	0	0	0	0	0	13
	0	31	20	0	1	0	0	0	0	0	0	0	0	0	52
08:00	0	14	4	0	0	0	0	0	0	0	0	0	0	0	18
08:15	0	17	3	0	1	0	0	0	0	0	0	0	0	0	21
08:30	0	21	10	0	0	0	0	0	0	0	0	0	0	0	31
08:45	0	20	4	0	0	0	0	1	0	0	0	0	0	1	26
	0	72	21	0	1	0	0	1	0	0	0	0	0	1	96
09:00	0	19	3	0	1	0	0	0	0	0	0	0	0	0	23
09:15	1	12	12	0	2	0	0	0	0	0	0	0	0	0	27
09:30	0	27	6	0	1	0	0	0	0	0	0	0	0	1	35
09:45	0	28	5	0	0	0	0	0	0	0	0	0	0	0	33
	1	86	26	0	4	0	0	0	0	0	0	0	0	1	118
10:00	0	26	10	0	0	0	0	0	0	0	0	0	0	0	36
10:15	1	32	8	0	1	1	0	0	0	0	0	0	0	1	44
10:30	0	31	9	0	1	0	0	0	0	0	0	0	0	0	41
10:45	0	29	7	0	0	0	0	0	0	0	0	0	0	0	36
	1	118	34	0	2	1	0	0	0	0	0	0	0	1	157
11:00	0	31	12	0	1	1	0	0	0	0	0	0	0	0	45
11:15	0	17	12	0	0	0	0	0	0	0	0	0	0	1	30
11:30	1	31	9	0	1	0	0	0	0	0	0	0	0	0	42
11:45	2	29	3	0	2	0	0	0	0	0	0	0	0	0	36
	3	108	36	0	4	1	0	0	0	0	0	0	0	1	153
Total	5	468	146	1	12	2	0	1	0	0	0	0	0	6	641
Percent	0.8%	73.0%	22.8%	0.2%	1.9%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	

Data Acquisition, Transformation & Analysis, Inc.

50 Alden Avenue
Belchertown, MA 01007
888-389-9524 or www.datayourequested.com

Location 1: Milford Road
Location 2: North of Rt. 122
City, State: Upton, MA

Date Start: 11-Sep-08
Site Code:

