Engineering Report - Traffic Assessment

Dix Avenue/Sagamore Street Intersection Evaluation

City of Glens Falls Warren County, New York

November 26, 2012



Engineers Environmental Professionals Land Surveyors Landscape Architects Planners

Prepared for:

Adirondack/Glens Falls Transportation Council Washington County Municipal Center 11 South Street, Suite 203 Glens Falls, NY 12801 Engineering Report - Traffic Assessment

Dix Avenue/Sagamore Street Intersection Evaluation

City of Glens Falls Warren County, New York

> November 26, 2012 Chazen Project #: 31223.00



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TABLE OF CONTENTS

1.0	E	XECUTIVE SUMMARY1
2.0	E	XISTING CONDITIONS
	2.1	Intersection Description2
		Figure 1: Area Map3
		Figure 2: Study Intersection4
	2.2	Vehicular, Pedestrian and Bicycle Volumes5
		Figure 3: 2012 June AM Peak Traffic Volumes6
		Figure 4: 2012 June PM Peak Traffic Volumes7
		Figure 5: 2012 June Saturday Peak Traffic Volumes8
		Figure 6: 2012 August PM Peak Traffic Volumes9
		Figure 7: 2012 August Saturday Peak Traffic Volumes10
	2.3	Accident History 11
	2.4	Intersection Operation11
3.0	т	RAFFIC SIGNAL WARRANT ANALYSIS (TSWA)12
	3.1	Methodology 12
	3.2	Traffic Volumes 12
	3.3	Results

		Table 1: Signa	l Warrant Analysis13
	3.4	Traffic Signal	Operation Analysis 14
		Table 2: Level	of Service Summary14
4.0	I	NTERSECTION I	MPROVEMENTS 15
	4.1	Narrowing of A	Approach Widths15
	4.2	Relocation of	Dix Avenue Pedestrian/Bike Path Crossing15
		Figure 8: Reco	onfigured Dix Avenue and Relocated Bike Path Crossing - Plan View16
		Figure 8A: Re	configured Dix Avenue and Relocated Bike Path Crossing - Street View17
	4.3	Upgrade Sign	ng and Pavement Markings18
	4.4	Traffic Signal.	
		Figure 9: Traf	fic Signal Installation - Plan View19
		Figure 9A: Tra	ffic Signal Installation - Street View20
5.0	С		ND RECOMMENDATIONS 21
		Appendix A:	Manual Turning Movement Count Data
		Appendix B:	Accident Data
		Appendix C:	Synchro Data - 2012 Existing Unsignalized
		Appendix D:	Automatic Traffic Recorder Data - 24/7 Counts
		Appendix E:	Traffic Signal Warrant Analysis
		Appendix F:	Synchro Data - Traffic Signal

SECTION 1.0 EXECUTIVE SUMMARY

The Adirondack/Glens Falls Transportation Council (AGFTC), on behalf of the City of Glens Falls, tasked The Chazen Companies to perform a Traffic Assessment – Intersection Evaluation at the intersection of Dix Avenue and Sagamore Street/Walnut Street in the City of Glens Falls. The assessment developed potential geometric and operational improvements to the intersection, aided by intersection operation analyses and a traffic signal warrant analysis.

The intersection is an un-signalized four-way intersection located in the eastern central portion of the City of Glens Falls. Dix Avenue runs east/west connecting Ridge Street (State Route 9L) to Quaker Road (State Route 254) and as such serves as a commuter route. Sagamore Street approaches from the north and Walnut Street from the south and are both under STOP sign control. The City of Glens Falls city wide speed limit of 30 mph is in effect at the subject intersection. The Warren County Bikeway enters the intersection from the north, just west of Sagamore Street, crosses Dix Avenue on a northwest to southeast alignment, and then crosses Walnut Street on the same orientation slightly south of the intersection.

To facilitate the overall traffic assessment, traffic counts were conducted in June of 2012, while schools were in session, and in August of 2012 when schools were not in session. Twenty four (24) hour counts were conducted for 7 consecutive days (June 6 to June 13, 2012). Manual traffic turning movement counts as well as pedestrian and bicyclist counts were also completed during both time frames

Potential intersection improvements were investigated. These included geometric improvements as well as the installation of a traffic signal. The geometric improvements include the narrowing of travel lanes for the Dix Road approaches to the intersection and realignment of the pedestrian/bikeway crossing on eastbound approach of Dix Avenue. New and/or relocated signing and pavement markings would accompany these improvements.

The results of the Traffic Signal Warrant Analysis indicated that the intersection meets two of the accepted national traffic volume warrants for the installation of a traffic signal. The conformance to these warrants does not constitute a mandate or obligation to install a traffic signal as these warrants must be considered in conjunction with other factors and the final decision based on engineering judgment as well the quantitative results.

Based on the overall assessment it is recommended that the physical improvements noted and discussed in detail in Section 4 be implemented. It is also recommended that the installation of a traffic signal not be implemented at this time. The effect of the physical intersection improvements should be studied prior to further consideration of a traffic signal.

SECTION 2.0 EXISTING CONDITIONS

Section 2.1 Intersection Description

The subject intersection is an un-signalized four-way intersection located in the eastern central portion of the City of Glens Falls. Dix Avenue provides an east/west access from New York State Route 9L (Ridge Street) to the west to New York State Route 254 (Quaker Road) to the east. Sagamore Street approaches Dix Avenue from the north, continuing on to the south as Walnut Street. Both Sagamore Street and Walnut Street approaches are under STOP sign control. Stop bars at these two approaches are non-existent. All the approaches consist of a one lane approach with a 4 foot sidewalks on each side of the approach as well as an 8 foot buffer strip, either grass/dirt or asphalt, between the sidewalks and roadways. The buffer strip is routinely used for parking. There are sections on various approaches with curbing. However the reveal is minimal due to repaving operations. A No Parking restriction sign is located on the north side of Dix Avenue for the immediate section west of Sagamore Street. The City of Glens Falls city wide speed limit of 30 mph is in effect in the study area.

The Warren County Bikeway enters the intersection from the north, approximately 55 feet west (Dix Avenue centerline) of Sagamore Street, crossing Dix Avenue on a skew (northwest to southeast alignment). The bikeway continues through the southwest corner and then crosses Walnut Street on a more pronounced skew (northwest to southeast alignment) 80 feet south (Walnut Street centerline) of the intersection. The Bikeway is delineated in the roadways by pavement markings as a 10 foot crosshatched crosswalk. Warning signs, consisting of pedestrian/bicycle symbols with lime green background, are installed prior to the two crossings on the appropriate approaches. It is noted that the posting distances vary due to the location of the crossing in relation to the intersection proper. The crossing on Dix Avenue also has a "State Law Yield to Pedestrian in Crosswalk" sign located in the middle of the approach in the crosswalk. All bikeway approaches to Dix Avenue and Walnut Street are controlled by small STOP signs. In addition signing is prevalent on the bikeway proper near the roadways for parking restrictions and no use of motor vehicles.

Commercial buildings occupy three of the four intersection quadrants, with residences, offset from the curb line, in the southwest quadrant. A business center occupies the northeast quadrant with a Price Chopper grocery store in the southeast quadrant. The northwest quadrant is occupied by Cooper's Cave Ale Company. In addition to a restaurant, with its entrance on Sagamore Street, this business includes an ice cream shop serving customers along the bikeway side of the building. The southwest corner adjacent to the intersection is a triangular grass area containing the Bikeway.

Figure 1 shows the project site location relative to the general geographic area. Figure 2 shows the study intersection location, its existing layout and the surrounding buildings and homes.





Date: September 2012

Figure: #2

Section 2.2 Vehicular, Pedestrian and Bicycle Volumes

Traffic counts were conducted in June and August of 2012 to capture current traffic patterns and volumes while local schools were in session and after school closing for the summer. The hourly traffic volumes were collected by Automatic Traffic Recorders (ATRs) from Wednesday, June 6, 2012 to Wednesday, June 13, 2012. Manual traffic turning movement counts as well as pedestrian and bicyclist counts were also undertaken in June during the morning (7:00AM to 9:00AM on Wednesday June 13th) and afternoon (4:00PM to 6:00PM on Tuesday June 12th) weekday commuter peak hours, as well as during two different Saturday time periods (11:00AM to 1:00PM and 2:00PM to 4:00PM on June 16th). Manual counts were repeated in August for the weekday afternoon (4:00PM to 6:00 PM on August 4th) as these represented the highest traffic volumes from the June counts. Both pedestrians and bicyclists use the marked crossings (bike paths) and both also cross the intersection roadways using unmarked corner to corner travel paths.

Figures 3 through 7 present the results of the manual counts for vehicles, pedestrians and bicyclists during each relevant peak hour. The volume data from the manual counts is presented in Appendix A to this report.

The peak period for vehicular traffic was 4:15PM to 5:15PM weekday in June while local schools were in session. Pedestrian traffic peaked during both the weekday pm peak hour (4:15PM to 5:15PM) and the June Saturday peak hour (11:00AM to 12:00PM). The use of the bike path peaked during the August Saturday peak hour (11:00AM to 12:00PM), but was fairly consistent except for the weekday morning peak hour which was minimal.











Section 2.3 Accident History

Accident data for the study intersection was obtained from NYSDOT/NYSDMV for the latest available 3-year period, from 01/01/2009 to 12/31/2011. During this period there were a total of 22 accidents at the study intersection; nine in 2009, six in 2010 and seven in 2011. The accident history shows 10 of the 22 accidents involved a collision with a parked vehicle, 9 of which involved a parking maneuver. There were 6 accidents involving vehicles turning to the path on oncoming vehicles.

There were no reported accidents involving vehicles and pedestrians and/or bicyclists at this location within the three year study period. Details of the three year accident history, with accident summaries and tables, are present in the Appendix B to this report.

Section 2.4 Intersection Operation

Currently the northbound (Walnut Street) and southbound (Sagamore Street) approaches are under STOP sign control, while Dix Avenue is unconstrained by any traffic control. An operational analysis of the intersection, operating as a two-way stop intersection during the June weekday evening peak, was undertaken. The analysis utilized the latest version of Synchro software by McTrans¹. This analysis determines the operational efficiency of the intersection associated with the prescribed traffic control by estimating the vehicle delay experienced. The results of this analysis are presented in Appendix C to this report and indicate that Dix Avenue operates at LOS A as would be expected under free flow operation. Walnut Street from the south operates at LOS C with 20.8 seconds vehicle delay. The overall intersection vehicle delay is 4.6 seconds indicating acceptable intersection operation during the busiest peak period. The results of the two-way stop sign operational analysis is presented in Table 2 (page 14), and are compared there to the results of the operational analysis of the intersection under traffic signal control.

¹ Synchro 8 Software

SECTION 3.0 TRAFFIC SIGNAL WARRANT ANALYSIS (TSWA)

Section 3.1 Methodology

The TSWA was conducted in accordance with procedures documented in the National Manual on Uniform Traffic Control Devices, 2009 Edition (MUTCD) by the Federal Highway Administration. The analysis process consists of comparing the current traffic conditions with the eight prescribed traffic signal warrants for an average weekday. Warrants 5, 6 and 8 were not evaluated due to a lack of available data or non-relevance. The defined warrants are listed as follows:

Warrant 1:	Eight Hour Vehicular Volumes	Evaluated
Warrant 2:	Four Hour Vehicular Volumes	Evaluated
Warrant 3:	Peak Hour	Evaluated
Warrant 4:	Pedestrian Volumes	Evaluated
Warrant 5:	School Crossing	Not Evaluated
Warrant 6:	Coordinated Signal System	Not Evaluated
Warrant 7:	Crash Experience	Evaluated
Warrant 8:	Roadway Network	Not Evaluated

Section 3.2 Existing Traffic Volumes

The TSWA is based on the 24 hour counts conducted from Wednesday June 6, 2012 to Wednesday June 13, 2012, contained in Appendix D to this report, and the manual pedestrian/bicyclist counts taken in June 2012, are contained in Appendix A.

Section 3.3 Results

The traffic volumes at the Dix Avenue/Sagamore Street intersection exceeded the threshold for Warrant 1B - Interruption of Continuous Traffic, as described in the MUTCD, and are sufficient to satisfy the requirements to meet Warrant 1. The threshold for Warrant 2 - Four Hour Vehicular Volumes is also met. Warrant 3 - Peak Hour Volume, Warrant 4 - Pedestrian Volume, and Warrant 7 - Crash Experience were not satisfied. Table 1 presents the results of the

analyses for Warrants 1, 2, 3 and 4. A discussion of the analysis for Warrant 7 is presented following Table 1. The detailed signal warrant analysis is presented in Appendix E to this report.

Time	Major Street Volume	Minor Street Volume	Warrant 1 8-Hour Volume	Warrant 2 4-Hour Volume	Warrant 3 Peak Hour Volume	Peds Bikes Volume	Warrant 4 Pedestrian Volume
7:00 AM	643	96	No	No	No	5	No
8:00 AM	756	114	Yes	No	No	16	No
9:00 AM	667	88	No	No	No	-	-
10:00 AM	668	100	No	No	No	-	-
11:00 AM	752	97	Yes	No	No	27	No
12:00 PM	845	126	Yes	No	No	35	No
1:00 PM	848	140	Yes	Yes	No	-	-
2:00 PM	894	133	Yes	Yes	No	33	No
3:00 PM	936	135	Yes	Yes	No	34	No
4:00 PM	968	151	Yes	Yes	No	22	No
5:00 PM	873 141 Yes		Yes	Yes	No	3	No
6:00 PM	648	134	No	No	No	-	-
Wa	arrant Met	? (Yes/No)	YES	YES	NO		NO

Table 1 – Signal Warrant Analysis

During the year 2011 four reported accidents occurred that are susceptible to correction by the installation of a traffic signal; during 2010 three such accidents occurred; and during 2009 three such accidents occurred. Accidents historically correctable by the installation of a traffic signal include "Left-Turns", "Overtaking", and "Right Angle" types of accidents. Each year's total is below the minimum threshold of five accidents per year required for the meeting of Warrant 7-Crash Experience. Therefore Warrant 7 is not met.

As noted previously, the conformance to these warrants does not constitute a mandate or obligation to install a traffic signal as these warrants must be considered in conjunction with other factors and the final decision based on engineering judgment as well the quantitative results. One aspect of additional study impacting a decision to install a traffic signal is the quantitative and qualitative effect that a signal would have on the intersection. The quantitative effect is best demonstrated by an operational analysis, based on vehicle delay, noting that a traffic signal would introduce delays to Dix Avenue traffic that are not experienced currently.

Section 3.4 Traffic Signal Operation Analysis

Since two of the nationally accepted signal warrants are met, an operational analysis of a traffic signal for the subject intersection was conducted for the busiest peak period recorded, the June weekend PM peak. This analysis was conducted using Synchro software by McTrans¹. The analysis determines the impact to traffic of the fully actuated signal operation by measuring the expected vehicle delay imposed by the signal operation, which in this case would include pedestrian and bicyclist movements. The full analysis results for the signalized operational analysis are presented in full in Appendix F.

Table 2 presents the comparison between the results of the existing un-signalized operational analysis and the signalized operational analysis.

Intersection Approach		Existing Two-Way Stop Sign Control PM Peak	Traffic and Pedestrian Signal Control PM Peak
Dix Avenue/Sagamore Street/Wa	nut		
Street			
Dix Avenue EB	LTR	A (0.7)	C (24.8)
Dix Avenue WB	LTR	A (0.2)	C (29.1)
Walnut Street NB	LTR	C (20.8)	C (30.6)
Sagamore Street SB	LTR	E (46.8)	C (34.5)
	Overall	(4.6)*	C (27.8)

Table 2 – Level of Service Summary

Level of Service/Estimated Delay (Seconds per Vehicle)

Key: X (Y.Y) = Level of Service/Estimate Delay (Seconds per Vehicle).

NB, SB, WB, EB = Northbound, Southbound, Westbound, Eastbound intersection approaches.

LTR = Left-turn, through, and/or right-turn movements.

*Analysis does not provide an intersection LOS for un-signalized operation, but does provide intersection delay.

As indicated by Table 2, the study intersection currently operates at acceptable vehicular level of service and will operate at good levels of service after the installation of a traffic and pedestrian signal. However, delays of 24.1 seconds and 28.9 seconds are introduced to the eastbound and westbound approaches of the more heavily travel Dix Avenue, and delays for the northbound Walnut Street approach are increased by 9.8 seconds. The southbound Sagamore Street approach does improve by 12.3 seconds of delay.

SECTION 4.0 INTERSECTION IMPROVEMENTS

Reviews of the intersection and intersection operation revealed that improvements to operational, and especially safety characteristics of the intersection could be realized. These improvements are as follows.

Section 4.1 Narrowing of Approach Widths

Currently the overall approach widths on Dix Avenue are approximately 40 feet curb to curb. This encourages vehicles to move around a vehicle in front that may be making a turn. This maneuver can place other intersection vehicle, pedestrians and bicyclists in possible conflict with these vehicles, as demonstrated by the accident history showing 6 accidents of this type between vehicles. In addition a wide open approach provides a visual affirmation that excessive speed can be used. Decreasing the existing approach width on the eastbound and westbound Dix Avenue approaches by moving the curb lines in toward the center of the roadway would ameliorate these two situations, while still providing standard 12 foot travel lane widths. The concept of roadway narrowing is a nationally accepted traffic calming technique and is appropriate at this location. Any traffic calming installations would follow nationally accepted criteria, including Chapter 25 of the NYSDOT Highway Design Manual, and should include community involvement prior to a decision to install. In addition, consideration of roadway drainage and winter maintenance activities should be considered.

Section 4.2 Relocation of Dix Avenue Pedestrian/Bike Path Crossing

By narrowing the Dix Avenue eastbound approach, the alignment of the marked bikeway crossing can be modified from the existing diagonal alignment to a more preferred perpendicular alignment and can be moved closer to the intersection. This will shorten the distance required for pedestrians and bicyclists crossing Dix Avenue. This will also introduce a turn for bicyclists approaching from the north which will serve to slow them down. In addition, once stopped to cross, a bicyclist's sight line toward the west will be improved. Figure 8 shows the reconfiguration of the intersection as well as the relocation of the bike path and crossing in plan view. Figure 8A depicts the improvement in street view.

A preliminary estimate for the work described in the above two sections and Section 4.3 is \$91,000. The estimate does not include a full resurfacing of the intersection, only pavement restoration required by the curb installations.







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Dutchess County Office: 21 Fox Street Poughkeepsie, NY 12601 Phone: (845) 454-3980 Capital District Office: 547 River Street Troy, NY 12182 Phone: (518) 273-0055 DIX AVENUE AT SAGAMORE STREET CITY OF GLENS FALLS, NEW YORK INTERSECTION IMPROVEMENTS OCTOBER 2012

Section 4.3 Upgrade Signing and Pavement Markings

Signing and pavement markings will be upgraded, and relocated as necessary, to provide the optimum notice to motorists, pedestrians and bicyclists of traffic regulations, and advance warning of intersection usage. Included in the overall signing and markings effort will be the following.