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
12 PM	0	19	6	0	0	0	0	2	0	0	0	0	0	1	28
12:15	1	28	4	0	0	0	0	0	0	0	0	0	0	0	33
12:30	0	27	4	0	1	1	0	0	0	0	0	0	0	0	33
12:45	0	38	8	0	1	0	0	0	0	0	0	0	0	0	47
	1	112	22	0	2	1	0	2	0	0	0	0	0	1	141
13:00	0	25	7	0	0	0	0	0	0	0	0	0	0	0	32
13:15	1	21	12	0	0	0	0	0	0	0	0	0	0	0	34
13:30	2	26	5	0	0	0	0	0	0	0	0	0	0	1	34
13:45	1	24	6	0	0	0	0	0	0	0	0	0	0	1	32
	4	96	30	0	0	0	0	0	0	0	0	0	0	2	132
14:00	0	28	6	0	1	0	0	0	0	0	0	0	0	0	35
14:15	1	29	8	0	0	0	0	0	0	0	0	0	0	0	38
14:30	0	29	7	0	0	0	0	0	0	0	0	0	0	0	36
14:45	1	26	9	0	1	0	0	0	0	0	0	0	0	0	37
	2	112	30	0	2	0	0	0	0	0	0	0	0	0	146
15:00	0	16	7	0	0	0	0	0	0	0	0	0	0	0	23
15:15	1	22	8	0	0	1	0	1	0	0	0	0	0	1	34
15:30	0	23	3	0	0	0	0	0	0	0	0	0	0	0	26
15:45	0	32	6	0	0	0	0	0	0	0	0	0	0	0	38
	1	93	24	0	0	1	0	1	0	0	0	0	0	1	121
16:00	2	29	9	0	0	0	0	0	0	0	0	0	0	0	40
16:15	0	28	5	0	0	0	0	0	0	0	0	0	0	0	33
16:30	1	34	3	0	1	0	0	1	0	0	0	0	0	0	40
16:45	0	20	6	0	0	0	0	0	0	0	0	0	0	0	26
	3	111	23	0	1	0	0	1	0	0	0	0	0	0	139
17:00	0	23	5	0	0	0	0	0	0	0	0	0	0	1	29
17:15	0	38	3	0	1	0	0	0	0	0	0	0	0	1	43
17:30	0	23	5	0	1	0	0	0	0	0	0	0	0	0	29
17:45	1	28	5	0	1	0	0	0	0	0	0	0	0	1	36
	1	112	18	0	3	0	0	0	0	0	0	0	0	3	137
18:00	3	25	1	0	1	0	0	0	0	0	0	0	0	0	30
18:15	0	31	5	0	1	0	0	0	0	0	0	0	0	0	37
18:30	1	25	6	0	0	0	0	0	0	0	0	0	0	2	34
18:45	0	20	4	0	1	0	0	0	0	0	0	0	0	0	25
	4	101	16	0	3	0	0	0	0	0	0	0	0	2	126
19:00	2	23	5	0	0	0	0	0	0	0	0	0	0	0	30
19:15	0	22	5	0	0	0	0	0	0	0	0	0	0	0	27
19:30	2	12	4	0	0	0	0	0	0	0	0	0	0	0	18
19:45	0	15	3	0	0	0	0	0	0	0	0	0	0	0	18
	4	72	17	0	0	0	0	0	0	0	0	0	0	0	93
20:00	0	16	1	0	0	0	0	1	0	0	0	0	0	0	18
20:15	0	11	5	0	0	0	0	0	0	0	0	0	0	0	16
20:30	1	15	5	0	0	0	0	0	0	0	0	0	0	2	23
20:45	0	12	3	0	0	0	0	0	0	0	0	0	0	1	16
	1	54	14	0	0	0	0	1	0	0	0	0	0	3	73
21:00	0	12	3	0	0	0	0	0	0	0	0	0	0	0	15
21:15	0	13	5	0	0	0	0	0	0	0	0	0	0	0	18
21:30	0	12	5	0	1	0	0	0	0	0	0	0	0	0	18
21:45	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
	0	45	14	0	1	0	0	0	0	0	0	0	0	0	60
22:00	0	13	8	0	0	0	0	0	0	0	0	0	0	0	21
22:15	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
22:30	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
22:45	0	8	2	0	0	0	0	0	0	0	0	0	0	0	10
	0	37	14	0	0	0	0	0	0	0	0	0	0	0	51
23:00	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
23:15	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
23:30	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
23:45	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
	0	23	4	0	0	0	0	0	0	0	0	0	0	0	27
Total	21	968	226	0	12	2	0	5	0	0	0	0	0	12	1246
Percent	1.7%	77.7%	18.1%	0.0%	1.0%	0.2%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	
Grand Total	85	4656	1319	26	183	22	0	33	15	2	0	0	0	90	6431
Percent	1.3%	72.4%	20.5%	0.4%	2.8%	0.3%	0.0%	0.5%	0.2%	0.0%	0.0%	0.0%	0.0%	1.4%	

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Location 1: Milford Road
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City, State: Upton, MA

Date Start: 11-Sep-08
Site Code:

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
09/11/08	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
00:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
00:30	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
00:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
03:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
04:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
04:45	0	7	1	0	1	0	0	0	0	0	0	0	0	0	9
	0	14	2	0	2	0	0	0	0	0	0	0	0	0	18
05:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
05:15	0	7	3	0	1	0	0	0	1	0	0	0	0	0	12
05:30	0	11	4	0	0	1	0	0	0	0	0	0	0	0	16
05:45	1	15	6	0	2	0	0	0	0	0	0	0	0	0	24
	1	36	15	0	3	1	0	0	1	0	0	0	0	0	57
06:00	0	17	4	0	0	0	0	0	0	0	0	0	0	0	21
06:15	0	39	12	1	2	1	0	1	0	0	0	0	0	0	56
06:30	1	28	15	1	4	0	0	1	0	0	0	0	0	0	50
06:45	1	52	11	1	1	0	0	0	0	0	0	0	0	0	66
	2	136	42	3	7	1	0	2	0	0	0	0	0	0	193
07:00	3	53	9	0	2	0	0	1	0	0	0	0	0	0	68
07:15	1	38	6	1	3	1	0	0	1	0	0	0	0	1	52
07:30	0	53	5	0	2	0	0	0	0	0	0	0	0	0	60
07:45	1	53	14	1	2	0	0	0	0	0	0	0	0	1	72
	5	197	34	2	9	1	0	1	1	0	0	0	0	2	252
08:00	2	44	6	0	2	0	0	0	0	0	0	0	0	2	56
08:15	1	46	8	0	5	1	0	0	0	0	0	0	0	0	61
08:30	0	43	4	0	2	0	0	1	0	0	0	0	0	0	50
08:45	1	31	7	0	1	1	0	0	1	0	0	0	0	1	43
	4	164	25	0	10	2	0	1	1	0	0	0	0	3	210
09:00	0	34	6	1	2	0	0	0	0	0	0	0	0	1	44
09:15	0	20	2	1	1	1	0	0	0	0	0	0	0	6	31
09:30	0	22	6	0	0	0	0	0	0	0	0	0	0	1	29
09:45	0	31	4	0	1	0	0	0	0	2	0	0	0	0	38
	0	107	18	2	4	1	0	0	0	2	0	0	0	8	142
10:00	1	12	3	0	0	0	0	0	0	0	0	0	0	1	17
10:15	0	17	1	0	1	0	0	0	1	0	0	0	0	0	20
10:30	0	21	9	0	0	0	0	0	0	0	0	0	0	0	30
10:45	1	13	2	0	0	0	0	0	0	0	0	0	0	0	16
	2	63	15	0	1	0	0	0	1	0	0	0	0	1	83
11:00	1	15	0	0	0	1	0	0	0	0	0	0	0	1	18
11:15	0	13	5	0	0	1	0	1	0	0	0	0	0	0	20
11:30	0	22	1	0	2	0	0	1	0	0	0	0	0	0	26
11:45	0	16	5	0	3	0	0	0	0	0	0	0	0	0	24
	1	66	11	0	5	2	0	2	0	0	0	0	0	1	88
Total	15	799	167	7	41	8	0	6	4	2	0	0	0	15	1064
Percent	1.4%	75.1%	15.7%	0.7%	3.9%	0.8%	0.0%	0.6%	0.4%	0.2%	0.0%	0.0%	0.0%	1.4%	