- Pedestrian and Bicyclist warning signs and pavement markings.
- Pavement markings delineating the pedestrian and bicycle crossings on the Dix Avenue eastbound approach.
- Pedestrian crosswalks on the other three approaches to the intersection. Each crossing will be embellished with "Look" letters in the pavement at each curb line, as a reminder to pedestrians to look before starting to cross.
- ADA sidewalk sections immediately adjacent to all crosswalks.
- Bike Way signing in conjunction with the City of Glens Falls and the involved biking organizations, including but not limited to stop signs, parking, and Bikeway use.
- New stop bars and Stop signs on the Sagamore Street and Walnut Street approaches.
- Replacement of centerline markings on all four approaches.

The exact layout for new and revised signing will be accomplished in concert with AGFTC, the City of Glens Falls and the involved biking groups, and accordingly a diagrammatic representation is not provided. However certain signing and pavement marking installations are depicted in Figures 8A and 9A.

Section 4.4 Traffic Signal

The intersection meets two of the nationally and NYSDOT warrants for signalization. An operational analysis of the intersection with signalization indicates that while acceptable levels of service would be maintained, vehicle delays would be introduced to three of the four intersection approaches. Section 3.4 presents a discussion of the results of the analysis. While acceptable the delay introduced to Dix Avenue traffic of 21 to 24 seconds is not present at this time.

A preliminary estimate to install a traffic signal is \$59,000. The installation would include full vehicle detection and pedestrian indications/push buttons for all four crossings. The estimate is exclusive of signing and pavement markings, estimated at \$14,300, as these are basically covered under the previous estimate for work described in the previous three sections.

Figure 9 presents a plan view, of the intersection under signalization, with the improvements presented in the above sections. Figure 9A depicts the improvement in street view.





SECTION 5.0 CONCLUSION AND RECOMMENDATIONS

Improvements to the operation and safety of the intersection for motorists, pedestrians, and bicyclists users can be realized by geometric, signing, and pavement marking upgrades and installations. Although the latest three year accident history is not onerous, intersection improvements can decrease the likelihood of accidents occurring.

It is recommended that the improvements as detailed in Sections 4.1, 4.2, and 4.3 be implemented initially. These improvements include the following.

- Narrowing of the Dix Avenue approaches by the installation of curbing
- Relocation of the Dix Avenue pedestrian/bike crossing closer to the intersection
- Marked pedestrian crosswalks on the other three intersection approaches,
- Upgraded signing and pavement markings, including stop bars and centerlines.

The installation of a traffic signal is not recommended at this time. The recommendations above should be provided a sufficient time frame to demonstrate their effectiveness. Accordingly, the installation of a traffic signal should not be undertaken initially, and should be re-assessed in the future.

The Chazen Companies Traffic Assessment Report - Dix Avenue/Sagamore Street November 26, 2012

> Appendix A: Manual Turning Movement Count Data (Vehicular, Pedestrian and Bicyclist)

The Chazen Companies 547 River Street Troy, New York, 12180

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Project No.: 31223.00 Counted By: EAD Intersection: Dix Ave/Sagamore St Time: 7:00 - 9:00 AM

File Name : tmc3122300_2012 AM Peak Site Code : 31223am Start Date : 6/13/2012 Page No : 1

		Sagar	nore S	treet			Di	x Ave	nue			Wa	lnut St	reet							
		So	uthbou	ind			W	estbou	nd			No	orthbou	ind			E	astbour	nd		
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
07:00 AM	2	4	3	0	9	3	42	1	0	46	0	1	5	0	6	1	50	2	0	53	114
07:15 AM	4	1	4	0	9	2	71	3	0	76	0	2	1	0	3	1	60	1	0	62	150
07:30 AM	7	3	3	0	13	3	88	3	0	94	3	2	2	0	7	3	86	0	0	89	203
07:45 AM	4	6	2	0	12	2	80	3	0	85	0	4	3	0	7	2	100	0	0	102	206
Total	17	14	12	0	43	10	281	10	0	301	3	9	11	0	23	7	296	3	0	306	673
08:00 AM	6	1	4	0	11	2	104	5	0	111	2	2	0	0	4	4	77	1	0	82	208
08:15 AM	11	3	6	0	20	5	83	6	0	94	2	2	1	0	5	5	95	2	0	102	221
08:30 AM	0	2	2	0	4	0	92	2	0	94	1	5	3	0	9	2	67	5	0	74	181
08:45 AM	6	4	5	0	15	2	91	3	0	96	2	2	2	0	6	5	77	3	0	85	202
Total	23	10	17	0	50	9	370	16	0	395	7	11	6	0	24	16	316	11	0	343	812
Grand Total	40	24	29	0	93	19	651	26	0	696	10	20	17	0	47	23	612	14	0	649	1485
Apprch %	43	25.8	31.2	0		2.7	93.5	3.7	0		21.3	42.6	36.2	0		3.5	94.3	2.2	0		
Total %	2.7	1.6	2	0	6.3	1.3	43.8	1.8	0	46.9	0.7	1.3	1.1	0	3.2	1.5	41.2	0.9	0	43.7	
Passenger Vehicles	36	24	26	0	86	19	597	23	0	639	10	19	16	0	45	23	592	13	0	628	1398
% Passenger Vehicles	90	100	89.7	0	92.5	100	91.7	88.5	0	91.8	100	95	94.1	0	95.7	100	96.7	92.9	0	96.8	94.1
Heavy Vehicles	3	0	3	0	6	0	48	3	0	51	0	1	1	0	2	0	17	1	0	18	77
% Heavy Vehicles	7.5	0	10.3	0	6.5	0	7.4	11.5	0	7.3	0	5	5.9	0	4.3	0	2.8	7.1	0	2.8	5.2
School Busses	1	0	0	0	1	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	10
% School Busses	2.5	0	0	0	1.1	0	0.9	0	0	0.9	0	0	0	0	0	0	0.5	0	0	0.5	0.7

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Project No.: 31223.00 Counted By: EAD Intersection: Dix Ave/Sagamore St Time: 7:00 - 9:00 AM File Name : tmc3122300_2012 AM Peak Site Code : 31223am Start Date : 6/13/2012 Page No : 2

	Second Start Dis Assess																				
		Sagai	more S	treet			Di	x Ave	nue			Wa	lnut St	reet							
		So	uthbou	ınd			W	estbou	nd			No	orthbou	ınd			Ea	astbou	nd		
Start	Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Int.
Time	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Total
Peak Hour A	nalysis	From	07:00	AM to	08:45 A	M - Pe	ak 1 of	f 1													
Peak Hour fo	r Entir	e Inters	section	Begins	s at 07:3	0 AM															
07:30 AM	7	3	3	0	13	3	88	3	0	94	3	2	2	0	7	3	86	0	0	89	203
07:45 AM	4	6	2	0	12	2	80	3	0	85	0	4	3	0	7	2	100	0	0	102	206
08:00 AM	6	1	4	0	11	2	104	5	0	111	2	2	0	0	4	4	77	1	0	82	208
08:15 AM	11	3	6	0	20	5	83	6	0	94	2	2	1	0	5	5	95	2	0	102	221
Total Volume	28	13	15	0	56	12	355	17	0	384	7	10	6	0	23	14	358	3	0	375	838
% App. Total	50	23.2	26.8	0		3.1	92.4	4.4	0		30.4	43.5	26.1	0		3.7	95.5	0.8	0		
PHF	.636	.542	.625	.000	.700	.600	.853	.708	.000	.865	.583	.625	.500	.000	.821	.700	.895	.375	.000	.919	.948
Passenger Vehicles	26	13	14	0	53	12	328	14	0	354	7	9	6	0	22	14	347	3	0	364	793
% Passenger Vehicles	92.9	100	93.3	0	94.6	100	92.4	82.4	0	92.2	100	90.0	100	0	95.7	100	96.9	100	0	97.1	94.6
Heavy Vehicles	2	0	1	0	3	0	25	3	0	28	0	1	0	0	1	0	8	0	0	8	40
% Heavy Vehicles	7.1	0	6.7	0	5.4	0	7.0	17.6	0	7.3	0	10.0	0	0	4.3	0	2.2	0	0	2.1	4.8
School Busses	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
% School Busses	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0	0.8	0	0	0.8	0.6



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Project No.: 31223.00 Counted By: EAD Intersection: Dix Ave/Sagamore St Time: 4:00 - 6:00 PM File Name : tmc3122300_2012 PM Peak Site Code : 31223pm Start Date : 6/12/2012 Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

		Saga	more	Street			Di	x Avei	nue			Wa	Inut S	treet							
		So	uthbo	und			W	estbo	und			No	orthbo	und			E	astbou	und		
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	10	2	1	0	13	1	108	4	0	113	3	2	8	0	13	6	104	1	0	111	250
04:15 PM	5	3	5	0	13	6	102	5	0	113	2	2	3	0	7	5	96	2	0	103	236
04:30 PM	5	6	2	0	13	4	105	10	0	119	2	5	1	0	8	7	119	6	0	132	272
04:45 PM	5	1	3	0	9	5	112	16	0	133	0	1	2	0	3	6	90	4	0	100	245
Total	25	12	11	0	48	16	427	35	0	478	7	10	14	0	31	24	409	13	0	446	1003
05:00 PM	4	5	4	0	13	5	112	21	0	138	0	2	3	0	5	9	114	2	0	125	281
05:15 PM	9	4	3	0	16	3	81	7	0	91	2	2	1	0	5	6	81	3	0	90	202
05:30 PM	7	1	4	0	12	2	73	7	0	82	2	3	2	0	7	7	76	2	0	85	186
05:45 PM	4	1	1	0	6	1	71	4	0	76	1	3	1	0	5	4	62	4	0	70	157
Total	24	11	12	0	47	11	337	39	0	387	5	10	7	0	22	26	333	11	0	370	826
Grand Total	49	23	23	0	95	27	764	74	0	865	12	20	21	0	53	50	742	24	0	816	1829
Apprch %	51.6	24.2	24.2	0		3.1	88.3	8.6	0		22.6	37.7	39.6	0		6.1	90.9	2.9	0		
Total %	2.7	1.3	1.3	0	5.2	1.5	41.8	4	0	47.3	0.7	1.1	1.1	0	2.9	2.7	40.6	1.3	0	44.6	
Passenger Vehicles	48	23	23	0	94	27	750	73	0	850	12	20	21	0	53	50	729	23	0	802	1799
% Passenger Vehicles	98	100	100	0	98.9	100	98.2	98.6	0	98.3	100	100	100	0	100	100	98.2	95.8	0	98.3	98.4
Heavy Vehicles	1	0	0	0	1	0	13	1	0	14	0	0	0	0	0	0	11	1	0	12	27
% Heavy Vehicles	2	0	0	0	1.1	0	1.7	1.4	0	1.6	0	0	0	0	0	0	1.5	4.2	0	1.5	1.5
School Busses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% School Busses	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.3	0	0	0.2	0.2

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Project No.: 31223.00 Counted By: EAD Intersection: Dix Ave/Sagamore St Time: 4:00 - 6:00 PM File Name : tmc3122300_2012 PM Peak Site Code : 31223pm Start Date : 6/12/2012 Page No : 2

		Saga	more	Street			Di	x Ave	nue			Wa	Inut S	treet							
		So	uthbo	und			W	estbo	und			No	orthbo	und			E	astbou	und		
Start	1.0#	Thr	Rig	RT		1.04	Thr	Rig	RT		1.04	Thr	Rig	RT		1.04	Thr	Rig	RT		Int.
Time	Leit	u	ht	OR	App. Total	Leit	u	ht	OR	App. Total	Leit	u	ht	OR	App. Total	Leit	u	ht	OR	App. Total	Total
Peak Hour /	Analys	is Fro	m 04:0	0 PM	to 05:4	5 PM -	- Peak	1 of 1													
Peak Hour f	or Ent	ire Inte	ersecti	on Beg	gins at	04:15	PM														
04:15 PM	5	3	5	0	13	6	102	5	0	113	2	2	3	0	7	5	96	2	0	103	236
04:30 PM	5	6	2	0	13	4	105	10	0	119	2	5	1	0	8	7	119	6	0	132	272
04:45 PM	5	1	3	0	9	5	112	16	0	133	0	1	2	0	3	6	90	4	0	100	245
05:00 PM	4	5	4	0	13	5	112	21	0	138	0	2	3	0	5	9	114	2	0	125	281
Total Volume	19	15	14	0	48	20	431	52	0	503	4	10	9	0	23	27	419	14	0	460	1034
% App. Total	39.6	31.2	29.2	0		4	85.7	10.3	0		17.4	43.5	39.1	0		5.9	91.1	3	0		
PHF	.950	.625	.700	.000	.923	.833	.962	.619	.000	.911	.500	.500	.750	.000	.719	.750	.880	.583	.000	.871	.920
Passenger Vehicles	18	15	14	0	47	20	422	51	0	493	4	10	9	0	23	27	408	13	0	448	1011
% Passenger Vehicles	94.7	100	100	0	97.9	100	97.9	98.1	0	98.0	100	100	100	0	100	100	97.4	92.9	0	97.4	97.8
Heavy Vehicles	1	0	0	0	1	0	8	1	0	9	0	0	0	0	0	0	9	1	0	10	20
% Heavy Vehicles	5.3	0	0	0	2.1	0	1.9	1.9	0	1.8	0	0	0	0	0	0	2.1	7.1	0	2.2	1.9
School Busses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% School Busses	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.5	0	0	0.4	0.3



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Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 4:14 - 5:15 PM File Name : tmc3122300_2012 PM Peak Hour (415 to 515pm) Site Code : 31223pm2 Start Date : 6/14/2012 Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

		Saga	more	Stree	t .		Di	x Ave	nue			Wa	Inut S	treet							
		So	uthbo	und			W	estbo	und			No	orthbo	und			E	<u>astbou</u>	und		
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:15 PM	4	7	6	0	17	1	107	8	0	116	1	1	3	0	5	5	95	2	0	102	240
04:30 PM	7	0	7	0	14	2	110	4	0	116	2	2	6	0	10	10	115	3	0	128	268
04:45 PM	12	2	7	0	21	2	105	8	0	115	3	2	0	0	5	6	109	2	0	117	258
Total	23	9	20	0	52	5	322	20	0	347	6	5	9	0	20	21	319	7	0	347	766
05:00 PM	9	5	6	0	20	3	146	14	0	163	3	1	2	0	6	5	127	2	0	134	323
Grand Total	32	14	26	0	72	8	468	34	0	510	9	6	11	0	26	26	446	9	0	481	1089
Apprch %	44.4	19.4	36.1	0		1.6	91.8	6.7	0		34.6	23.1	42.3	0		5.4	92.7	1.9	0		
Total %	2.9	1.3	2.4	0	6.6	0.7	43	3.1	0	46.8	0.8	0.6	1	0	2.4	2.4	41	0.8	0	44.2	
Passenger Vehicles	32	14	26	0	72	8	463	34	0	505	9	6	11	0	26	24	439	9	0	472	1075
% Passenger Vehicles	100	100	100	0	100	100	98.9	100	0	99	100	100	100	0	100	92.3	98.4	100	0	98.1	98.7
Heavy Vehicles	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	2	7	0	0	9	14
% Heavy Vehicles	0	0	0	0	0	0	1.1	0	0	1	0	0	0	0	0	7.7	1.6	0	0	1.9	1.3
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 4:14 - 5:15 PM

File Name	: tmc3122300_2012 PM Peak Hour (415 to 515pm)
Site Code	: 31223pm2
Start Date	: 6/14/2012
Page No	: 2

		Saga	more	Street		Dix Avenue Walnut Street Dix Avenue							nue								
		So	outhbo	und			W	estbo	und			No	orthbo	und			E	astbou	und		
Start	1.0#	Thr	Rig	RT		1.04	Thr	Rig	RT		1.04	Thr	Rig	RT		1.04	Thr	Rig	RT		Int.
Time	Leit	u	ht	OR	App. Total	Leit	u	ht	OR	App. Total	Leit	u	ht	OR	App. Total	Leit	u	ht	OR	App. Total	Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour f	our for Entire Intersection Begins at 04:15 PM																				
04:15 PM	4	7	6	0	17	1	107	8	0	116	1	1	3	0	5	5	95	2	0	102	240
04:30 PM	7	0	7	0	14	2	110	4	0	116	2	2	6	0	10	10	115	3	0	128	268
04:45 PM	12	2	7	0	21	2	105	8	0	115	3	2	0	0	5	6	109	2	0	117	258
05:00 PM	9	5	6	0	20	3	146	14	0	163	3	1	2	0	6	5	127	2	0	134	323
Total Volume	32	14	26	0	72	8	468	34	0	510	9	6	11	0	26	26	446	9	0	481	1089
% App. Total	44.4	19.4	36.1	0		1.6	91.8	6.7	0		34.6	23.1	42.3	0		5.4	92.7	1.9	0		
PHF	.667	.500	.929	.000	.857	.667	.801	.607	.000	.782	.750	.750	.458	.000	.650	.650	.878	.750	.000	.897	.843
Passenger Vehicles	32	14	26	0	72	8	463	34	0	505	9	6	11	0	26	24	439	9	0	472	1075
% Passenger Vehicles	100	100	100	0	100	100	98.9	100	0	99.0	100	100	100	0	100	92.3	98.4	100	0	98.1	98.7
Heavy Vehicles	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	2	7	0	0	9	14
% Heavy Vehicles	0	0	0	0	0	0	1.1	0	0	1.0	0	0	0	0	0	7.7	1.6	0	0	1.9	1.3
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 11:00 - 1:00 PM File Name : tmc3122300_2012 Saturday Peak (11 to 1pm) Site Code : 31223sa1

Start Date : 6/16/2012 Page No : 1

Groups	Drintad	Deccongor	Vahialas	LOONT	Vahialas	School	Duncoon
Groups	rinneu-	r assenger	venicles -	neavy	venicles -	SCHOOL	Dusses

		Sagai	nore S	treet			Di	x Avei	nue			Wa	lnut St	reet			Di	x Avei	nue		
		So	uthbou	nd			W	estbou	nd			No	orthbou	ınd							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:00 AM	10	1	4	0	15	1	129	10	0	140	3	1	3	0	7	3	105	5	0	113	275
11:15 AM	3	2	3	0	8	4	117	5	0	126	2	2	3	0	7	12	81	4	0	97	238
11:30 AM	1	1	5	0	7	1	94	6	0	101	1	1	0	0	2	7	91	2	0	100	210
11:45 AM	4	1	3	0	8	0	107	6	0	113	2	4	5	0	11	6	95	2	0	103	235
Total	18	5	15	0	38	6	447	27	0	480	8	8	11	0	27	28	372	13	0	413	958
12:00 PM	4	2	4	0	10	2	83	4	0	89	5	5	4	0	14	3	83	1	0	87	200
12:15 PM	3	2	3	0	8	1	75	4	0	80	3	1	10	0	14	6	74	1	0	81	183
12:30 PM	3	4	3	0	10	4	85	8	0	97	5	4	3	0	12	15	73	4	0	92	211
12:45 PM	5	1	2	0	8	6	106	3	0	115	2	1	4	0	7	5	114	5	0	124	254
Total	15	9	12	0	36	13	349	19	0	381	15	11	21	0	47	29	344	11	0	384	848
Grand Total	33	14	27	0	74	19	796	46	0	861	23	19	32	0	74	57	716	24	0	797	1806
Apprch %	44.6	18.9	36.5	0		2.2	92.5	5.3	0		31.1	25.7	43.2	0		7.2	89.8	3	0		
Total %	1.8	0.8	1.5	0	4.1	1.1	44.1	2.5	0	47.7	1.3	1.1	1.8	0	4.1	3.2	39.6	1.3	0	44.1	
Passenger Vehicles	32	14	26	0	72	19	788	45	0	852	23	19	32	0	74	57	710	24	0	791	1789
% Passenger Vehicles	97	100	96.3	0	97.3	100	99	97.8	0	99	100	100	100	0	100	100	99.2	100	0	99.2	99.1
Heavy Vehicles	1	0	1	0	2	0	8	1	0	9	0	0	0	0	0	0	6	0	0	6	17
% Heavy Vehicles	3	0	3.7	0	2.7	0	1	2.2	0	1	0	0	0	0	0	0	0.8	0	0	0.8	0.9
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 11:00 - 1:00 PM

File Name : tmc3122300_2012 Saturday Peak (11 to 1pm) Site Code : 31223sa1 Start Date : 6/16/2012 Page No : 2

																					1
		Sagai	nore S	treet			Di	x Ave	nue			Wa	lnut St	reet			Di	x Ave	nue		Í
		So	uthbou	ınd			W	estbou	nd			No	orthbou	ind			Ea	astbou	nd		
Start	Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Int.
Time	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Total
Peak Hour A	nalysis	From	11:00	AM to	12:45 P	M - Pea	ak 1 of	1													
Peak Hour fo	eak Hour for Entire Intersection Begins at 11:00 AM																				
11:00 AM	10	1	4	0	15	1	129	10	0	140	3	1	3	0	7	3	105	5	0	113	275
11:15 AM	3	2	3	0	8	4	117	5	0	126	2	2	3	0	7	12	81	4	0	97	238
11:30 AM	1	1	5	0	7	1	94	6	0	101	1	1	0	0	2	7	91	2	0	100	210
11:45 AM	4	1	3	0	8	0	107	6	0	113	2	4	5	0	11	6	95	2	0	103	235
Total Volume	18	5	15	0	38	6	447	27	0	480	8	8	11	0	27	28	372	13	0	413	958
% App. Total	47.4	13.2	39.5	0		1.2	93.1	5.6	0		29.6	29.6	40.7	0		6.8	90.1	3.1	0		
PHF	.450	.625	.750	.000	.633	.375	.866	.675	.000	.857	.667	.500	.550	.000	.614	.583	.886	.650	.000	.914	.871
Passenger Vehicles	17	5	15	0	37	6	441	26	0	473	8	8	11	0	27	28	370	13	0	411	948
% Passenger Vehicles	94.4	100	100	0	97.4	100	98.7	96.3	0	98.5	100	100	100	0	100	100	99.5	100	0	99.5	99.0
Heavy Vehicles	1	0	0	0	1	0	6	1	0	7	0	0	0	0	0	0	2	0	0	2	10
% Heavy Vehicles	5.6	0	0	0	2.6	0	1.3	3.7	0	1.5	0	0	0	0	0	0	0.5	0	0	0.5	1.0
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Project No.: 31223.00 Counted By: EAD Intersection: Dix Ave/Sagamore St Time: 2:00 - 4:00 PM File Name : tmc3122300_2012 Saturday Peak (2 to 4pm) Site Code : 31223sa2 Start Date : 6/16/2012 Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

		Sagai	nore S	treet		Dix Avenue Walnut Street Dix Avenue															
		So	uthbou	ınd			W	estbou	nd			No	orthbou	und							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
02:00 PM	8	4	8	0	20	1	93	5	0	99	1	2	1	0	4	9	95	3	0	107	230
02:15 PM	8	4	4	0	16	1	71	6	0	78	5	1	2	0	8	10	72	3	0	85	187
02:30 PM	7	4	5	0	16	2	86	9	0	97	1	3	1	0	5	6	66	2	0	74	192
02:45 PM	11	4	5	0	20	3	79	3	0	85	1	2	3	0	6	5	76	3	0	84	195
Total	34	16	22	0	72	7	329	23	0	359	8	8	7	0	23	30	309	11	0	350	804
03:00 PM	6	3	1	0	10	4	83	5	0	92	3	3	3	0	9	3	68	3	0	74	185
03:15 PM	3	4	6	0	13	5	118	9	0	132	1	2	2	0	5	6	78	0	0	84	234
03:30 PM	1	3	9	0	13	4	146	7	0	157	1	1	1	0	3	9	83	1	0	93	266
03:45 PM	4	1	2	0	7	0	117	2	0	119	1	2	2	0	5	7	69	4	0	80	211
Total	14	11	18	0	43	13	464	23	0	500	6	8	8	0	22	25	298	8	0	331	896
Grand Total	48	27	40	0	115	20	793	46	0	859	14	16	15	0	45	55	607	19	0	681	1700
Apprch %	41.7	23.5	34.8	0		2.3	92.3	5.4	0		31.1	35.6	33.3	0		8.1	89.1	2.8	0		
Total %	2.8	1.6	2.4	0	6.8	1.2	46.6	2.7	0	50.5	0.8	0.9	0.9	0	2.6	3.2	35.7	1.1	0	40.1	
Passenger Vehicles	47	26	40	0	113	20	788	45	0	853	14	16	15	0	45	54	600	19	0	673	1684
% Passenger Vehicles	97.9	96.3	100	0	98.3	100	99.4	97.8	0	99.3	100	100	100	0	100	98.2	98.8	100	0	98.8	99.1
Heavy Vehicles	1	1	0	0	2	0	5	1	0	6	0	0	0	0	0	1	7	0	0	8	16
% Heavy Vehicles	2.1	3.7	0	0	1.7	0	0.6	2.2	0	0.7	0	0	0	0	0	1.8	1.2	0	0	1.2	0.9
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Project No.: 31223.00 Counted By: EAD Intersection: Dix Ave/Sagamore St Time: 2:00 - 4:00 PM File Name : tmc3122300_2012 Saturday Peak (2 to 4pm) Site Code : 31223sa2 Start Date : 6/16/2012 Page No : 2

		Saga	more S	treet			Dix Avenue Walnut Street Dix Avenue														
		So	uthbou	ind			W	estbou	nd			No	orthbou	ind			Ea	astbour	nd		
Start	Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Int.
Time	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																					
Peak Hour fo	for Entire Intersection Begins at 03:00 PM																				
03:00 PM	6	3	1	0	10	4	83	5	0	92	3	3	3	0	9	3	68	3	0	74	185
03:15 PM	3	4	6	0	13	5	118	9	0	132	1	2	2	0	5	6	78	0	0	84	234
03:30 PM	1	3	9	0	13	4	146	7	0	157	1	1	1	0	3	9	83	1	0	93	266
03:45 PM	4	1	2	0	7	0	117	2	0	119	1	2	2	0	5	7	69	4	0	80	211
Total Volume	14	11	18	0	43	13	464	23	0	500	6	8	8	0	22	25	298	8	0	331	896
% App. Total	32.6	25.6	41.9	0		2.6	92.8	4.6	0		27.3	36.4	36.4	0		7.6	90	2.4	0		
PHF	.583	.688	.500	.000	.827	.650	.795	.639	.000	.796	.500	.667	.667	.000	.611	.694	.898	.500	.000	.890	.842
Passenger Vehicles	13	11	18	0	42	13	461	23	0	497	6	8	8	0	22	24	293	8	0	325	886
% Passenger Vehicles	92.9	100	100	0	97.7	100	99.4	100	0	99.4	100	100	100	0	100	96.0	98.3	100	0	98.2	98.9
Heavy Vehicles	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	1	5	0	0	6	10
% Heavy Vehicles	7.1	0	0	0	2.3	0	0.6	0	0	0.6	0	0	0	0	0	4.0	1.7	0	0	1.8	1.1
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0


547 River Street Troy, New York, 12180 www.chazencompanies.com

Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 4-6 PM (Summer Time) File Name : tmc3122300_2012 PM Summer Time Site Code : 31223pmS Start Date : 8/2/2012 Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

		Saga	more	Street	t		Di	x Ave	nue			Wa	Inut S	treet			Di	x Avei	nue		
		So	uthbo	und			W	estbo	und			No	orthbo	und			E	astbou	Ind		
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
04:00 PM	9	4	4	0	17	4	105	8	0	117	1	4	2	0	7	6	80	3	0	89	230
04:15 PM	5	2	4	0	11	2	110	7	0	119	1	2	9	0	12	4	89	3	0	96	238
04:30 PM	2	4	0	0	6	3	117	8	0	128	2	4	2	0	8	6	109	2	0	117	259
04:45 PM	6	6	7	0	19	1	98	3	0	102	2	3	2	0	7	4	116	2	0	122	250
Total	22	16	15	0	53	10	430	26	0	466	6	13	15	0	34	20	394	10	0	424	977
05:00 PM	7	1	2	0	10	1	106	12	0	119	0	3	0	0	3	8	102	2	0	112	244
05:15 PM	5	6	3	0	14	1	109	2	0	112	2	0	1	0	3	5	96	0	0	101	230
05:30 PM	7	2	4	0	13	1	85	4	0	90	5	2	2	0	9	7	85	0	0	92	204
05:45 PM	4	0	6	0	10	2	81	4	0	87	1	0	6	0	7	7	74	1	0	82	186
Total	23	9	15	0	47	5	381	22	0	408	8	5	9	0	22	27	357	3	0	387	864
Grand Total	45	25	30	0	100	15	811	48	0	874	14	18	24	0	56	47	751	13	0	811	1841
Apprch %	45	25	30	0		1.7	92.8	5.5	0		25	32.1	42.9	0		5.8	92.6	1.6	0		
Total %	2.4	1.4	1.6	0	5.4	0.8	44.1	2.6	0	47.5	0.8	1	1.3	0	3	2.6	40.8	0.7	0	44.1	
Passenger Vehicles	45	25	30	0	100	15	797	48	0	860	13	17	24	0	54	46	739	13	0	798	1812
% Passenger Vehicles	100	100	100	0	100	100	98.3	100	0	98.4	92.9	94.4	100	0	96.4	97.9	98.4	100	0	98.4	98.4
Heavy Vehicles	0	0	0	0	0	0	14	0	0	14	1	1	0	0	2	1	12	0	0	13	29
% Heavy Vehicles	0	0	0	0	0	0	1.7	0	0	1.6	7.1	5.6	0	0	3.6	2.1	1.6	0	0	1.6	1.6
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 4-6 PM (Summer Time) File Name : tmc3122300_2012 PM Summer Time Site Code : 31223pmS Start Date : 8/2/2012 Page No : 2

		Sana	more	Stroot	•		Di					\//a	Inut S	troot			Di				
		Cayo		und				acthou	und			Nic	with hou	und					ind		
		30	Juliibu	unu			V V	esibu	unu				JULIDO	unu			E	asibul	<u>unu</u>		
Start	I oft	Thr	Rig	RT		l oft	Thr	Rig	RT		اtم ا	Thr	Rig	RT		ا مft	Thr	Rig	RT		Int.
Time	Lon	u	ht	OR	App. Total	Lon	u	ht	OR	App. Total	Lon	u	ht	OR	App. Total	Lon	u	ht	OR	App. Total	Total
Peak Hour A	Analys	is Fror	m 04:0	00 PM	to 05:4	5 PM ·	- Peak	1 of 1													
Peak Hour f	or Ent	ire Inte	ersecti	on Beg	gins at	04:15	PM														
04:15 PM	5	2	4	0	11	2	110	7	0	119	1	2	9	0	12	4	89	3	0	96	238
04:30 PM	2	4	0	0	6	3	117	8	0	128	2	4	2	0	8	6	109	2	0	117	259
04:45 PM	6	6	7	0	19	1	98	3	0	102	2	3	2	0	7	4	116	2	0	122	250
05:00 PM	7	1	2	0	10	1	106	12	0	119	0	3	0	0	3	8	102	2	0	112	244
Total Volume	20	13	13	0	46	7	431	30	0	468	5	12	13	0	30	22	416	9	0	447	991
% App. Total	43.5	28.3	28.3	0		1.5	92.1	6.4	0		16.7	40	43.3	0		4.9	93.1	2	0		
PHF	.714	.542	.464	.000	.605	.583	.921	.625	.000	.914	.625	.750	.361	.000	.625	.688	.897	.750	.000	.916	.957
Passenger Vehicles	20	13	13	0	46	7	423	30	0	460	4	11	13	0	28	22	413	9	0	444	978
% Passenger Vehicles	100	100	100	0	100	100	98.1	100	0	98.3	80.0	91.7	100	0	93.3	100	99.3	100	0	99.3	98.7
Heavy Vehicles	0	0	0	0	0	0	8	0	0	8	1	1	0	0	2	0	3	0	0	3	13
% Heavy Vehicles	0	0	0	0	0	0	1.9	0	0	1.7	20.0	8.3	0	0	6.7	0	0.7	0	0	0.7	1.3
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 11-1 Sat (Summer Time) File Name : tmc3122300_2012 Saturday Peak (11 to 1pm) (Summer Time) Site Code : 31223SS1 Start Date : 8/4/2012 Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

		Sagai	nore S	treet			Di	x Avei	nue			Wa	lnut St	reet			Di	x Avei	nue		
		So	uthbou	ind			W	estbou	nd			No	orthbou	ind			E	astbou	nd		
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
11:00 AM	3	3	2	0	8	4	79	3	0	86	0	0	2	0	2	8	81	2	0	91	187
11:15 AM	5	4	6	0	15	2	79	4	0	85	3	4	2	0	9	4	84	2	0	90	199
11:30 AM	5	1	4	0	10	0	74	9	0	83	5	2	0	0	7	6	70	3	0	79	179
11:45 AM	6	4	8	0	18	3	59	4	0	66	1	2	0	0	3	9	74	1	0	84	171
Total	19	12	20	0	51	9	291	20	0	320	9	8	4	0	21	27	309	8	0	344	736
12:00 PM	3	0	4	0	7	2	81	5	0	88	0	3	5	0	8	10	76	3	0	89	192
12:15 PM	5	1	3	0	9	2	78	9	0	89	1	6	1	0	8	8	51	2	0	61	167
12:30 PM	6	1	5	0	12	4	72	10	0	86	1	1	4	0	6	6	58	2	0	66	170
12:45 PM	8	2	5	0	15	1	88	5	0	94	2	0	0	0	2	7	64	3	0	74	185
Total	22	4	17	0	43	9	319	29	0	357	4	10	10	0	24	31	249	10	0	290	714
Grand Total	41	16	37	0	94	18	610	49	0	677	13	18	14	0	45	58	558	18	0	634	1450
Apprch %	43.6	17	39.4	0		2.7	90.1	7.2	0		28.9	40	31.1	0		9.1	88	2.8	0		
Total %	2.8	1.1	2.6	0	6.5	1.2	42.1	3.4	0	46.7	0.9	1.2	1	0	3.1	4	38.5	1.2	0	43.7	
Passenger Vehicles	41	16	37	0	94	18	602	49	0	669	12	18	13	0	43	58	548	18	0	624	1430
% Passenger Vehicles	100	100	100	0	100	100	98.7	100	0	98.8	92.3	100	92.9	0	95.6	100	98.2	100	0	98.4	98.6
Heavy Vehicles	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	0	10	0	0	10	20
% Heavy Vehicles	0	0	0	0	0	0	1.3	0	0	1.2	7.7	0	7.1	0	4.4	0	1.8	0	0	1.6	1.4
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

547 River Street Troy, New York, 12180 www.chazencompanies.com

Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 11-1 Sat (Summer Time) File Name : tmc3122300_2012 Saturday Peak (11 to 1pm) (Summer Time) Site Code : 31223SS1 Start Date : 8/4/2012 Page No : 2

		Sagar	nore S	treet			Di	x Ave	nue			Wa	lnut St	reet			Di	x Ave	nue		
		So	uthbou	ind			W	estbou	nd			No	orthbou	ind			E	astbou	nd		
Start	Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Laft	Thr	Rig	RT		Int.
Time	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Total
Peak Hour A	nalysis	From	11:00	AM to	12:45 P	M - Pea	ak 1 of	1													
Peak Hour fo	r Entir	e Inters	section	Begins	s at 11:1	5 AM															
11:15 AM	5	4	6	0	15	2	79	4	0	85	3	4	2	0	9	4	84	2	0	90	199
11:30 AM	5	1	4	0	10	0	74	9	0	83	5	2	0	0	7	6	70	3	0	79	179
11:45 AM	6	4	8	0	18	3	59	4	0	66	1	2	0	0	3	9	74	1	0	84	171
12:00 PM	3	0	4	0	7	2	81	5	0	88	0	3	5	0	8	10	76	3	0	89	192
Total Volume	19	9	22	0	50	7	293	22	0	322	9	11	7	0	27	29	304	9	0	342	741
% App. Total	38	18	44	0		2.2	91	6.8	0		33.3	40.7	25.9	0		8.5	88.9	2.6	0		
PHF	.792	.563	.688	.000	.694	.583	.904	.611	.000	.915	.450	.688	.350	.000	.750	.725	.905	.750	.000	.950	.931
Passenger Vehicles	19	9	22	0	50	7	289	22	0	318	8	11	6	0	25	29	300	9	0	338	731
% Passenger Vehicles	100	100	100	0	100	100	98.6	100	0	98.8	88.9	100	85.7	0	92.6	100	98.7	100	0	98.8	98.7
Heavy Vehicles	0	0	0	0	0	0	4	0	0	4	1	0	1	0	2	0	4	0	0	4	10
% Heavy Vehicles	0	0	0	0	0	0	1.4	0	0	1.2	11.1	0	14.3	0	7.4	0	1.3	0	0	1.2	1.3
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 2-4 Sat (Summer Time) File Name : tmc3122300_2012 Saturday Peak (2 to 4pm) (Summer Time) Site Code : 31223SS2 Start Date : 8/4/2012 Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - School Busses