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Date Start: 11-Sep-08
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Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
12 PM	0	11	3	0	0	0	0	1	0	0	0	0	0	0	15
12:15	0	25	1	0	0	1	0	0	0	0	0	0	0	0	27
12:30	0	17	5	0	3	0	0	2	0	0	0	0	0	0	27
12:45	0	20	1	1	0	0	0	0	0	0	0	0	0	0	22
	0	73	10	1	3	1	0	3	0	0	0	0	0	0	91
13:00	0	22	3	0	2	0	0	0	0	0	0	0	0	0	27
13:15	1	15	7	0	0	0	0	0	0	0	0	0	0	1	24
13:30	0	13	5	1	1	0	0	0	0	0	0	0	0	0	20
13:45	0	16	7	3	0	0	0	0	0	0	0	0	0	0	26
	1	66	22	4	3	0	0	0	0	0	0	0	0	1	97
14:00	0	17	12	0	3	0	0	1	0	0	0	0	0	0	33
14:15	0	18	1	1	2	1	0	0	0	0	0	0	0	0	23
14:30	0	24	4	0	0	0	0	0	0	0	0	0	0	0	28
14:45	2	39	5	1	1	1	0	0	0	0	0	0	0	1	50
	2	98	22	2	6	2	0	1	0	0	0	0	0	1	134
15:00	1	24	6	0	2	1	0	0	0	0	0	0	0	0	34
15:15	0	16	3	0	1	0	0	1	0	0	0	0	0	0	21
15:30	0	23	5	0	1	0	0	0	0	0	0	0	0	1	30
15:45	0	26	3	0	4	0	0	1	0	0	0	0	0	3	37
	1	89	17	0	8	1	0	2	0	0	0	0	0	4	122
16:00	0	35	5	0	1	0	0	0	0	0	0	0	0	1	42
16:15	1	25	3	0	2	0	0	0	0	0	0	0	0	0	31
16:30	0	31	7	0	2	0	0	1	0	0	0	0	0	0	41
16:45	0	28	2	0	0	0	0	0	0	0	0	0	0	2	32
	1	119	17	0	5	0	0	1	0	0	0	0	0	3	146
17:00	0	35	5	0	1	1	0	1	0	0	0	0	0	0	43
17:15	0	35	5	0	1	0	0	0	0	0	0	0	0	0	41
17:30	2	33	3	0	1	0	0	0	0	0	0	0	0	5	44
17:45	1	27	3	0	0	0	0	0	0	0	0	0	0	1	32
	3	130	16	0	3	1	0	1	0	0	0	0	0	6	160
18:00	2	25	2	0	1	0	0	0	0	0	0	0	0	3	33
18:15	0	35	4	0	2	0	0	0	0	0	0	0	0	0	41
18:30	0	27	3	0	1	0	0	0	0	0	0	0	0	0	31
18:45	0	22	1	0	0	0	0	0	0	0	0	0	0	0	23
	2	109	10	0	4	0	0	0	0	0	0	0	0	3	128
19:00	0	26	3	0	0	0	0	0	0	0	0	0	0	0	29
19:15	0	26	2	0	0	0	0	0	0	0	0	0	0	0	28
19:30	0	27	3	0	0	0	0	0	0	0	0	0	0	0	30
19:45	0	29	3	0	1	0	0	0	0	0	0	0	0	0	33
	0	108	11	0	1	0	0	0	0	0	0	0	0	0	120
20:00	1	17	1	0	1	0	0	0	0	0	0	0	0	0	20
20:15	0	9	3	0	0	0	0	0	0	0	0	0	0	0	12
20:30	0	18	1	0	0	0	0	0	0	0	0	0	0	0	19
20:45	0	18	2	0	0	0	0	0	0	0	0	0	0	0	20
	1	62	7	0	1	0	0	0	0	0	0	0	0	0	71
21:00	0	18	0	0	0	0	0	0	0	0	0	0	0	0	18
21:15	0	13	2	0	0	0	0	0	0	0	0	0	0	1	16
21:30	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
21:45	0	13	1	0	0	0	0	0	0	0	0	0	0	2	16
	0	53	3	0	0	0	0	0	0	0	0	0	0	3	59
22:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
22:15	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
22:30	1	9	3	0	0	0	0	0	0	0	0	0	0	0	13
22:45	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12
	1	35	7	0	0	0	0	0	0	0	0	0	0	0	43
23:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
23:15	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
23:30	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
23:45	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
	0	18	2	0	0	0	0	0	0	0	0	0	0	0	20
Total	12	960	144	7	34	5	0	8	0	0	0	0	0	21	1191
Percent	1.0%	80.6%	12.1%	0.6%	2.9%	0.4%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	