		Sagar	nore S	treet			Di	x Ave	nue			Wa	lnut St	reet			Di	ix Ave	nue		
		So	uthbou	ınd			W	estbou	nd			No	orthbou	und			E	astboui	nd		
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Factor	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0		
02:00 PM	1	1	3	0	5	0	62	8	0	70	2	1	3	0	6	6	57	0	0	63	144
02:15 PM	3	0	4	0	7	3	60	5	0	68	0	0	2	0	2	6	58	0	0	64	141
02:30 PM	7	0	3	0	10	3	67	2	0	72	3	0	2	0	5	1	64	0	0	65	152
02:45 PM	6	1	4	0	11	0	73	7	0	80	1	2	2	0	5	5	53	0	0	58	154
Total	17	2	14	0	33	6	262	22	0	290	6	3	9	0	18	18	232	0	0	250	591
03:00 PM	3	1	3	0	7	1	54	7	0	62	0	1	0	0	1	12	63	0	0	75	145
03:15 PM	7	3	6	0	16	0	70	4	0	74	1	4	1	0	6	3	55	1	0	59	155
03:30 PM	10	3	5	0	18	1	56	3	0	60	1	1	2	0	4	5	71	4	0	80	162
03:45 PM	3	1	3	0	7	3	71	3	0	77	2	1	4	0	7	3	65	2	0	70	161
Total	23	8	17	0	48	5	251	17	0	273	4	7	7	0	18	23	254	7	0	284	623
Grand Total	40	10	31	0	81	11	513	39	0	563	10	10	16	0	36	41	486	7	0	534	1214
Apprch %	49.4	12.3	38.3	0		2	91.1	6.9	0		27.8	27.8	44.4	0		7.7	91	1.3	0		
Total %	3.3	0.8	2.6	0	6.7	0.9	42.3	3.2	0	46.4	0.8	0.8	1.3	0	3	3.4	40	0.6	0	44	
Passenger Vehicles	38	10	31	0	79	11	508	38	0	557	10	10	16	0	36	40	478	5	0	523	1195
% Passenger Vehicles	95	100	100	0	97.5	100	99	97.4	0	98.9	100	100	100	0	100	97.6	98.4	71.4	0	97.9	98.4
Heavy Vehicles	2	0	0	0	2	0	5	1	0	6	0	0	0	0	0	1	8	2	0	11	19
% Heavy Vehicles	5	0	0	0	2.5	0	1	2.6	0	1.1	0	0	0	0	0	2.4	1.6	28.6	0	2.1	1.6
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Project No.: 31223.00 Counted By: KG Intersection: Dix Ave/Sagamore St Time: 2-4 Sat (Summer Time) File Name : tmc3122300_2012 Saturday Peak (2 to 4pm) (Summer Time) Site Code : 31223SS2 Start Date : 8/4/2012 Page No : 2

		Sagar	nore S	treet			Di	x Ave	nue			Wa	lnut St	reet			Di	x Ave	nue		
		So	uthbou	ind			W	estbou	nd			No	orthbou	ind			E	astbou	nd		
Start	Loft	Thr	Rig	RT		Loft	Thr	Rig	RT		Loft	Thr	Rig	RT		Laft	Thr	Rig	RT		Int.
Time	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Len	u	ht	OR	App. Total	Total
Peak Hour A	nalysis	From	02:00	PM to ()3:45 PI	M - Pea	ık 1 of	1													
Peak Hour fo	r Entir	e Inters	section	Begins	s at 03:0	0 PM															
03:00 PM	3	1	3	0	7	1	54	7	0	62	0	1	0	0	1	12	63	0	0	75	145
03:15 PM	7	3	6	0	16	0	70	4	0	74	1	4	1	0	6	3	55	1	0	59	155
03:30 PM	10	3	5	0	18	1	56	3	0	60	1	1	2	0	4	5	71	4	0	80	162
03:45 PM	3	1	3	0	7	3	71	3	0	77	2	1	4	0	7	3	65	2	0	70	161
Total Volume	23	8	17	0	48	5	251	17	0	273	4	7	7	0	18	23	254	7	0	284	623
% App. Total	47.9	16.7	35.4	0		1.8	91.9	6.2	0		22.2	38.9	38.9	0		8.1	89.4	2.5	0		
PHF	.575	.667	.708	.000	.667	.417	.884	.607	.000	.886	.500	.438	.438	.000	.643	.479	.894	.438	.000	.888	.961
Passenger Vehicles	22	8	17	0	47	5	247	17	0	269	4	7	7	0	18	22	251	5	0	278	612
% Passenger Vehicles	95.7	100	100	0	97.9	100	98.4	100	0	98.5	100	100	100	0	100	95.7	98.8	71.4	0	97.9	98.2
Heavy Vehicles	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	1	3	2	0	6	11
% Heavy Vehicles	4.3	0	0	0	2.1	0	1.6	0	0	1.5	0	0	0	0	0	4.3	1.2	28.6	0	2.1	1.8
School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% School Busses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



The Chazen Companies Traffic Assessment Report - Dix Avenue/Sagamore Street November 26, 2012

> Appendix B: Accident Data (Accident History, Summary Sheet and Tables)

DETAILS OF ACCIDENT HISTORY

Page	1	of 2
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PE	RIOD STUDI	ED:	#			R			ROUTE NUMB	CASE No.	31223.0	00				
FR	OM: <u>1/1/20</u>	009	V F	S	G	0	s	w	LOCATION:	Sagamor	e Street	FILE:	Projec	ct1		
тс): 12/31/2	2011	H.		Т	D	U	E	MUNICIPALITY	: Glens	s Falls COUNTY: <u>Warren</u>	BY:	EAD)		
	36 MONT	HS	Ċ	R	c	с	F	Ť	REFERENCE N	MARKER	S / NODES:	DATE:	10/2/20	012		
No.	DATE	ТІМЕ	E S	T Y	N D	A R	C E	E R	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION			KEY #		
15	2/19/2010	12:38	2	N/R	1	1	1	1	3 4	Back	Veh 1 backing unsafely into Veh 2 going straight.					
17	12/8/2010	9:20	2	INJ	1	1	1	1	7 18	Ltrn	Veh1 making a U-turn into Veh 2 going straight.					
20	6/11/2011	10:43	2	PDO	1	1	2	3	7	Ltrn	Veh 1 making left-turn into Veh 2 going straight ahead.					
22	10/28/2011	8:19	2	PDO	1	1	2	1	27 69	Othr						
6	4/24/2010	15:43	2	N/R	1	1	1	1	4 25	Ovtk						
7	10/13/2011	19:46	2	N/R	4	1	1	1	4	Ovtk						
13	1/22/2010	12:30	2	N/R	1	1	1	1	4	Ovtk	Veh 1 making right-turn into parked Veh 2.					
18	2/22/2011	16:59	2	PDO	1	1	1	1	12 13	Ovtk	Veh 2 making a left turn while Veh 1 passing improperly.					
1	1/23/2009	14:41	2	N/R	1	1	1	1	3	Park	Veh 1 backing unsafely into parked Veh 2.					
2	7/7/2009	13:45	2	PDO	1	1	1	1	3	Park	Veh 2 backing unsafely into parked Veh 1					
8	10/15/2011	14:20	2	PDO	1	1	1	1	3 4	Park	Veh 1 backing unsafely into parked Veh 2.					
9	3/12/2009	17:47	2	N/R	3	1	1	1	3	Park	Veh 1 backing unsafely into parked Veh 2.					
11	12/16/2009	15:24	2	N/R	1	1	1	2	3	Park	Veh 1 backing unsafely into parked Veh 2.					
12	12/18/2009	14:22	2	N/R	1	1	1	1	3	Park	Veh 1 backing unsafely into parked Veh 2.					
19	5/15/2011	15:39	2	N/R	1	1	2	3	3	Park	Veh 2 backing unsafely into parked Veh 1.					
3	7/15/2009	16:32	2	PDO	1	1	1	1	7	Rang	Veh 1 making a right turn into Veh 2 going straight.					
4	12/31/2009	11:57	2	PDO	1	1	4	4	7	Rang	Veh 1 making left-turn into Veh 2 going straight.					
5	2/16/2010	14:08	2	PDO	1	1	4	4	7	Rang Veh1 making left-turn into Veh 2 going straight.						
14	2/12/2009		2	PDO						Rang All information is unknown.						
21	7/30/2011	12:35	2	PDO	1	1	1	1	7 Rang Veh 1 going straight fail to yield to Veh 2 going straight.							
10	1/14/2009	13:08	2	PDO	1	1	2	1	9 66	66 Rend Veh 1 run into Veh 2 stopped in traffic						

DETAILS OF ACCIDENT HISTORY

Page	2	of	2
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No.	DATE	TIME	S	Y	D N	R	E	R	CONTRIB. FACTORS	ACC. TYPE	ACCIDENT DESCRIPTION			KEY #
	<u>36</u> MONT	HS	C L	RI	C O	C H	F	T H F			S / NODES:	DATE:	10/2/20	012
∥т	0: <u>12/31/2</u>	2011	H	- V E	ΪŤ	D	UR	E	MUNICIPALITY	(: Glens	Falls COUNTY: Warren	BY:	EAL	2
F	ROM: <u>1/1/20</u>	009	V	S	G G	0	s	w	LOCATION:	Sagamor	e Street	FILE:	Projec	ct1
P	ERIOD STUDI	ED:	#			R			ROUTE NUMB	ER/STRE	ET NAME: Dix Avenue	CASE No.	31223.	00

ACCIDENT SUMMARY SHEET

ROUTE: Dix Avenue		LO	CATION	: Sagamore	e Street				
MUNICIPALITY: Glen	s Falls					COUNTY:	Warren		
TIME PERIOD COVERE	D: 1/1/2	009 - 12/31	/2011	REFERENC	E MAR	ERS / NODES	6	-	
REMARKS: All Accider	nts					-	D	ATE:	6/28/2012
TIME OF DAY	# ACC	%	DIRFO	CTION	# ACC	%	DIRECTION	# ACC	2
6 AM - 10 AM	2	9.1%	North		10	23.8%	Northeast	0	0.0%
10 AM - 4 PM	15	68.2%	South		11	26.2%	Northwest	0	0.0%
4 PM - 7 PM	3	13.6%	East		9	21.4%	Southeast	4	9.5%
7 PM - 12 AM	1	4.5%	West		8	19.0%	Southwest	0	0.0%
12 AM - 6 AM	0	0.0%	T - 4		40		Unspecified	0	0.0%
Unspecified	1	4.5%	lota	ai	42		Chopcomed	Ū	0.070
Total	22		٨٥٥١٢		# ^CC	0/_		# ^C(`
WEATHER	# 400	%	Rear E	End	# ACC 2	9.1%	Pedestrian	0	0.0%
Clear	# 700 16	72 7%	Overta	ake	4	18.2%	Bicycle	0	0.0%
Cloudy	10	4.5%	Right /	Angle	5	22.7%	Parked Vehicle	7	31.8%
Rain	2	9.1%	Left Tu	urn	2	9.1%	Backing	1	4.5%
Snow	2	9.1%	Right ⁻	Turn	0	0.0%	Run Off The Road	0	0.0%
Sleet/Hail/Freezing Rain	0	0.0%	Fixed	Object	0	0.0%	Animal	0	0.0%
Fog/Smog/Smoke	0	0.0%	Head	On	0	0.0%	Other	1	4.5%
Unspecified	1	4.5%	Sidesv	wipe	0	0.0%	Unspecified	0	0.0%
Total	22					Total	22		
SURFACE	# 400	. %					TY # ACC	%	
Drv	15	68.2	, %		Fatal		0	0.0%	
Wet	4	18.2	%		Iniurv		1	4.5%	,)
Mud/Slush	0	0.0	%		Proper	ty Damage	12	54.5%	
Snow/Ice	2	9.1	%		Non-Re	eportable	9	40.9%)
Unspecified	1	4.5	%			Total	22		
Total	22						<u>L</u> L		
TIME OF YEAR	# ACC	: %			TYPE		# ACC	%	
Winter (Dec-Feb)	11	50.0	, %		Passer	nger Cars	44	100.0%)
Spring (Mar-May)	4	18.2	%		Comm	ercial Vehicles	0	0.0%)
Summer (Jun-Aug)	4	18.2	%			Total	11		
Fall (Sep-Nov)	3	13.6	%			Total	44		
Total	22								
DAY OF WEEK	# ACC	; %)		LIGHT	CONDITION	# ACC	%	
Sunday	1	4.5	%		Dayligh	nt	19	86.49	6
Monday	0	0.0	%		Dawn/I	Dusk	1	4.5%	6
Tuesday	3	13.6	%		Night		1	4.5%	6
Wednesday	4	18.2	%		Unspe	cified	1	4.5%	6
Thursday	5	22.7	%		·	Total	22		
Friday	5	22.7	%			lotai	~~~		
Saturday	4	18.2	%						
Total	22								
SUMMARY OF ACCIDE		ΤΥ ΒΥ ΥΕΑ	R:	2000	204.0	2011			
Fatal Accidents				0	0	0			

Total Accidents	9	6	7
Non-Reportable Accidents	4	3	2
Property Damage Accidents	5	2	5
Injury Accidents	0	1	0
Fatal Accidents	0	0	0

HSA CHARTS

ROUTE: Dix Avenue

LOCATION: Sagamore Street

REMARKS: All Accidents

TIME PERIOD COVERED: 1/1/2009 - 12/31/2011 REFERENCE MARKERS / NODE

DATE: 6/28/2012

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HSA CHARTS

ROUTE: Dix Avenue

LOCATION: Sagamore Street

TIME PERIOD COVERED: 1/1/2009 - 12/31/2011 REFERENCE MARKERS / NODE REMARKS: All Accidents

DATE: 6/28/2012

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HSA CHARTS

ROUTE: Dix Avenue

LOCATION: Sagamore Street

TIME PERIOD COVERED: 1/1/2009 - 12/31/2011 REFERENCE MARKERS / NODE REMARKS: All Accidents

DATE: 6/28/2012

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The Chazen Companies Traffic Assessment Report - Dix Avenue/Sagamore Street November 26, 2012

> Appendix C: Synchro Data (2012 Existing - Unsignalized)

Intersection

Intersection Delay (sec/veh): 4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	26	446	9	8	468	34	9	6	11	32	14	26
Conflicting Peds.(#/hr)	0	0	10	0	0	1	0	0	16	0	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None											
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.65	0.88	0.75	0.67	0.80	0.61	0.75	0.75	0.46	0.67	0.50	0.93
Heavy Vehicles(%)	8	2	0	0	1	0	0	0	0	0	0	0
Movement Flow Rate	40	507	12	12	585	56	12	8	24	48	28	28
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Ν	Major 1		1	Major 2			Minor 1			Minor 1	
Conflicting Flow Rate - All	646	0	0	535	0	0	1284	1279	530	1252	1257	628
Stage 1	0	0	0	0	0	0	609	609	0	642	642	0
Stage 2	0	0	0	0	0	0	675	670	0	610	615	0
Follow-up Headway	2.272	-	-	2.2	0	0	3.5	4	3.3	3.5	4	3.3
Pot Capacity-1 Maneuver	911	-	-	1043	-	-	143	167	553	151	173	486
Stage 1	-	-	-	-	-	-	486	488	-	466	472	-
Stage 2	-	-	-	-	-	-	447	459	-	485	485	-
Mov Capacity-1 Maneuver	906	-	-	1024	-	-	108.9	154.1	543	131.9	162.3	478
Mov Capacity-2 Maneuver	-	-	-	-	-	-	108.9	154.1	-	131.9	162.3	-
Stage 1	-	-	-	-	-	-	477	458.2	-	463	463.7	-
Stage 2	-	-	-	-	-	-	386.6	451	-	435	455.4	-
Annroach	FR			WB			NB			SB		

Approach	EB	WB	NB	SB	
HCM Control Delay (s)	0.7	0.2	20.8	46.8	
HCM LOS	А	А	С	E	

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	271							185
HCM Control Delay (s)	20.8	9.157	0	-	8.557	0	-	46.8
HCM Lane VC Ratio	0.162	0.044	-	-	0.012	-	-	0.561
HCM Lane LOS	С	А	-	-	А	-	-	E
HCM 95th Percentile Queue (veh)	0.569	0.138	-	-	0.035	-	-	2.964

The Chazen Companies Traffic Assessment Report - Dix Avenue/Sagamore Street November 26, 2012

> Appendix D: Automatic Traffic Recorder Data (Vehicular Only - 24/7 Counts)

Site Code: 00000004444 Station ID: 00000000000

Latitude: 0' 0.000 Undefined

Start	04- 1	ID-12	Т		1	Nod		Thu		Fri		Sat		Sun	Avora	
Timo	04-JU				^ N/		A M		A N4		A M		^ N/			ре Бау
12:00	A.IVI. *	F.IVI. *	<u>A.ivi.</u> *	F.IVI. *	A.IVI. *	F .IVI. 88	<u>A.IVI.</u> 11	<u> </u>	<u> </u>	100	. <u>A.ivi</u> 11	<u> </u>	<u> </u>	<u> </u>	A.IVI. 1/	<u> </u>
12:00	*	*	*	*	*	100	7	113	7	103	2 2	70	12	95	8	102
12:13	*	*	*	*	*	114	י 2	90	6	108	q	03	12	62	8	02
12:30	*	*	*	*	*	100	7	116	6	07	6	95 87	0	72	7	93
01:00	*	*	*	*	*	01	2	06	2	97 110	7	76	11	79	6	94
01.00	*	*	*	*	*	102	ວ ວ	100	2	110	1	10	10	10	5	92
01.15	*	*	*	*	*	103	2	109	5	110	4	93	10	40	5	92
01:30	*	*	*	*	*	101	5	109	8	112	5	69 70	5	51	0	88
01:45	*	*	*	*	*	97	2	80	9	113	0	73	0	15	4	89
02:00		*				88	3	92	4	90	1	12	6	53	4	79
02:15	*	*	*			93	0	101	2	82	4	66 70	4	61	2	81
02:30	*	*	*			95	4	112	4	94	6	78	3	68	4	89
02:45						100	4	117	2	119	3	59		59	4	91
03:00						106	1	115	5	105	5	83	1	67	3	95
03:15	*		*	*	*	115	2	103	2	126	3	92	3	58	2	99
03:30	*	*	*		*	96	4	115	2	110	2	94	3	60	3	95
03:45	*	*	*	*	*	102	4	99	2	98	3	84	2	69	3	90
04:00	*	*	*	*	*	102	5	130	5	125	7	72	2	72	5	100
04:15	*	*	*	*	*	105	2	122	4	127	4	67	0	52	2	95
04:30	*	*	*	*	*	108	6	125	7	99	3	69	4	68	5	94
04:45	*	*	*	*	*	130	8	117	6	133	7	66	4	71	6	103
05:00	*	*	*	*	*	110	8	124	9	107	5	75	3	55	6	94
05:15	*	*	*	*	*	115	11	135	14	128	7	67	3	65	9	102
05:30	*	*	*	*	*	118	19	139	18	108	5	96	4	55	12	103
05:45	*	*	*	*	*	117	44	103	42	116	15	69	12	70	28	95
06:00	*	*	*	*	*	103	26	88	23	95	9	73	11	84	17	89
06:15	*	*	*	*	*	89	21	93	39	80	10	53	8	51	20	73
06:30	*	*	*	*	*	100	38	64	39	71	14	55	15	61	26	70
06:45	*	*	*	*	*	87	36	81	45	90	17	40	15	57	28	71
07:00	*	*	*	*	*	71	74	55	51	82	21	52	11	67	39	65
07:15	*	*	*	*	*	73	66	69	70	60	35	55	11	72	46	66
07:30	*	*	*	*	*	70	73	62	88	51	33	43	13	56	52	56
07:45	*	*	*	*	*	52	102	71	103	77	43	51	11	69	65	64
08:00	*	*	*	*	*	44	113	50	104	50	32	55	18	54	67	51
08:15	*	*	*	*	*	61	91	62	85	59	52	61	23	49	63	58
08:30	*	*	*	*	*	60	83	42	90	63	30	50	34	47	59	52
08:45	*	*	*	*	*	50	76	44	71	52	48	51	31	51	56	50
09:00	*	*	*	*	*	44	74	45	89	50	71	50	41	46	69	47
09:15	*	*	*	*	*	58	65	46	69	44	57	42	41	43	58	47
09:30	*	*	*	*	*	25	72	32	90	40	59	38	42	26	66	32
09:45	*	*	*	*	*	27	89	32	94	43	63	36	43	28	72	33
10:00	*	*	*	*	*	27	82	27	77	39	71	52	54	15	71	32
10:15	*	*	*	*	*	27	79	28	91	23	64	22	60	19	74	24
10:30	*	*	*	*	*	22	91	14	60	15	84	13	64	20	75	17
10:45	*	*	*	*	*	15	81	15	74	20	83	22	63	18	75	18
11:00	*	*	*	*	*	19	93	19	95	19	105	19	46	13	85	18
11:15	*	*	*	*	*	17	91	17	94	26	109	13	59	13	88	17
11:30	*	*	*	*	*	9	93	14	83	24	102	23	68	10	86	16
11:45	*	*	*	*	31	11	91	15	94	14	84	21	65	4	73	13
Total	0	0	0	0	31	3655	1965	3734	2004	3844	1432	2854	985	2516	1586	3319
Day Total	(0	()	3	686	50	699	5	848	4	286	3	501	49	05
% Splits	0.0%	0.0%	0.0%	0.0%	0.8%	99.2%	34.5%	65.5%	34.3%	65.7%	33.4%	66.6%	28.1%	71.9%	32.3%	67.7%
Peak						04:45	07:45	04:45	07:45	04:00	11:00	03:00	10:00	00:15	10:45	04:45
Vol.						473	389	515	382	484	400	353	241	307	334	402
P.H.F.						0.910	0.861	0.926	0.918	0.910	0.917	0.939	0.941	0.808	0.949	0.976

Site Code: 00000004444 Station ID: 00000000000

Latitude: 0' 0.000 Undefined

Start	11-J	un-12		Tue	V	Ved	Г	⁻ hu		Fri	ę	Sat	5	Sun	Avera	ge Day
Time	A.M.	P.M.	. A.M.	. P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	8	97	15	92	8	*	*	*	*	*	*	*	*	*	10	94
12:15	7	83	9	95	8	*	*	*	*	*	*	*	*	*	8	89
12:30	4	101	5	99	6	*	*	*	*	*	*	*	*	*	5	100
12.45	7	101	1	101	8	*	*	*	*	*	*	*	*	*	5	101
01.00	1	90	6	00	2	*	*	*	*	*	*	*	*	*	3	0/
01.00	3	113	6	104	2	*	*	*	*	*	*	*	*	*	1	108
01.13	1	117	1	107	2	*	*	*	*	*	*	*	*	*	2	110
01.30	1 E	04	i G	00	0	*	*	*	*	*	*	*	*	*	2	110
01.45	5	94	0	90	0	*	*	*	*	*	*	*	*	*	4	90
02.00	2	90	1	93	4	*	*	*	*	*	*	*	*	*	2	94
02:15	1	112	1	89	0	+	4			*	+	+	+		1	100
02:30	2	96	6	95	2	Â	<u>,</u>		<u>,</u>	Ŷ	* ^	Ĵ			3	96
02:45	3	109	3	105	3										3	107
03:00	3	101	2	113	1	*	*	*	*	*	*	*	*	*	2	107
03:15	3	106	2	131	2	*	*	*	*	*	*	*	*	*	2	118
03:30	3	118	2	128	3	*	*	*	*	*	*	*	*	*	3	123
03:45	6	103	7	115	5	*	*	*	*	*	*	*	*	*	6	109
04:00	3	80	3	108	5	*	*	*	*	*	*	*	*	*	4	94
04:15	1	106	3	97	2	*	*	*	*	*	*	*	*	*	2	102
04:30	8	106	5	117	6	*	*	*	*	*	*	*	*	*	6	112
04:45	3	137	8	119	7	*	*	*	*	*	*	*	*	*	e 6	128
05:00	8	122	q	104	á	*	*	*	*	*	*	*	*	*	à	113
05:15	12	130	0	115	16	*	*	*	*	*	*	*	*	*	12	122
05.15	10	130	9	115	10	*	*	*	*	*	*	*	*	*	10	02
05.30	29	95	20	09 67	20	*	*	*	*	*	*	*	*	*	20	92
05:45	30	97	40	67	41	+				*	+	+	+		41	82
06:00	30	86	29	81	31	Â	<u>,</u>		<u>,</u>	Ŷ	*	Ĵ			30	84
06:15	29	89	33	75	28	*	*	*	*	*	*	*	*	*	30	82
06:30	36	65	39	55	39	*	*	*	*	*	*	*	*	*	38	60
06:45	40	89	49	65	51	*	*	*	*	*	*	*	*	*	47	77
07:00	58	77	60	50	55	*	*	*	*	*	*	*	*	*	58	64
07:15	65	82	60	47	58	*	*	*	*	*	*	*	*	*	61	64
07:30	90	67	73	35	76	*	*	*	*	*	*	*	*	*	80	51
07:45	110	57	129	59	89	*	*	*	*	*	*	*	*	*	109	58
08:00	111	71	104	44	101	*	*	*	*	*	*	*	*	*	105	58
08:15	85	54	76	37	102	*	*	*	*	*	*	*	*	*	88	46
08.30	87	64	77	43	90	*	*	*	*	*	*	*	*	*	85	54
08:45	81	45	80	37	75	*	*	*	*	*	*	*	*	*	70	41
00.40	79	40	00	22	80	*	*	*	*	*	*	*	*	*	9/ 8/	27
00.15	67	27	00	41	60	*	*	*	*	*	*	*	*	*	70	20
09.15	70	27	60	41	60	*	*	*	*	*	*	*	*	*	60	39
09:30	70	37	69	23	69	*	*			*	*	*			69	30
09:45	95	33	84	19	83										87	26
10:00	76	29	91	24	60										76	26
10:15	87	20	62	22	0	*	*	*	*	*	*	*	*	*	50	21
10:30	60	17	77	18	0	*	*	*	*	*	*	*	*	*	46	18
10:45	90	17	60	14	0	*	*	*	*	*	*	*	*	*	50	16
11:00	82	14	72	6	0	*	*	*	*	*	*	*	*	*	51	10
11:15	75	17	89	16	0	*	*	*	*	*	*	*	*	*	55	16
11:30	71	5	93	7	0	*	*	*	*	*	*	*	*	*	55	6
11:45	77	12	82	9	0	*	*	*	*	*	*	*	*	*	53	10
Total	1910	3635	1945	3335	1323	0	0	0	0	0	0	0	0	0	1728	3485
Day	5	545	52	280	13	323	()	-	0	(0		0	52	13
10tal % Splite	34 1%	65 6%	36.8%	63.2%	100.0	0.0%	0.0%	0.0%	0.0%	በ በ%	0.0%	0.0%	0.0%	0.0%	22 1%	66 0%
	J 7 .470	00.070	50.070	00.270	%	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	0.070	55.170	00.970
Peak	07:30	04:30	07:45	03:00	07:45										07:45	04:30
Vol.	396	495	386	487	382										387	475
<u> </u>	0.892	0.903	0.748	0.929	0.936										0.888	0.928

ADT ADT 10,375 AADT 10,375

Site Code: 000000011111 Station ID: 000000000000

Latitude: 0' 0.000 Undefined

Start	04 1	un 12		-	1	Nod		Thu		Eri		Sat		Sun	Avora	
Timo	04-J				^ N/		A N/		A N/		A M		A N/			ре Бау
12:00	A.IVI. *	F.IVI. *		F.IVI. *		<u> </u>	A.IVI. 12	122	A.IVI. 12	121	<u> </u>	<u> </u>	. A.ivi.	F .IVI.	<u>A.ivi.</u>	<u> </u>
12:00	*	*	*	*	*	116	13	120	0	107	10	101	0	72	0	102
12.10	*	*	*	*	*	110	9	10	0	107	10	04	0 11	13	9 10	105
12.30	*	*	*	*	*	109	15	100	11	132	7	102	0 II	83	10	103
01:00	*	*	*	*	*	04	10	116	6	140	7	103	6	76	0	100
01.00	*	*	*	*	*	94 100	13	110	0	149	/ E	120	14	70 96	0	102
01.15	*	*	*	*	*	100	4	106	4	102	ວ ວ	107	14	00 76	1	103
01.30	*	*	*	*	*	120	2	100	9	143	3 7	101	2	10	4	109
01:45						107	2	112	3	125	5	111	3	00	3	108
02:00	Ĵ.	, ,	<u>,</u>	, T	÷	146	2	132	9	130	4	93	4	82	5	117
02:15	 			*	-	123	0	109	6	123	4	102	3	65	3	104
02:30	Ĵ.	, ,	<u>,</u>	, T	÷	102	3	116	2	138	2	82	9	66	4	101
02:45				Ĵ		132	1	123	2	148	4	90	0	74	2	113
03:00	*	*	*	*	*	126	2	119	5	111	4	83	3	93	4	106
03:15	*	*	*	*	*	128	4	162	2	143	0	93	4	71	2	119
03:30	*	*	*	*	*	124	3	104	4	122	3	91	1	55	3	99
03:45	*	*	*	*	*	123	2	140	5	112	4	90	5	70	4	107
04:00	*	*	*	*	*	133	7	131	0	136	2	88	2	77	3	113
04:15	*	*	*	*	*	126	7	120	8	126	4	73	4	55	6	100
04:30	*	*	*	*	*	142	3	152	7	126	4	71	7	74	5	113
04:45	*	*	*	*	*	153	8	116	5	124	2	87	5	64	5	109
05:00	*	*	*	*	*	133	7	148	12	135	5	87	5	64	7	113
05:15	*	*	*	*	*	115	5	116	8	116	8	107	7	76	7	106
05:30	*	*	*	*	*	108	14	96	15	87	7	99	6	78	10	94
05:45	*	*	*	*	*	95	25	100	15	107	20	61	6	76	16	88
06:00	*	*	*	*	*	87	20	94	30	108	11	63	q	61	20	83
06:15	*	*	*	*	*	71	20	84	35	78	15	86	7	66	20	77
06:30	*	*	*	*	*	21 21	42	69	42	70	17	65	10	68	22	71
00.30	*	*	*	*	*	72	42	00	42	64	17	61	10	62	20	69
00.43	*	*	*	*	*	13	50	01	43	04 74	17	01	10	47	32	00
07:00	*					80	52	15	00	/1	20	00	18	47	40	68
07:15	 			*	-	70	70	76	76	84	20	63	11	62	44	71
07:30				Ĵ		52	106	72	94	88	32	78	19	39	63	66
07:45						77	107	99	97	65	52	66	27	46	71	71
08:00	*	*	*	*	*	106	114	72	91	102	50	73	16	63	68	83
08:15	*	*	*	*	*	69	103	80	109	67	35	56	20	67	67	68
08:30	*	*	*	*	*	62	91	57	96	55	65	46	36	53	72	55
08:45	*	*	*	*	*	60	102	53	113	64	57	54	36	51	77	56
09:00	*	*	*	*	*	61	97	42	109	60	68	34	35	46	77	49
09:15	*	*	*	*	*	43	72	33	87	42	69	36	40	36	67	38
09:30	*	*	*	*	*	43	86	34	93	40	70	42	48	30	74	38
09:45	*	*	*	*	*	32	83	30	86	49	68	36	59	33	74	36
10:00	*	*	*	*	*	37	86	29	88	68	79	27	67	16	80	35
10:15	*	*	*	*	*	38	80	23	95	33	68	26	43	18	72	28
10:30	*	*	*	*	*	36	108	22	92	35	95	23	86	13	95	26
10:45	*	*	*	*	*	19	95	14	120	26	97	18	59	10	93	17
11:00	*	*	*	*	*	21	101	23	91	12	108	24	51	14	88	19
11:15	*	*	*	*	102	10	109	10	97	23	110	12	65	10	97	13
11.30	*	*	*	*	101	9	108	20	117	11	100	17	76	6	100	13
11.00	*	*	*	*	100	12	111	20	131	10	107	16	76	R R	107	11
Total	0	0	0	0	312	4112	2201	4102	2265	4336	1572	3303	1058	260/	1776	3711
n Ulai Davi	0	0	U	U	512	7112	2201	4103	2200	-550	1312	5502	1000	2034	1110	5/11
Day Totol		0	()	4	424	6	304	60	601	4	874	3	752	54	87
101al	0.00/	0.00/	0.00/	0.00/	7 10/	02 00/	2/ 00/	65 10/	2/ 20/	65 70/	22 20/	67 70/	20 20/	71 00/	22 /0/	67 60/
70 Spins	0.0%	0.0%	0.0%	0.0%	1.170	92.9%	34.9%	05.1%	34.3%	05.1%	32.3%	01.170	20.270	11.0%	JZ.470	07.0%
Book						04.00	07.20	02.45	11.00	02.20	11.00	01.00	11.00	01.15	11.00	04.20
Peak						04:00 EE /	120	U3:45	11:00	UZ:30	11:00	420	11:00	220	202	04:30
						0.005	430	543	436	040	425	439	208	330	392	441
P.H.F.						0.905	0.943	0.893	0.832	0.912	0.966	0.915	0.882	0.959	0.916	0.926

Site Code: 000000011111 Station ID: 000000000000

Latitude: 0' 0.000 Undefined

Start	11-J	un-12		Tue	٧	Ved	Т	hu		Fri	5	Sat	5	Sun	Avera	ge Day
Time	A.M.	P.M.	. A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	4	117	16	108	10	*	*	*	*	*	*	*	*	*	10	112
12:15	7	86	8	96	5	*	*	*	*	*	*	*	*	*	7	91
12:30	4	119	5	86	8	*	*	*	*	*	*	*	*	*	6	102
12.45	1	102	19	101	15	*	*	*	*	*	*	*	*	*	12	102
01.00	1	111	5	102	6	*	*	*	*	*	*	*	*	*	5	106
01.00	7	08	5	002	2	*	*	*	*	*	*	*	*	*	5	0/
01.13	2	90 94	3	103	1	*	*	*	*	*	*	*	*	*	2	04
01.30	2	04	3	103	1	*	*	*	*	*	*	*	*	*	2	94
01.45	ວ ∡	400	4	107	1	*	*	*	*	*	*	*	*	*	ა ი	400
02:00	1	122	1	124	3	+	+	*	-	*	+	-	-	*	2	123
02:15	2	112	1	124	5			Î.		Î.		Î.			3	118
02:30	6	112	3	116	1	*	*	*	*	*	*	*	*	*	3	114
02:45	0	118	5	145	1	*	*	*	*	*	*	*	*	*	2	132
03:00	3	121	3	100	2	*	*	*	*	*	*	*	*	*	3	110
03:15	0	145	1	135	2	*	*	*	*	*	*	*	*	*	1	140
03:30	1	112	2	126	6	*	*	*	*	*	*	*	*	*	3	119
03:45	3	114	3	113	3	*	*	*	*	*	*	*	*	*	3	114
04:00	4	120	7	123	3	*	*	*	*	*	*	*	*	*	5	122
04:15	6	117	4	114	6	*	*	*	*	*	*	*	*	*	5	116
04:30	7	109	7	118	3	*	*	*	*	*	*	*	*	*	6	114
04:45	8	117	5	144	6	*	*	*	*	*	*	*	*	*	6	130
05.00	5	125	12	130	8	*	*	*	*	*	*	*	*	*	8	128
05.00	12	125	12	00	7	*	*	*	*	*	*	*	*	*	11	120
05.15	10	70	10	00 70	10	*	*	*	*	*	*	*	*	*	15	00 70
05.30	12	79	10	10	10	*	*	*	*	*	*	*	*	*	10	10
05:45	23	98	14	84	24	+	+	*	-	*	+	-	-	*	20	91
06:00	22	88	24	90	28		* ^	Â	^ _	Ŷ	^ _	, ,			25	89
06:15	27	81	33	78	31	*	*	*	*	*	*	*	*	*	30	80
06:30	42	85	46	68	37	*	*	*	*	*	*	*	*	*	42	76
06:45	55	73	36	73	56	*	*	*	*	*	*	*	*	*	49	73
07:00	56	73	62	52	50	*	*	*	*	*	*	*	*	*	56	62
07:15	81	65	81	48	89	*	*	*	*	*	*	*	*	*	84	56
07:30	101	70	106	49	99	*	*	*	*	*	*	*	*	*	102	60
07:45	87	63	96	41	90	*	*	*	*	*	*	*	*	*	91	52
08:00	97	93	105	37	103	*	*	*	*	*	*	*	*	*	102	65
08:15	96	76	114	38	92	*	*	*	*	*	*	*	*	*	101	57
08:30	96	60	89	37	102	*	*	*	*	*	*	*	*	*	96	48
08:45	102	57	84	37	95	*	*	*	*	*	*	*	*	*	94	47
00.40	95	17	05	12	75	*	*	*	*	*	*	*	*	*	88	11
00.15	04	47	72	72	50	*	*	*	*	*	*	*	*	*	72	44
09.15	94	44 50	13	30	52	*	*	*	*	*	*	*	*	*	13	40
09.30	04	20	00	29	0	*	*	*	*	*	*	*	*	*	22	42
09:45	99	38	88	21	0	+	+	*	-	*	+	-	-	*	62	30
10:00	92	38	84	27	0										59	32
10:15	82	27	67	19	0	*	*	*	*	*	*	*	*	*	50	23
10:30	99	18	84	16	0	*	*	*	*	*	*	*	*	*	61	17
10:45	77	21	100	7	0	*	*	*	*	*	*	*	*	*	59	14
11:00	93	14	88	11	0	*	*	*	*	*	*	*	*	*	60	12
11:15	86	14	86	13	0	*	*	*	*	*	*	*	*	*	57	14
11:30	96	18	113	7	0	*	*	*	*	*	*	*	*	*	70	12
11:45	111	16	100	9	0	*	*	*	*	*	*	*	*	*	70	12
Total	2096	3849	2096	3539	1145	0	0	0	0	0	0	0	0	0	1782	3692
Dav	_		_		-				-	_	-	_	-	-		
Total	5	945	50	535	11	45	C)		0	()		0	54	74
% Splits	35.3%	64.7%	37.2%	62.8%	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	32.6%	67.4%
Peak	08.00	02:30	07:30	02.00	08.00										07:30	02.45
Vol	391	496	421	509	392										396	501
PHF	0 925	0 855	0 023	0.878	0 92										0 071	0 805
<u> </u>	0.000	0.000	0.020	0.070	0.001										0.071	0.000