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Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
09/12/08	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
00:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
00:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
00:45	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
02:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
03:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	3	1	0	1	0	0	0	0	0	0	0	0	0	5
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
04:30	0	5	0	0	1	0	0	0	0	0	0	0	0	0	6
04:45	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	0	11	2	0	1	0	0	0	0	0	0	0	0	0	14
05:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	5
05:15	0	5	2	1	0	0	0	0	0	0	0	0	0	0	8
05:30	1	15	5	0	2	1	0	0	0	0	0	0	0	0	24
05:45	1	11	4	0	0	0	0	0	0	0	0	0	0	0	16
	2	33	14	1	2	1	0	0	0	0	0	0	0	0	53
06:00	0	20	1	0	1	0	0	0	0	0	0	0	0	0	22
06:15	0	35	6	0	1	0	0	0	0	0	0	0	0	0	42
06:30	1	40	14	1	1	0	0	1	0	0	0	0	0	0	58
06:45	0	42	8	0	4	0	0	0	0	0	0	0	0	1	55
	1	137	29	1	7	0	0	1	0	0	0	0	0	1	177
07:00	1	41	7	0	1	1	0	0	0	0	0	0	0	0	51
07:15	2	38	9	1	3	1	0	0	0	0	0	0	0	0	54
07:30	0	56	5	1	3	0	0	0	0	0	0	0	0	0	65
07:45	1	46	11	1	1	0	0	1	0	0	0	0	0	2	63
	4	181	32	3	8	2	0	1	0	0	0	0	0	2	233
08:00	0	45	4	1	2	0	0	1	0	0	0	0	0	2	55
08:15	1	36	5	0	3	1	0	0	0	0	0	0	0	0	46
08:30	0	29	4	0	3	0	0	0	0	0	0	0	0	0	36
08:45	2	36	9	0	1	0	0	0	1	0	0	0	0	0	49
	3	146	22	1	9	1	0	1	1	0	0	0	0	2	186
09:00	0	34	10	0	1	0	0	1	0	0	0	0	0	2	48
09:15	0	14	5	0	0	0	0	0	0	0	0	0	0	0	19
09:30	0	23	7	0	0	0	0	0	0	0	0	0	0	0	30
09:45	0	23	4	0	2	1	0	0	0	0	0	0	0	0	30
	0	94	26	0	3	1	0	1	0	0	0	0	0	2	127
10:00	0	17	5	0	0	0	0	0	0	0	0	0	0	0	22
10:15	1	18	5	0	0	0	0	0	0	0	0	0	0	2	26
10:30	0	17	5	0	0	0	0	0	0	0	0	0	0	0	22
10:45	0	12	9	0	3	0	0	0	0	0	0	0	0	0	24
	1	64	24	0	3	0	0	0	0	0	0	0	0	2	94
11:00	0	8	5	0	0	0	0	1	0	0	0	0	0	1	15
11:15	0	16	4	0	0	0	0	1	1	0	0	0	0	0	22
11:30	0	19	6	1	2	0	0	0	0	0	0	0	0	0	28
11:45	0	16	5	2	4	0	0	0	0	0	0	0	0	0	27
	0	59	20	3	6	0	0	2	1	0	0	0	0	1	92
Total	11	742	172	9	40	5	0	6	2	0	0	0	0	10	997
Percent	1.1%	74.4%	17.3%	0.9%	4.0%	0.5%	0.0%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	1.0%	

Data Acquisition,Transformation & Analysis, Inc.

50 Alden Avenue
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888-389-9524 or www.datayourequested.com

Location 1: Milford Road
Location 2: North of Rt. 122
City, State: Upton, MA

Date Start: 11-Sep-08
Site Code:

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
12 PM	0	21	3	0	2	0	0	2	0	0	0	0	0	0	28
12:15	0	22	5	1	0	0	0	0	0	0	0	0	0	0	28
12:30	0	10	3	0	1	1	0	0	0	0	0	0	0	0	15
12:45	0	23	2	0	1	0	0	0	0	1	0	0	0	0	27
	0	76	13	1	4	1	0	2	0	1	0	0	0	0	98
13:00	0	17	3	0	0	0	0	1	0	0	0	0	0	0	21
13:15	0	14	3	2	1	0	0	0	0	0	0	0	0	0	20
13:30	0	20	6	2	1	0	0	0	0	0	0	0	0	0	29
13:45	1	21	3	3	0	1	0	0	1	0	0	0	0	0	30
	1	72	15	7	2	1	0	1	1	0	0	0	0	0	100
14:00	0	25	2	0	1	0	0	0	0	0	0	0	0	0	28
14:15	1	15	3	0	0	0	0	0	0	0	0	0	0	1	20
14:30	0	18	7	0	0	0	0	0	0	0	0	0	0	0	25
14:45	1	26	12	0	4	2	0	0	0	0	0	0	0	1	46
	2	84	24	0	5	2	0	0	0	0	0	0	0	2	119
15:00	2	35	7	0	1	0	0	0	0	0	0	0	0	1	46
15:15	0	25	5	0	2	0	0	0	0	0	0	0	0	3	35
15:30	1	27	3	0	3	0	0	0	0	0	0	0	0	2	36
15:45	3	27	3	0	2	0	0	0	0	0	0	0	0	0	35
	6	114	18	0	8	0	0	0	0	0	0	0	0	6	152
16:00	1	24	2	0	1	0	0	0	0	0	0	0	0	1	29
16:15	1	24	7	0	3	0	0	0	0	0	0	0	0	3	38
16:30	1	31	5	0	0	0	0	1	0	0	0	0	0	2	40
16:45	0	23	3	0	1	0	0	0	0	0	0	0	0	1	28
	3	102	17	0	5	0	0	1	0	0	0	0	0	7	135
17:00	0	40	7	0	3	0	0	0	0	0	0	0	0	0	50
17:15	0	24	7	0	2	0	0	0	0	0	0	0	0	0	33
17:30	0	39	1	0	1	0	0	1	0	0	0	0	0	1	43
17:45	0	30	8	0	1	0	0	0	0	0	0	0	0	0	39
	0	133	23	0	7	0	0	1	0	0	0	0	0	1	165
18:00	1	36	6	0	1	0	0	0	0	0	0	0	0	2	46
18:15	0	34	5	0	0	0	0	0	0	0	0	0	0	2	41
18:30	0	35	3	1	0	0	0	0	0	0	0	0	0	0	39
18:45	0	33	3	0	0	0	0	0	0	0	0	0	0	0	36
	1	138	17	1	1	0	0	0	0	0	0	0	0	4	162
19:00	0	30	5	0	1	0	0	0	0	0	0	0	0	0	36
19:15	0	27	4	0	0	0	0	0	0	0	0	0	0	1	32
19:30	0	28	5	0	1	0	0	0	1	0	0	0	0	3	38
19:45	0	7	2	0	0	0	0	0	0	0	0	0	0	1	10
	0	92	16	0	2	0	0	0	1	0	0	0	0	5	116
20:00	0	16	4	0	0	0	0	0	0	0	0	0	0	0	20
20:15	0	15	3	0	0	0	0	0	1	0	0	0	0	1	20
20:30	0	17	1	0	0	0	0	0	0	0	0	0	0	0	18
20:45	0	19	3	0	0	0	0	0	0	0	0	0	0	0	22
	0	67	11	0	0	0	0	0	1	0	0	0	0	1	80
21:00	0	17	1	0	0	0	0	0	0	0	0	0	0	0	18
21:15	0	13	1	0	0	0	0	0	0	0	0	0	0	0	14
21:30	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
21:45	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	0	45	3	0	0	0	0	0	0	0	0	0	0	0	48
22:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
22:15	0	15	2	0	0	0	0	0	0	0	0	0	0	0	17
22:30	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
22:45	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	0	37	4	0	0	0	0	0	0	0	0	0	0	0	41
23:00	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
23:15	0	7	0	0	0	0	0	0	1	0	0	0	0	0	8
23:30	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
23:45	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	0	27	0	0	0	0	0	0	1	0	0	0	0	0	28
Total	13	987	161	9	34	4	0	5	4	1	0	0	0	26	1244
Percent	1.0%	79.3%	12.9%	0.7%	2.7%	0.3%	0.0%	0.4%	0.3%	0.1%	0.0%	0.0%	0.0%	2.1%	