ADT ADT 10,580 AADT 10,580

Site Code: 00000033333 Station ID: 00000000000

Start	04-Jı	un-12	Т	ue	1	Ved		Thu		Fri		Sat		Sun	Avera	ige Day
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M	. A.M.	P.M	. A.M.	P.M	. A.M.	P.M	A.M.	P.M.
12:00	*	*	*	*	*	21	2	26	0	37	6	34	6	29	4	29
12:15	*	*	*	*	*	31	6	22	2	43	4	47	3	36	4	36
12:30	*	*	*	*	*	37	7	25	4	58	7	36	5	16	6	34
12:45	*	*	*	*	*	26	4	31	0	40	6	35	0	23	2	31
01:00	*	*	*	*	*	44	0	34	2	39	0	45	5	10	2	34
01:15	*	*	*	*	*	47	0	25	0	40	0	37	3	26	1	35
01:30	*	*	*	*	*	54	5	23	2	32	4	34	0	33	3	35
01:45	*	*	*	*	*	27	3	18	0	20	0	26	0	36	1	25
02:00	*	*	*	*	*	32	0	28	3	29	4	41	0	22	2	30
02:15	*	*	*			35	0	21	0	21	0	20	5	33	1	26
02:30	*	*	*		*	23	0	21	0	34	0	34	0	20	0	26
02:45	*	*	*	÷.	*	47	5	55	5	48	0	26	2	20	3	39
03:00	<u>,</u>	÷	<u>.</u>	Ĵ	<u>.</u>	33	0	37	0	30	2	21	0	19	0	28
03:15		*		,	*	28	3	61	0	21	0	39	2	21	1	34
03:30	*	*	*	*	*	34	0	29	0	35	0	42	2	20	0	32
03:45	*	*	*	*	*	20	0	43	0	40	0	28	0	19	0	32
04:00	*	*	*	*	*	39	2	30	2	44 51	3	20	0	15	2	30
04.15	*	*	*	*	*	44	2	34	0	20	ວ 1	13	2	20	2	აა ეი
04.30	*	*	*	*	*	20 51	0	30	3 1	30	1	20 19	3 1	22	2	20
04.43	*	*	*	*	*	35	5	24	7	31	3	36	0	19	1	21
05:15	*	*	*	*	*	26	4	39	1	34	2	50	5	10	4	33
05:30	*	*	*	*	*	20	2	20	- 2	29	0	38	0	30	1	29
05:45	*	*	*	*	*	47	8	68	7	49	0	28	6	22	5	43
06:00	*	*	*	*	*	43	10	51	ģ	29	3	25	5	38	7	37
06:15	*	*	*	*	*	33	5	40	10	32	8	39	0	17	6	32
06:30	*	*	*	*	*	46	17	26	12	38	6	25	3	24	10	32
06:45	*	*	*	*	*	33	25	31	21	21	14	20	2	10	16	23
07:00	*	*	*	*	*	27	33	32	8	48	5	33	5	20	13	32
07:15	*	*	*	*	*	39	13	38	27	22	10	38	4	35	14	34
07:30	*	*	*	*	*	17	33	15	31	26	9	22	4	28	19	22
07:45	*	*	*	*	*	16	39	51	29	12	4	19	7	16	20	23
08:00	*	*	*	*	*	43	25	24	26	15	13	28	3	15	17	25
08:15	*	*	*	*	*	22	44	15	36	39	21	23	2	29	26	26
08:30	*	*	*	*	*	22	24	29	22	37	18	43	6	13	18	29
08:45	*	*	*	*	*	29	24	23	36	36	15	36	23	17	24	28
09:00	*	*	*	*	*	20	35	31	26	9	13	14	10	18	21	18
09:15	*	*	*	*	*	9	19	8	9	23	11	23	9	21	12	17
09:30	*	*	*	*	*	9	27	17	14	10	18	11	36	6	24	11
09:45	*	*	*	*	*	0	35	7	24	21	30	16	33	3	30	9
10:00	*	*	*	*	*	3	25	13	14	10	15	20	15	2	17	10
10:15	*	*	*			3	29	3	10	14	20	6	17	5	19	6
10:30	*	*	*	*	*	3	25	5	25	15	19	4	12	4	20	6
10:45	*	*	*	÷.	*	1	31	2	22	6	32	6	19	2	26	3
11:00	<u>,</u>	÷	<u>.</u>	Ĵ	<u>.</u>	3	26	4	23	6	15	5	23	2	22	4
11:15	*	*	*		^ ^	0	42	3	12	9	46	5	35	2	34	4
11:30		*	*	*	27	3	20	3	29	6	33	4	25	0	21	3
<u>11:45</u>					12	4050		1001	28	1007	17	1040	21	9	23	4 4 1 2 0 7
Total	0	0	0	0	39	1200	699	1291	547	1307	440	1240	309	002	515	1207
Day Total	(0	()	12	297	19	990	19	914	1	688	1:	251	17	22
% Snlits	0.0%	0.0%	0.0%	0.0%	3.0%	97 0%	35 1%	64 9%	28.6%	71 4%	26 1%	73 9%	29 5%	70 5%	29.9%	70 1%
70 Opino	0.070	0.070	0.070	0.070	0.070	51.070	55.170	04.070	20.070	7 1.770	20.170	10.070	20.070	10.070	20.070	10.170
Peak						01:00	07:30	03:15	07:30	03:45	10:45	00:15	11:00	01:30	10:45	05:45
Vol.						172	141	189	122	181	126	163	104	124	109	144
P.H.F.						0.796	0.801	0.775	0.847	0.780	0.685	0.867	0.743	0.861	0.801	0.837

Site Code: 00000033333 Station ID: 00000000000

Latitude: 0' 0.000 South

Start	11-J	un-12		Tue	V	Ved	٦	Thu		Fri	;	Sat	S	Sun	Avera	ge Day
Time	A.M.	P.M.	. A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	2	19	5	16	0	0	*	*	*	*	*	*	*	*	2	12
12:15	0	41	2	36	2	*	*	*	*	*	*	*	*	*	1	38
12:30	4	31	2	28	4	*	*	*	*	*	*	*	*	*	3	30
12:45	1	25	2	31	5	*	*	*	*	*	*	*	*	*	3	28
01.00	0	26	0	44	Ő	*	*	*	*	*	*	*	*	*	Õ	35
01.00	Õ	20	Ő	62	2	*	*	*	*	*	*	*	*	*	1	41
01:30	2	15	0	61	0	*	*	*	*	*	*	*	*	*	1	38
01:45	2	10	0	50	0	*	*	*	*	*	*	*	*	*	0	34
01.43	1	20	0	30	5	*	*	*	*	*	*	*	*	*	3	24
02.00	4	29	0	39	5	*	*	*	*	*	*	*	*	*	3	34
02.15	0	21	0	33	0	*	*	*	*	*	*	*	*	*	0	21
02:30	0	41	0	33	0	*	*	*		*	*				0	37
02:45	0	32	2	46	2										1	39
03:00	2	23	3	36	0		*								2	30
03:15	0	19	5	38	0	*	*		*	*	*	*	*	*	2	28
03:30	2	41	0	20	5	*	*	*	*	*	*	*	*	*	2	30
03:45	0	28	0	50	0	*	*	*	*	*	*	*	*	*	0	39
04:00	2	29	2	35	0	*	*	*	*	*	*	*	*	*	1	32
04:15	2	26	0	33	0	*	*	*	*	*	*	*	*	*	1	30
04:30	0	50	2	28	0	*	*	*	*	*	*	*	*	*	1	39
04:45	0	49	0	25	0	*	*	*	*	*	*	*	*	*	0	37
05:00	4	24	5	34	3	*	*	*	*	*	*	*	*	*	4	29
05:15	0	46	8	41	4	*	*	*	*	*	*	*	*	*	4	44
05:30	2	37	2	34	4	*	*	*	*	*	*	*	*	*	3	36
05:45	7	26	6	18	7	*	*	*	*	*	*	*	*	*	7	22
06:00	à	47	7	26	2	*	*	*	*	*	*	*	*	*	6	36
06:15	12	50	6	20	1/	*	*	*	*	*	*	*	*	*	11	37
00.13	0	20	14	24	14	*	*	*	*	*	*	*	*	*	10	27
00.30	10	32	14	11	14	*	*	*	*	*	*	*	*	*	12	22
06.45	19	30	21	21	20	*	*	*	*	*	*	*	*	*	22	20
07:00	22	24	15	16	21		- -	*		*		*	 		19	20
07:15	8	23	6	28	21										12	26
07:30	28	34	29	30	35		*			*	*				31	32
07:45	19	21	33	6	29	*	*	*	*	*	*	*	*	*	27	14
08:00	19	21	26	8	28	*	*	*	*	*	*	*	*	*	24	14
08:15	44	24	16	13	44	*	*	*	*	*	*	*	*	*	35	18
08:30	34	16	28	10	14	*	*	*	*	*	*	*	*	*	25	13
08:45	23	22	25	10	31	*	*	*	*	*	*	*	*	*	26	16
09:00	37	17	23	12	29	*	*	*	*	*	*	*	*	*	30	14
09:15	27	19	21	13	18	*	*	*	*	*	*	*	*	*	22	16
09:30	17	2	14	6	14	*	*	*	*	*	*	*	*	*	15	4
09:45	16	8	18	2	17	*	*	*	*	*	*	*	*	*	17	5
10:00	22	10	19	2	2	*	*	*	*	*	*	*	*	*	14	6
10.15	31	4	20	5	0	*	*	*	*	*	*	*	*	*	17	4
10:10	20	4	21	4	Ő	*	*	*	*	*	*	*	*	*	14	4
10:45	40	2	41	2	0	*	*	*	*	*	*	*	*	*	27	2
11:00	-10	1	21	2	0	*	*	*	*	*	*	*	*	*	11	2
11.00	16	י ר	10	9	0	*	*	*	*	*	*	*	*	*	14	1
11.15	20	2	19	0	0	*	*	*	*	*	*	*	*	*	12	1
11.30	29	2	23	0	0	*	*	*		*	*	*		*	17	1
<u> </u>	24	2	30	0	0	^		^		^		^			18	1
Iotai	579	1138	542	1129	401	0	0	0	0	0	0	0	0	0	509	1128
Day Total	1	717	1	671	4	01	(C		0		0		0	16	37
% Splits	33.7%	66.3%	32.4%	67.6%	100.0 %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	31.1%	68.9%
Peak	08:15	04:30	07:30	01:00	07:30										07:30	04:30
Vol.	138	169	104	217	136										117	149
<u>P.</u> H.F.	0.784	0.845	0.788	0.875	0.773										0.836	0.847

ADT ADT 1,705 AADT 1,705

Site Code: 00000022222 Station ID: 00000000000

Start	04-Jı	un-12	Т	ue	V	Ved		Thu		Fri		Sat		Sun	Avera	ide Dav
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M	A.M	P.M	A.M.	P.M.	A.M.	P.M.
12:00	*	*	*	*	*	22	0	9	2	28	0	11	0	12	0	16
12:15	*	*	*	*	*	7	3	13	1	23	Ő	6	5	10	2	12
12:30	*	*	*	*	*	22	1	10	0	11	2	6	2	11	1	12
12:45	*	*	*	*	*	25	2	6	Ő	14	0	12	4	9	2	13
01:00	*	*	*	*	*	13	0	17	Ő	13	Ő	8	. 1	8	0	12
01:15	*	*	*	*	*	9	0	14	1	9	1	10	0	12	Ő	11
01:30	*	*	*	*	*	20	Ő	18	1	19	0	2	Ő	14	Õ	15
01:45	*	*	*	*	*	13	1	15	0	8	1	23	0	8	Ő	13
02.00	*	*	*	*	*	10	0	17	0	15	0	15	1	14	0	14
02:00	*	*	*	*	*	14	1	7	0	15	3	11	2	5	2	10
02.10	*	*	*	*	*	14	0	12	0	23	3	10	2	12	1	15
02:30	*	*	*	*	*	16	0	24	0	14	0	a	2	16	0	16
02.40	*	*	*	*	*	0	2	26	0	19	0	9 0	2	16	0	15
03:15	*	*	*	*	*	12	2	20	0	0	0	7	0	10	0	10
03.10	*	*	*	*	*	10	0	16	0	12	0	10	0	4 10	0	10
03:45	*	*	*	*	*	12	0	10	0	13	2	10	0	10	0	10
03.43	*	*	*	*	*	28	0	15	1	9 1/		4	0	6	0	14
04:00	*	*	*	*	*	20	0	10	0	6	0	13	0	0	0	14
04.13	*	*	*	*	*	7	1	10	0	17	0	15	0	9 0	0	9 10
04.30	*	*	*	*	*	6	0	10	0	1/	0	0 0	0	12	0	10
04.40	*	*	*	*	*	7	1	10	2	0	1	10	0	13	1	10
05:15	*	*	*	*	*	12	1	13	2	10	0	1/	0	1	0	9 12
05:30	*	*	*	*	*	13	0	1/	0	15	2	14	0	0	0	12
05:45	*	*	*	*	*	10	3	0	0	15	2	12	1	9 5	2	10
05.45	*	*	*	*	*	10	ວ 2	30	4	15	0	13	1	0	2	10
06.00	*	*	*	*	*	10	3 2	20	5	15	2	5	1	9	2	13
00.13	*	*	*	*	*	0	2	11	2	9	0	2	1	12	2	7
06:45	*	*	*	*	*	22	2	11	3	2	0	3 7	1	13	2	11
00.45	*	*	*	*	*	22	11	14	2	0	2	7	1	1	2	7
07.00	*	*	*	*	*	3	7	10	10	9	ວ ວ	1	4	0	5	7
07:15	*	*	*	*	*	9	/	20	10	5	10	4	0	11	ວ 0	11
07.30	*	*	*	*	*	9	9	20	10	16	10	13	4	C 11	0	10
07.45	*	*	*	*	*	10	11	9	10	10	5	2	1	7	0	10
08:00	*	*	*	*	*	13	9	11	9 7	/	3	0	1	/	0 7	9
00.15	*	*	*	*	*	15	11	0	17	9	ن 11	1	0	0	10	0
00.30	*	*	*	*	*	0	10	ວ 0	17	10	11	9	1	0	10	10
00.45	*	*	*	*	*	10	13	0	10	9 7	0	22	9	15	0	10
09.00	*	*	*	*	*	12	0	ວ 5	11	1	9	0	2	10	0	9
09.15	*	*	*	*	*	2	10	5	11	5	4	97	4	2	10	4
09.30	*	*	*	*	*	Э 1	19	2	10	11	0 10	1	0	0	10	4
09.45	*	*	*	*	*	1		4	10	11	12	2	2	ა ⊿	10	4
10.00	*	*	*	*	*	ວ ວ	12	5	10	9	0	0	6	4	11	5
10.15	*	*	*	*	*	3 5	13	5 5	10	10	0	9	40	3	11	э 7
10.30	*	*	*	*	*	Э 1	10	5	0	10	11	0	12	0	12	1
10:45	*	*	*	*	*	1	7	2	10	3	9	4	1	4	9	3
11:00						2	/	1	17	2	8	4	6	1	10	3
11:15	*	*	*	*	-	5	2	2	13	1	5	2	6	8	6	4
11:30					1	0		1	13	4	10	3	9	2	9	2
<u> </u>		^		^	5	5	1	1	19	0	12	1	5	2	8	2
Iotai	0	0	0	0	12	479	219	504	271	512	169	385	122	380	189	450
Day	(0	()	4	91	7	23	7	'83	5	554	5	02	6	39
	0.001	0.00/	0.001	0.00/	0 40/	07 00/	00.00/	00 70/	04.00/	05 404	00 50/	00 50/	04.00/		00.00/	70 401
% Splits	0.0%	0.0%	0.0%	0.0%	2.4%	97.6%	30.3%	69.7%	34.6%	65.4%	30.5%	69.5%	24.3%	15.1%	29.6%	70.4%
						40.00	00.00	00.45	44.00	40.00	00.45	04.45	40.00	00.45	00.45	00.45
Peak						12:00	09:30	02:45	11:00	12:00	09:45	01:45	10:00	02:15	09:45	02:15
						76	51	86	62	76	41	59	33	49	42	56
P.H.F.						0.760	0.671	0.827	0.816	0.679	0.854	0.641	0.688	0.766	0.875	0.875