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Date Start: 11-Sep-08
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Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
09/13/08	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
00:15	0	1	1	0	0	0	0	0	0	0	0	0	0	1	3
00:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
00:45	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	0	13	1	0	0	0	0	0	0	0	0	0	0	1	15
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
02:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
02:45	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
04:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
05:30	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
05:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
	0	7	5	0	0	0	0	0	0	0	0	0	0	0	12
06:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
06:15	0	3	3	0	0	0	0	0	0	0	0	0	0	0	6
06:30	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
06:45	1	6	1	0	0	1	0	0	0	0	0	0	0	0	9
	1	21	6	0	0	1	0	0	0	0	0	0	0	0	29
07:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
07:15	0	10	3	0	0	0	0	0	0	0	0	0	0	0	13
07:30	0	8	4	0	1	0	0	1	0	0	0	0	0	0	14
07:45	0	12	2	0	1	0	0	0	0	0	0	0	0	0	15
	0	36	11	0	2	0	0	1	0	0	0	0	0	0	50
08:00	0	14	0	1	1	0	0	0	0	0	0	0	0	0	16
08:15	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12
08:30	0	16	7	0	0	0	0	0	0	0	0	0	0	0	23
08:45	0	22	5	0	0	0	0	0	0	0	0	0	0	1	28
	0	62	14	1	1	0	0	0	0	0	0	0	0	1	79
09:00	0	16	5	0	1	0	0	0	0	0	0	0	0	0	22
09:15	0	24	5	0	0	0	0	0	0	0	0	0	0	0	29
09:30	0	20	4	0	0	1	0	0	0	0	0	0	0	1	26
09:45	0	21	3	0	2	0	0	0	0	0	0	0	0	0	26
	0	81	17	0	3	1	0	0	0	0	0	0	0	1	103
10:00	0	18	7	0	0	0	0	0	0	0	0	0	0	0	25
10:15	1	31	3	0	1	0	0	0	0	0	0	0	0	1	37
10:30	0	31	6	0	0	0	0	0	0	0	0	0	0	1	38
10:45	0	32	7	0	1	0	0	0	0	0	0	0	0	0	40
	1	112	23	0	2	0	0	0	0	0	0	0	0	2	140
11:00	0	24	1	0	0	0	0	0	0	0	0	0	0	0	25
11:15	1	26	10	0	2	0	0	0	0	0	0	0	0	0	39
11:30	0	29	3	0	1	0	0	0	0	0	0	0	0	0	33
11:45	0	33	5	0	2	0	0	0	0	0	0	0	0	0	40
	1	112	19	0	5	0	0	0	0	0	0	0	0	0	137
Total	3	462	100	1	14	2	0	1	0	0	0	0	0	5	588
Percent	0.5%	78.6%	17.0%	0.2%	2.4%	0.3%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	

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12 PM	0	32	5	0	0	0	0	0	0	0	0	0	0	0	37
12:15	2	23	6	0	0	0	0	0	0	0	0	0	0	1	32
12:30	1	32	4	0	1	0	0	0	0	0	0	0	0	1	39
12:45	0	38	4	0	2	0	0	0	0	0	0	0	0	0	44
	3	125	19	0	3	0	0	0	0	0	0	0	0	2	152
13:00	0	27	4	0	0	0	0	0	0	0	0	0	0	0	31
13:15	0	35	3	0	0	0	0	0	0	0	0	0	0	0	38
13:30	2	24	2	0	0	0	0	0	0	0	0	0	0	1	29
13:45	0	28	2	1	0	0	0	0	0	0	0	0	0	0	31
	2	114	11	1	0	0	0	0	0	0	0	0	0	1	129
14:00	0	21	3	0	1	0	0	0	0	0	0	0	0	0	25
14:15	0	36	4	0	0	0	0	0	0	0	0	0	0	1	41
14:30	0	28	4	0	1	0	0	0	0	0	0	0	0	1	34
14:45	0	28	6	0	0	0	0	0	0	0	0	0	0	0	34
	0	113	17	0	2	0	0	0	0	0	0	0	0	2	134
15:00	0	29	1	0	1	0	0	0	0	0	0	0	0	2	33
15:15	1	37	2	0	2	0	0	0	0	0	0	0	0	2	44
15:30	0	42	1	0	0	0	0	0	0	0	0	0	0	0	43
15:45	0	22	2	0	1	0	0	0	0	0	0	0	0	0	25
	1	130	6	0	4	0	0	0	0	0	0	0	0	4	145
16:00	0	24	2	0	0	0	0	0	0	0	0	0	0	1	27
16:15	1	23	2	0	0	0	0	0	0	0	0	0	0	0	26
16:30	1	36	3	0	0	0	0	0	0	0	0	0	0	0	40
16:45	1	33	4	0	0	0	0	0	0	0	0	0	0	0	38
	3	116	11	0	0	0	0	0	0	0	0	0	0	1	131
17:00	0	34	5	0	0	0	0	0	0	0	0	0	0	0	39
17:15	2	27	5	0	0	0	0	0	0	0	0	0	0	0	34
17:30	1	31	4	0	0	0	0	0	0	0	0	0	0	0	36
17:45	0	34	3	0	0	0	0	0	0	0	0	0	0	1	38
	3	126	17	0	0	0	0	0	0	0	0	0	0	1	147
18:00	0	18	6	0	0	0	0	0	0	0	0	0	0	0	24
18:15	0	19	2	0	0	0	0	0	0	0	0	0	0	1	22
18:30	1	19	2	0	0	0	0	0	0	0	0	0	0	0	22
18:45	0	23	5	0	1	0	0	0	0	0	0	0	0	0	29
	1	79	15	0	1	0	0	0	0	0	0	0	0	1	97
19:00	0	24	3	0	0	0	0	0	0	0	0	0	0	0	27
19:15	0	24	3	0	0	0	0	0	0	0	0	0	0	0	27
19:30	0	15	0	0	1	0	0	0	0	0	0	0	0	0	16
19:45	0	17	1	0	0	0	0	0	0	0	0	0	0	0	18
	0	80	7	0	1	0	0	0	0	0	0	0	0	0	88
20:00	0	16	1	0	0	0	0	0	0	0	0	0	0	0	17
20:15	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
20:30	0	12	2	0	0	0	0	0	0	0	0	0	0	2	16
20:45	0	14	1	0	0	0	0	0	0	0	0	0	0	1	16
	0	54	5	0	0	0	0	0	0	0	0	0	0	3	62
21:00	0	14	1	0	0	0	0	0	0	0	0	0	0	1	16
21:15	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
21:30	0	16	5	0	0	0	0	0	0	0	0	0	0	1	22
21:45	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12
	0	52	9	0	0	0	0	0	0	0	0	0	0	2	63
22:00	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
22:15	0	11	1	0	1	0	0	0	0	0	0	0	0	0	13
22:30	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
22:45	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
	0	36	4	0	1	0	0	0	0	0	0	0	0	0	41
23:00	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
23:15	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
23:30	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
23:45	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
	0	32	1	0	0	0	0	0	0	0	0	0	0	0	33
Total	13	1057	122	1	12	0	0	0	0	0	0	0	0	17	1222
Percent	1.1%	86.5%	10.0%	0.1%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	
Grand Total	67	5007	866	34	175	24	0	26	10	3	0	0	0	94	6306
Percent	1.1%	79.4%	13.7%	0.5%	2.8%	0.4%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	1.5%	