Site Code: 00000022222 Station ID: 00000000000

Latitude: 0' 0.000 South

Start	11-J	un-12		Tue	V	Ved	Т	ĥu		Fri		Sat	,	Sun	Avera	ge Day
Time	A.M.	P.M.	A.M.	. P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	. A.M.	P.M	. A.M.	P.M.
12:00	0	16	0	27	3	0	*	*	*	*	*	*	*	*	1	14
12:15	0	11	0	11	2	1	*	*	*	*	*	*	*	*	1	8
12:30	2	28	2	13	0	*	*	*	*	*	*	*	*	*	1	20
12:45	0	18	0	17	0	*	*	*	*	*	*	*	*	*	0	18
01:00	0	12	1	27	0	*	*	*	*	*	*	*	*	*	0	20
01:15	1	15	2	13	0	*	*	*	*	*	*	*	*	*	1	14
01:30	0	10	0	10	0	*	*	*	*	*	*	*	*	*	0	10
01:45	0	12	1	14	0	*	*	*	*	*	*	*	*	*	0	13
02:00	1	14	0	14	5	*	*	*	*	*	*	*	*	*	2	14
02:15	1	16	1	12	2	*	*	*	*	*	*	*	*	*	1	14
02:30	0	23	0	10	0	*	*	*	*	*	*	*	*	*	0	16
02:45	0	9	0	20	0	*	*	*	*	*	*	*	*	*	0	14
03:00	2	9	2	7	0	*	*	*	*	*	*	*	*	*	1	8
03:15	0	12	0	10	0	*	*	*	*	*	*	*	*	*	0	11
03:30	1	19	0	10	0	*	*	*	*	*	*	*	*	*	0	14
03:45	0	18	0	16	0	*	*	*	*	*	*	*	*	*	0	17
04:00	1	12	0	15	0	*	*	*	*	*	*	*	*	*	0	14
04:15	0	19	0	16	0	*	*	*	*	*	*	*	*	*	0	18
04:30	õ	21	Ő	17	õ	*	*	*	*	*	*	*	*	*	Ő	19
04:45	Ő	22	0	10	Õ	*	*	*	*	*	*	*	*	*	0	16
05:00	0	22	Ő	8	Ő	*	*	*	*	*	*	*	*	*	0	15
05:15	0	13	2	12	2	*	*	*	*	*	*	*	*	*	1	12
05:30	0	15	0	14	0	*	*	*	*	*	*	*	*	*	0	14
05:45	3	14	3	10	2	*	*	*	*	*	*	*	*	*	3	12
06:00	2	6	2	15	1	*	*	*	*	*	*	*	*	*	2	10
06:15	5	10	5	10	1	*	*	*	*	*	*	*	*	*	4	10
06:30	1	12	1	8	3	*	*	*	*	*	*	*	*	*	2	10
06:45	2	1	5	a	6	*	*	*	*	*	*	*	*	*	4	6
00.40	2	4	12	7	12	*	*	*	*	*	*	*	*	*	4	6
07:00	- 6	4	7	3	6	*	*	*	*	*	*	*	*	*	6	1
07.13	12	4	0	0	6	*	*	*	*	*	*	*	*	*	0	4
07.30	15	4	10	0 1 E	10	*	*	*	*	*	*	*	*	*	12	10
07.45	15	10	12	10	13 0	*	*	*	*	*	*	*	*	*	13	13
00.00	9	13	1	1	0	*	*	*	*	*	*	*	*	*	0	1
08:15	10	0	5	7	9	*		*		*	*			*	0	0
08:30	10	8	5	/	12	*	*	*		*	*	*	*	*	9	8
08:45	3	4	11	8	10		*		-		-	 +			10	6
09:00	12	5	16	5	5	Ĵ	÷	Ĵ	<u>,</u>	Ŷ	<u>,</u>	Ŷ	÷	<u>.</u>	11	5
09:15	9	5	10	/	0		*		-		-	 +			6	6
09:30	10	3	11	3	11	Ĵ	÷	Ĵ	<u>,</u>	Ŷ	<u>,</u>	Ŷ	÷	<u>.</u>	11	3
09:45	6	8	10	2	1	*	*	*	*	*	*	* +	*	*	6	5
10:00	9	(11	(2	Â	*	Â	^ _			, ,			1	1
10:15	11	4	14	1	0						*				8	2
10:30	11	5	16	6	0	*	*	*	*	*	*	* +	*	*	9	6
10:45	12	3	12	3	0						*				8	3
11:00	13	8	2	0	0	*	*	*	*	*	*	*	*	*	5	4
11:15	16	1	9	0	0	*	*	*	*	*	*	*	*	*	8	0
11:30	9	2	7	2	0	*	*	*	*	*	*	*	*	*	5	2
11:45	11	2	18	2	0	*	*	*	*	*	*	*	*	*	10	2
Total	221	519	230	469	128	1	0	0	0	0	0	0	0	0	190	482
Day	7	40	F	99	1	29	C)		0		0		0	67	72
Total										-		-		-		
% Splits	29.9%	70.1%	32.9%	67.1%	99.2%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	28.3%	71.7%
_ .		o 4 · -	10													
Peak	10:30	04:15	10:00	00:30	08:00										07:30	00:30
Vol.	52	84	53	70	45										38	72
<u> </u>	0.813	0.955	0.828	0.648	0.703										0.731	0.900

ADT ADT 667 AADT 667

Page 1

Site Code: 00000004444 Station ID: 00000000000

Latitude: 0' 0.000 Undefined

Start	Mon	Tue	Wed	Thu	Fri	Average	Sat	Sun	Week
	04-Jun-12 *		<u>06-Jun-12</u>	07-Jun-12	08-Jun-12	Day	09-Jun-12	10-JUN-12	
12:00 AIVI	*	*	*	28	34	31	34	21	37
01.00	*	*	*	12	24	10	22	20	14
02.00	*	*	*	11	12	12	14	20	14
03.00	*	*	*	21	11	11	13	9	10
04.00	*	*	*	21	22	22	21	10	
05.00	*	*	*	02 101	03 146	12/	50	22	02
00.00	*	*	*	215	212	134 21 <i>1</i>	122	49	201
07.00	*	*	*	363	312	314	162	40	245
00.00	*	*	*	300	342	330	250	167	243
10.00	*	*	*	222	202	210	200	2/1	203
10.00	*	*	*	360	302	367	400	241	2/4
11:00			100	300	300	307	400	238	343
12:00 PM	*	*	402	400	437	413	344	291	3/5
01:00	*	*	392	400	453	415	311	249	361
02:00	^	^	376	422	385	394	275	241	340
03:00	*	*	419	432	439	430	353	254	379
04:00	*	*	445	494	484	474	274	263	392
05:00	*	*	460	501	459	473	307	245	394
06:00	*	*	379	326	336	347	221	253	303
07:00	*	*	266	257	270	264	201	264	252
08:00	*	*	215	198	224	212	217	201	211
09:00	*	*	154	155	177	162	166	143	159
10:00	*	*	91	84	97	91	109	72	91
11:00	*	*	56	65	83	68	76	40	64
Day Total	0	0	3655	5699	5848	5729	4286	3501	4917
% Avg. WkDay	0.0%	0.0%	63.8%	99.5%	102.1%				
% Avg. Week	0.0%	0.0%	74.3%	115.9%	118.9%	116.5%	87.2%	71.2%	
AM Peak				11:00	11:00	11:00	11:00	10:00	11:00
Vol.				368	366	367	400	241	343
PM Peak			17:00	17:00	16:00	16:00	15:00	12:00	17:00
Vol.			460	501	484	474	353	291	394

Page 2

Site Code: 00000004444 Station ID: 00000000000

Latitude: 0' 0.000 Undefined

Start	Mon	Tue	Wed	Thu	Fri	Average	Sat	Sun	Week
Time	11-Jun-12	12-Jun-12	13-Jun-12	14-Jun-12	15-Jun-12	Day	16-Jun-12	17-Jun-12	Average
12:00 AM	26	30	30	*	*	29	*	*	29
01:00	10	19	/	*		12	*	*	12
02:00	8	11	9	*	*	9	*	*	9
03:00	15	13	11	*	*	13	*	*	13
04:00	15	19	20	*	*	18	*	*	18
05:00	86	89	91	*	*	89	*	*	89
06:00	135	150	149	*	*	145	*	*	145
07:00	323	322	278	*	*	308	*	*	308
08:00	364	337	368	*	*	356	*	*	356
09:00	310	329	300	*	*	313	*	*	313
10:00	313	290	60	*	*	221	*	*	221
11:00	305	336	0	*	*	214	*	*	214
12:00 PM	382	387	*	*	*	384	*	*	384
01:00	414	403	*	*	*	408	*	*	408
02:00	413	382	*	*	*	398	*	*	398
03:00	428	487	*	*	*	458	*	*	458
04:00	429	441	*	*	*	435	*	*	435
05:00	444	375	*	*	*	410	*	*	410
06:00	329	276	*	*	*	302	*	*	302
07:00	283	191	*	*	*	237	*	*	237
08:00	234	161	*	*	*	198	*	*	198
09:00	148	116	*	*	*	132	*	*	132
10:00	83	78	*	*	*	80	*	*	80
11:00	48	38	*	*	*	43	*	*	43
Day Total	5545	5280	1323	0	0	5212	0	0	5212
% Avg.	10/ 40/	101 20/	DE 40/	0.00/	0.00/				
WkDay	100.470	101.3%	23.4%	0.0%	0.0%				
% Avg. Week	106.4%	101.3%	25.4%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	08:00	08:00	08:00			08:00			08:00
Vol.	364	337	368			356			356
PM Peak	17:00	15:00				15:00		-	15:00
Vol.	444	487				458			458
Grand Tota	I 5	545 52	80 49	78 56	99 5848	10941	428	36 3501	10129
ADT	-	ADT 1	0,375	A	ADT 10,375				

AADT 10,375

Site Code: 000000011111 Station ID: 000000000000

Latitude: 0' 0.000 Undefined

Start	Mon	Tue	Wed	Thu	Fri	Average	Sat	Sun	Week
Time	04-Jun-12	05-Jun-12	06-Jun-12	07-Jun-12	08-Jun-12	Day	09-Jun-12	10-Jun-12	Average
12:00 AM	*	*	*	48	40	44	39	35	40
01:00	*	*	*	21	22	22	20	25	22
02:00	*	*	*	6	19	12	14	16	14
03:00	*	*	*	11	16	14	11	13	13
04:00	*	*	*	25	20	22	12	18	19
05:00	*	*	*	51	50	50	40	24	41
06:00	*	*	*	158	150	154	60	39	102
07:00	*	*	*	335	333	334	130	75	218
08:00	*	*	*	410	409	410	207	108	284
09:00	*	*	*	338	375	356	275	182	292
10:00	*	*	*	369	395	382	339	255	340
11:00	*	*	*	429	436	432	425	268	390
12:00 PM	*	*	432	469	505	469	378	304	418
01:00	*	*	421	453	519	464	439	324	431
02:00	*	*	503	480	539	507	367	287	435
03:00	*	*	501	525	488	505	357	289	432
04:00	*	*	554	519	512	528	319	270	435
05:00	*	*	451	460	445	452	354	294	401
06:00	*	*	312	327	323	321	275	258	299
07:00	*	*	279	322	308	303	273	194	275
08:00	*	*	297	262	288	282	229	234	262
09:00	*	*	179	139	191	170	148	145	160
10:00	*	*	130	88	162	127	94	57	106
11:00	*	*	53	59	56	56	69	38	55
Day Total	0	0	4112	6304	6601	6416	4874	3752	5484
% Avg.	0.0%	0.0%	LA 10/	00.20/	102.00/				
WkDay	0.076	0.0%	04.170	90.370	102.970				
% Avg. Week	0.0%	0.0%	75.0%	115.0%	120.4%	117.0%	88.9%	68.4%	
AM Peak				11:00	11:00	11:00	11:00	11:00	11:00
Vol.				429	436	432	425	268	390
PM Peak			16:00	15:00	14:00	16:00	13:00	13:00	14:00
Vol.			554	525	539	528	439	324	435

Site Code: 000000011111 Station ID: 00000000000

Latitude: 0' 0.000 Undefined

Start	Mon	Tue	Wed	Thu	Fri	Average	Sat	Sun	Week
	<u>11-Jun-12</u>	12-Jun-12	<u>13-Jun-12</u>	<u>14-Jun-12</u> *	15-Jun-12 *	Day	16-JUN-12 *	17-Jun-12 *	
12.00 AIVI	10	40	30	*	*	14	*	*	
01.00	10	17	10	*	*	14	*	*	10
02.00	9	10	10	*	*	10	*	*	10
03.00	7	9 00	10	*	*	10	*	*	
04.00	20	23	10 57	*	*	55	*	*	ZZ 🔲
05.00	146	120	150	*	*	55	*	*	
00.00	225	245	220	*	*	222	*	*	
07.00	320 201	340	202	*	*	202	*	*	302
00:00	391	392	107	*	*	392	*	*	392
09:00	372	330	127	*	*	278	*	*	278
10:00	300	330	0	*	*	228	*	*	228
10.00 DM	380	387	0	*	*	258	*	*	258
12:00 PM	424	391	*	*	*	408	*	*	408
01:00	384	402				393			393
02:00	464	509	*	*	*	486	*	*	486
03:00	492	474	*	*	*	483	*	*	483
04:00	463	499	*	*	*	481	*	*	481
05:00	387	380	*	*	*	384	*	*	384
06:00	327	309	*	*	*	318	*	*	318
07:00	271	190	*	*	*	230	*	*	230
08:00	286	149	*	*	*	218	*	*	218
09:00	185	127	*	*	*	156	*	*	156
10:00	104	69	*	*	*	86	*	*	86
11:00	62	40	*	*	*	51	*	*	51 📃
Day Total	5945	5635	1145	0	0	5474	0	0	5474
% Avg.	109.6%	102.0%	20.0%	0.0%	0.0%				
WkDay	100.076	102.770	20.770	0.076	0.076				
% Avg. Week	108.6%	102.9%	20.9%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	08:00	08:00	08:00			08:00			08:00
Vol.	391	392	392			392			392
PM Peak	15:00	14:00				14:00			14:00
Vol.	492	509				486			486
Grand Total	5	945 56	35 52	57 63	04 6601	11890	48	74 3752	10958
ADT		ADT 1	0,580	A	ADT 10,580				

AADT 10,580

Site Code: 00000033333 Station ID: 00000000000

Start Time	Mon 04-Jun-12	Tue 05-Jun-12	Wed 06-Jun-12	Thu 07-Jun-12	Fri 08-Jun-12	Average Dav	Sat 09-Jun-12	Sun 10-Jun-12	Week Average
12:00 AM	*	*	*	19	6	12	23	14	16
01:00	*	*	*	8	4	6	4	8	6
02:00	*	*	*	5	8	6	4	7	6
03:00	*	*	*	3	0	2	2	4	2
04:00	*	*	*	4	6	5	7	6	6
05:00	*	*	*	19	20	20	5	11	14 📃
06:00	*	*	*	57	52	54	31	10	38
07:00	*	*	*	118	95	106	28	20	65
08:00	*	*	*	117	120	118	67	34	84
09:00	*	*	*	116	73	94	72	88	87
10:00	*	*	*	110	71	90	86	63	82
11:00	*	*	*	123	92	108	111	104	108
12:00 PM	*	*	115	104	178	132	152	104	131
01:00	*	*	172	100	131	134	142	105	130
02:00	*	*	137	125	132	131	121	95	122
03:00	*	*	115	170	134	140	130	79	126
04:00	*	*	159	153	165	159	81	76	127
05:00	*	*	136	161	143	147	152	87	136
06:00	*	*	155	148	120	141	109	89	124
07:00	*	*	99	136	108	114	112	99	111
08:00	*	*	116	91	127	111	130	74	108
09:00	*	*	38	63	63	55	64	48	55
10:00	*	*	10	23	45	26	36	13	25
11:00	*	*	6	17	21	15	19	13	15 📃
Day Total	0	0	1258	1990	1914	1926	1688	1251	1724
% Avg. WkDay	0.0%	0.0%	65.3%	103.3%	99.4%				
% Avg. Week	0.0%	0.0%	73.0%	115.4%	111.0%	111.7%	97.9%	72.6%	
AM Peak				11:00	08:00	08:00	11:00	11:00	11:00
Vol.				123	120	118	111	104	108
PM Peak			13:00	15:00	12:00	16:00	12:00	13:00	17:00
Vol.			172	170	178	159	152	105	136

Site Code: 00000033333 Station ID: 00000000000

Start Time	Mon 11-Jun-12	Tue 12-Jun-12	Wed 13-Jun-12	Thu 14-Jun-12	Fri 15-Jun-12	Average Dav	Sat 16-Jun-12	Sun 17-Jun-12	Week
12:00 AM	7	11	11	*	*	10	*	*	10
01:00	2	0	2	*	*	1	*	*	1
02:00	4	2	7	*	*	4	*	*	4
03:00	4	8	5	*	*	6	*	*	6
04:00	4	4	0	*	*	3	*	*	3 🛛
05:00	13	21	18	*	*	17	*	*	17 📃
06:00	48	48	55	*	*	50	*	*	50
07:00	77	83	106	*	*	89	*	*	89
08:00	120	95	117	*	*	111	*	*	111
09:00	97	76	78	*	*	84	*	*	84
10:00	113	101	2	*	*	72	*	*	72
11:00	90	93	0	*	*	61	*	*	61
12:00 PM	116	111	*	*	*	114	*	*	114
01:00	79	217	*	*	*	148	*	*	148
02:00	123	151	*	*	*	137	*	*	137
03:00	111	144	*	*	*	128	*	*	128
04:00	154	121	*	*	*	138	*	*	138
05:00	133	127	*	*	*	130	*	*	130
06:00	164	82	*	*	*	123	*	*	123
07:00	102	80	*	*	*	91	*	*	91
08:00	83	41	*	*	*	62	*	*	62
09:00	46	33	*	*	*	40	*	*	40
10:00	20	13	*	*	*	16	*	*	16 📃
11:00	7	9	*	*	*	8	*	*	8
Day Total	1717	1671	401	0	0	1643	0	0	1643
% Avg.	104 5%	101 7%	24 4%	0.0%	0.0%				
WkDay	101.070	101.770	21.170	0.070	0.070				
% Avg. Week	104.5%	101.7%	24.4%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	08:00	10:00	08:00			08:00			08:00
Vol.	120	101	117			111			111
PM Peak	18:00	13:00				13:00			13:00
	164	21/	71 1/	F0 40	00 101	148		1051	148
Grand Tota	1 1	/1/ 16	11 16	59 19	90 1914	3569	168	38 1251	3367
ADT	Г	ADT	1,705		AADT 1,705				

Site Code: 00000022222 Station ID: 00000000000

Start	Mon	Tue	Wed	Thu	Fri	Average	Sat	Sun	Week
Time	04-Jun-12	05-Jun-12	06-Jun-12	07-Jun-12	08-Jun-12	Day	<u>09-Jun-12</u>	10-Jun-12	Average
12:00 AM	*	*	*	6	3	4	2	11	6
01:00				1	2	2	2		2
02:00				I	0	0	6	5	3
03:00	^ +	^ +	^	2	0	1	2	0	
04:00	*	*	*	1	1		1	0	
05:00	*	*	*	5	6	6	3		4
06:00	*	*	*	15	11	13	4	4	8
07:00	*	*	*	38	43	40	21	8	28
00:80				42	48	45	25	19	34
09:00	×	*	*	44	49	46	30	14	34
10:00	*	*	*	47	46	46	38	33	41
11:00	*	*	*	17	62	40	35	26	35
12:00 PM	*	*	76	38	76	63	35	42	53
01:00	*	*	55	64	49	56	43	42	51
02:00	*	*	56	60	67	61	45	47	55
03:00	*	*	43	81	48	57	29	40	48
04:00	*	*	48	46	51	48	35	36	43
05:00	*	*	36	49	58	48	54	23	44
06:00	*	*	47	54	33	45	20	37	38
07:00	*	*	32	44	36	37	26	35	35
08:00	*	*	42	32	35	36	38	22	34
09:00	*	*	20	16	27	21	24	20	21
10:00	*	*	12	15	25	17	26	17	19
11:00	*	*	12	5	7	8	10	19	11 🔜
Day Total	0	0	479	723	783	741	554	502	649
% Avg.	0.0%	0.0%	61 6%	07.6%	105 7%				
WkDay	0.078	0.070	04.070	97.070	105.770				
% Avg. Week	0.0%	0.0%	73.8%	111.4%	120.6%	114.2%	85.4%	77.3%	
AM Peak				10:00	11:00	09:00	10:00	10:00	10:00
Vol.				47	62	46	38	33	41
PM Peak			12:00	15:00	12:00	12:00	17:00	14:00	14:00
Vol.			76	81	76	63	54	47	55

Site Code: 00000022222 Station ID: 00000000000

Latitude: 0' 0.000 South

Start Time	Mon 11-Jun-12	Tue 12-Jun-12	Wed 13-Jun-12	Thu 14-Jun-12	Fri 15-Jun-12	Average Dav	e Sat 16-Jun-12	Sun 17-Jun-12	Week Average
12:00 AM	2	2	5	*	*	3	*	*	3
01:00	1	4	0	*	*	2	*	*	2
02:00	2	1	7	*	*	3	*	*	3
03:00	3	2	0	*	*	2	*	*	2
04:00	1	0	0	*	*	0	*	*	0
05:00	3	5	4	*	*	4	*	*	4
06:00	10	13	11	*	*	11	*	*	11 📃
07:00	38	39	37	*	*	38	*	*	38
08:00	32	28	45	*	*	35	*	*	35
09:00	37	47	17	*	*	34	*	*	34
10:00	43	53	2	*	*	33	*	*	33
11:00	49	36	0	*	*	28	*	*	28
12:00 PM	73	68	*	*	*	70	*	*	70
01:00	49	64	*	*	*	56	*	*	56
02:00	62	56	*	*	*	59	*	*	59
03:00	58	43	*	*	*	50	*	*	50
04:00	74	58	*	*	*	66	*	*	66
05:00	64	44	*	*	*	54	*	*	54
06:00	32	42	*	*	*	37	*	*	37
07:00	23	33	*	*	*	28	*	*	28
08:00	31	23	*	*	*	27	*	*	27
09:00	21	17	*	*	*	19	*	*	19
10:00	19	17	*	*	*	18	*	*	18
11:00	13	4	*	*	*	8	*	*	8
Day Total	740	699	128	0	0	685	0	0	685
% Avg. WkDav	108.0%	102.0%	18.7%	0.0%	0.0%				
% Avg. Week	108.0%	102.0%	18.7%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	11:00	10:00	08:00			07:00			07:00
Vol.	49	53	45			38			38
PM Peak	16:00	12:00				12:00			12:00
Vol.	74	68				70			70
Grand Total		740	699	607	723 7	783	1426 5	554 5	02 1334
ADT		А	DT 667		AADT 667				

ADT

The Chazen Companies Traffic Assessment Report - Dix Avenue/Sagamore Street November 26, 2012

> Appendix E: Traffic Signal Warrant Analysis (Letter Report and Summary)



Engineers Environmental Professionals Land Surveyors Landscape Architects Planners **Capital District Office**

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July 11, 2012

Mr. Aaron Frankenfeld Adirondack/Glens Falls Transportation Council 11 South Street, Suite 203 Glens Falls, New York 12801

Re: Traffic Signal Warrant Study at the Dix Avenue/Sagamore Street Intersection

TCC Job #: 31223.00

Dear Mr. Frankenfeld:

The Adirondack/Glens Falls Transportation Council, on behalf of the City of Glens Falls, tasked The Chazen Companies to perform a Traffic Signal Warrant Study to assess conformance to nationally prescribe traffic signal warrants at the intersection of Dix Avenue and Sagamore Street in the City of Glens Falls. An analysis was conducted to determine if the current traffic conditions at the subject intersection would meet the warrants for the installation of a traffic signal.

Existing Conditions

The subject intersection is an un-signalized four-way intersection located in the eastern central portion of the City of Glens Falls. Dix Avenue provides an east/west access from New York State Route 9L (Ridge Street) to the west to New York State Route 254 (Quaker Road) to the east. Sagamore Street approaches Dix Avenue from the north, continuing on to the south as Walnut Street. Both Sagamore Street and Walnut Street approaches are under Stop sign control. All the approaches consist of a one lane approach with an 4 foot sidewalks on each side of the approach as well as an 8 foot buffer strip, either grass/dirt or asphalt, between the sidewalks and roadways. The buffer strip is routinely used for parking. There are sections on various approaches with curbing. However the reveal is minimal due to repaving operations. A No Parking restriction sign is located on the north side of Dix Avenue for the immediate section west of Sagamore Street. The City of Glens Falls city wide speed limit of 30 mph is in effect at the subject intersection.

The Warren County Bikeway enters the intersection from the north, approximately 55 feet west of Sagamore Street, crosses Dix Avenue on a northwest to southeast alignment, and then crosses Walnut Street on the same orientation slightly south of the intersection. The Bikeway is delineated in the roadways properly by pavement markings as a 10 foot crosshatched crosswalk. Warning signs, consisting of pedestrian/bicycle symbols with lime green background, are installed in advance of the two crossings on the appropriate approaches. The crossing on Dix Avenue also has a "State Law Yield to Pedestrian In

The Chazen Companies Traffic Signal Warrant Analysis - Dix Avenue/Sagamore Street July 11, 2012 Page 2

Croswswalk" sign located in the middle of the approach at the crosswalk. All bikeway approaches to Dix Avenue and Walnut Street are controlled by Stop signs.

Commercial buildings occupy three of the four intersection quadrants, with residences in the southwest quadrant. A business center occupies the northeast quadrant with a Price Chopper grocery store in the southeast quadrant. The northwest quadrant is occupied by Cooper's Cave Ale Company. In addition to a restaurant, with its entrance on Sagamore Street, this business includes an ice cream shop serving customers along the bikeway side of the building.

Traffic Signal Warrant Study Methodology

This study was conducted in accordance with procedures documented in the National Manual on Uniform Traffic Control Devices, 2009 Edition (MUTCD)¹ by the Federal Highway Administration. The analysis process consists of comparing the current traffic conditions with the eight prescribed traffic signal warrants for an average weekday. Warrants 5, 6 and 8 were not evaluated due to a lack of available data or non-relevance. The defined warrants are listed as follows:

Warrant 1:	Eight Hour Vehicular Volumes	Evaluated
Warrant 2:	Four Hour Vehicular Volumes	Evaluated
Warrant 3:	Peak Hour	Evaluated
Warrant 4:	Pedestrian Volumes	Evaluated
Warrant 5:	School Crossing	Not Evaluated
Warrant 6:	Coordinated Signal System	Not Evaluated
Warrant 7:	Crash Experience	Evaluated
Warrant 8:	Roadway Network	Not Evaluated

The actual analyses were undertaken utilizing traffic signal warrant analysis software by JAMAR Technologies Inc.² A detailed description of the signal warrants criteria is presented in the Appendix to this report.

The hourly traffic volume distribution for vehicles at the study intersection is based on the existing average weekday traffic data collected by the Automatic Traffic Recorders (ATRs) from Wednesday, June 6, 2012 to Wednesday, June 13, 2012. Manual traffic turning movement counts as well as pedestrian and bicyclist counts were also completed by The Chazen Companies during the morning (7-9AM) and afternoon (4-6PM) peak hours, as well as during two different Saturday time periods (11-1PM and 2-4PM). The average weekday hourly traffic volumes were computed based on the ATRs data obtained throughout the week. The period Monday 12:00 AM thru Friday 12:00 AM was selected to best represent average weekday traffic conditions. Volume data is presented in Appendix A to this report.

Results

Traffic volumes at the Dix Avenue/Sagamore Street intersection meet the threshold for Warrant 1B - Interruption of Continuous Traffic, which as described in the MUTCD, is enough to satisfy the

¹ This procedure is mirrored in the NYS MUTCD.

² PC-Warrants for Windows, version 1.8.2; JAMAR Technologies Inc., 2005

The Chazen Companies Traffic Signal Warrant Analysis - Dix Avenue/Sagamore Street July 11, 2012 Page 3

requirements to meet Warrant 1. The threshold for Warrant 2 - Four Hour Vehicular Volumes was also met. Warrant 3 - Peak Hour Volume, Warrant 4 - Pedestrian Volume, and Warrant 7 - Crash Experience were not satisfied by the analyses performed. Table 1 presents the results of the analyses for Warrants 1, 2, 3 and 4. The results of the analysis for Warrant 7 are presented following Table 1. Detailed signal warrant analysis summary is presented in the Appendix C to this report.

Time	Major Street Volume	Minor Street Volume	Warrant 1 8-Hour Volume	Warrant 2 4-Hour Volume	Warrant 3 Peak Hour Volume	Peds Bikes Volume	Warrant 4 Pedestrian Volume
12:00 AM	67	10	No	No	No	-	-
1:00 AM	32	3	No	No	No	-	-
2:00 AM	22	5	No	No	No	-	-
3:00 AM	23	4	No	No	No	-	-
4:00 AM	39	4	No	No	No	-	-
5:00 AM	140	18	No	No	No	-	-
6:00 AM	289	51	No	No	No	-	-
7:00 AM	643	96	No	No	No	5	No
8:00 AM	756	114	Yes	No	No	16	No
9:00 AM	667	88	No	No	No	-	-
10:00 AM	668	100	No	No	No	-	-
11:00 AM	752	97	Yes	No	No	27	No
12:00 PM	845	126	Yes	No	No	35	No
1:00 PM	848	140	Yes	Yes	No	-	-
2:00 PM	894	133	Yes	Yes	No	33	No
3:00 PM	936	135	Yes	Yes	No	34	No
4:00 PM	968	151	Yes	Yes	No	22	No
5:00 PM	873	141	Yes	Yes	No	3	No
6:00 PM	648	134	No	No	No	-	-
7:00 PM	527	104	No	No	No	-	-
8:00 PM	463	92	No	No	No	-	-
9:00 PM	313	49	No	No	No	-	-
10:00 PM	196	23	No	No	No	-	-
11:00 PM	112	13	No	No	No	-	
		Threshold*	See Table 4C-1	See Figure 4C-1	See Figure 4C-3	See	Figure 4C-5
	Warrant M	et? (Yes/No)	Yes	Yes No			No

Table 1 – Signal Warrant Analysis

*The 85th-percentile speeds on the study road are assumed to not exceed 40-mph. Therefore the basic minimum volume thresholds denoted the 100% warrant thresholds contained in the NYCRR.

Accident data for the study intersection was obtained from NYSDMV for the 3-year period between 01/01/2009 and 12/31/2011. This data was analyzed to determine if Warrant 7 - Crash Experience would be satisfied. During this period there were a total of 22 accidents at the study intersection, to which nine occur in 2009, six in 2010 and seven in 2011. The accident history show that the majority of the accidents occurred during this period involved the collision with a parked vehicle (10), where the primary contributing factor was identify as "backing unsafely" by the motorists involved in these
The Chazen Companies Traffic Signal Warrant Analysis - Dix Avenue/Sagamore Street July 11, 2012 Page 4

accidents. There was only one accident reported as "injury", back in 2010 when a driver attempt making an improper U-turn at the intersection and fail to yield the right of way. There were no accidents involving pedestrians/bikes at this location within the three year study period.

During the year 2011 only four reported accidents occurred that are susceptible to correction by the installation of a traffic signal, less than the total of five required by Warrant 7. The accident history for the previous two year periods (2009 and 2010) were also observed for accidents susceptible for correction by a traffic signal installation, showing that only three reported accidents occurred during each year. Therefore Warrant 7 is not met. Details of accident history and the accident summary sheet and tables are present in the Appendix B to this report.

Conclusions

Based on the results of this study, as summarized in Table 1, the installation of a traffic signal at this intersection is warranted. However, the meeting of a traffic signal warrant, by itself, does not make the installation of a traffic signal mandatory. Engineering judgment must be utilized as dictated by the MUTCD and other nationally accepted engineering standards. Given the prominence of the signal warrants being met, and our field observations at this location, including vehicular, pedestrian and bicycle traffic, it is recommended that a traffic signal be strongly considered for this location. A traffic signal, with pedestrian and bicycle traffic included in the overall signal operation, would provide an increased measure of safety and control. However, prior to formally approving the installation, a signal operation analysis should be undertaken to determine the effect of signalization on vehicular traffic.

Sincerely,

Michael Hardman

Michael Hartman, P.E. Senior Transportation Engineer

cc:

The Chazen Companies 547 River Street Troy, New York 12180 www.chazencompanies.com									
Signal Warrants - Summary	Study Name : Signal Warrant - Weekday Avera Study Date : 06/25/12 Page No. : 1	age Volumes							
Major Street Approaches	Minor Street Approaches								
<i>Eastbound:</i> Dix Avenue Number of Lanes: 1 Approach Speed: 30	Northbound: Walnut Street Number of Lanes: 1								
Westbound: Dix Avenue Number of Lanes: 1 Approach Speed: 30	Total Approach Volume: 720 Southbound: Sagamore Street Number of Lanes: 1								
Total Approach Volume: 6,137	Total Approach Volume: 1,831								
Warrant Summary (Urban values apply.)									
Warrant 1 - Eight Hour Vehicular Volumes		Satisfied							
Warrant 1A - Minimum Vehicular Volume Required volumes reached for 1 hours, 8 are needed	Not Satisfied								
Warrant 1B - Interruption of Continuous Traffic Required volumes reached for 8 hours, 8 are needed	Satisfied								
Warrant 1 A&B - Combination of Warrants	Not Satisfied								
Warrant 2 - Four Hour Volumes Number of hours (5) volumes exceed minimum >:	= minimum required (4).	Satisfied							
Warrant 3 - Peak Hour		Not Satisfied							
Warrant 3A - Peak Hour Delay Total approach volumes and delays on minor street do no	t exceed minimums for any hour.								
Warrant 3B - Peak Hour Volumes Volumes do not exceed minimums for any hour.	Not Satisfied								
Warrant 4 - Pedestrian Volumes Required 4 Hr pedestrian volume reached for 0 h	our(s) and the single hour volume for 0 hour(s)	Not Satisfied							
Warrant 5 - School Crossing		Not Evaluated							
Warrant 6 - Coordinated Signal System		Not Evaluated							
Warrant 7 - Crash Experience Number of accidents (4) is less than minimum (5)	. Volume minimums are met.	Not Satisfied							
Warrant 8 - Roadway Network		Not Evaluated							

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Study Name : Signal Warrant - Weekday Average Volumes

Study Date : 06/25/12

Page No. :2

Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour	Major	Higher Minor		War-1A				War-1B		War-1A&B			
Begin	Total	Vol	Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	
00:00	67	10	SB	500-No	150-No		750-No	75-No		600-No	120-No		
01:00	32	3	SB	500-No	150-No		750-No	75-No		600-No	120-No		
02:00	22	5	SB	500-No	150-No		750-No	75-No		600-No	120-No		
03:00	23	4	SB	500-No	150-No		750-No	75-No		600-No	120-No		
04:00	39	4	SB	500-No	150-No		750-No	75-No		600-No	120-No		
05:00	140	18	SB	500-No	150-No		750-No	75-No		600-No	120-No		
06:00	289	51	SB	500-No	150-No		750-No	75-No		600-No	120-No		
07:00	643	96	SB	500-Yes	150-No	Major	750-No	75-Yes	Minor	600-Yes	120-No	Major	
08:00	756	114	SB	500-Yes	150-No	Major	750-Yes	75-Yes	Both	600-Yes	120-No	Major	
09:00	667	88	SB	500-Yes	150-No	Major	750-No	75-Yes	Minor	600-Yes	120-No	Major	
10:00	668	100	SB	500-Yes	150-No	Major	750-No	75-Yes	Minor	600-Yes	120-No	Major	
11:00	752	97	SB	500-Yes	150-No	Major	750-Yes	75-Yes	Both	600-Yes	120-No	Major	
12:00	845	126	SB	500-Yes	150-No	Major	750-Yes	75-Yes	Both	600-Yes	120-Yes	Both	
13:00	848	140	SB	500-Yes	150-No	Major	750-Yes	75-Yes	Both	600-Yes	120-Yes	Both	
14:00	894	133	SB	500-Yes	150-No	Major	750-Yes	75-Yes	Both	600-Yes	120-Yes	Both	
15:00	936	135	SB	500-Yes	150-No	Major	750-Yes	75-Yes	Both	600-Yes	120-Yes	Both	
16:00	968	151	SB	500-Yes	150-Yes	Both	750-Yes	75-Yes	Both	600-Yes	120-Yes	Both	
17:00	873	141	SB	500-Yes	150-No	Major	750-Yes	75-Yes	Both	600-Yes	120-Yes	Both	
18:00	648	134	SB	500-Yes	150-No	Major	750-No	75-Yes	Minor	600-Yes	120-Yes	Both	
19:00	527	104	SB	500-Yes	150-No	Major	750-No	75-Yes	Minor	600-No	120-No		
20:00	463	92	SB	500-No	150-No		750-No	75-Yes	Minor	600-No	120-No		
21:00	313	49	SB	500-No	150-No		750-No	75-No		600-No	120-No		
22:00	196	23	SB	500-No	150-No		750-No	75-No		600-No	120-No		
23:00	112	13	SB	500-No	150-No		750-No	75-No		600-No	120-No		

The Chazen Companies Traffic Assessment Report - Dix Avenue/Sagamore Street November 26, 2012

> Appendix F: Synchro Data (Traffic Signal)

HCM 2000 Report - PM Peak Hour Volumes 3: Walnut Street/Sagamore Street & Dix Avenue - Signalized

10/2/2012

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			\$			4			\$	
Volume (vph)	26	446	9	8	468	34	9	6	11	32	14	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	16	16	16	16	16	16
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.95			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.93			0.96	
Flt Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		1658			1671			1682			1806	
Flt Permitted		0.93			0.99			0.92			0.83	
Satd. Flow (perm)		1554			1653			1573			1535	
Peak-hour factor, PHF	0.65	0.88	0.75	0.67	0.80	0.61	0.75	0.75	0.46	0.67	0.50	0.93
Adj. Flow (vph)	40	507	12	12	585	56	12	8	24	48	28	28
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	559	0	0	653	0	0	44	0	0	104	0
Confl. Peds. (#/hr)			10			1			16			5
Confl. Bikes (#/hr)			12						14			3
Heavy Vehicles (%)	8%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		35.4			35.4			9.4			9.4	
Effective Green, g (s)		35.4			35.4			9.4			9.4	
Actuated g/C Ratio		0.47			0.47			0.12			0.12	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		724			770			195			190	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.40			0.03			c0.07	
v/c Ratio		0.77			0.85			0.23			0.55	
Uniform Delay, d1		16.9			17.9			30.0			31.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		7.8			11.2			0.6			3.2	
Delay (s)		24.8			29.1			30.6			34.5	
Level of Service		С			С			С			С	
Approach Delay (s)		24.8			29.1			30.6			34.5	
Approach LOS		С			С			С			С	
Intersection Summary												
HCM Average Control Delay			27.8	Н	CM Leve	of Servic	e		С			
HCM Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			76.0	S	um of los	t time (s)			31.2			
Intersection Capacity Utilization	l		59.9%	IC	CU Level	of Service			В			
Analysis Period (min)			15									
c Critical Lane Group												