Appendix A – Glossary and LOS Definitions

Signal Optimization Study
Onondaga County, New York

Glossary

Detection: Devices used by the signal controller to detect the calls for green phases. Detection is usually provided by wire loops placed in the pavement which create a disturbance in the electrical field when a vehicle passes over them. Microwave detectors operate like motion detectors and sense when a vehicle moves in front of them.

> Presence: Generally 60 to 70 foot long loops placed in the pavement. These detect when a vehicle is present at any point above them.
>
> Point: Point detection uses a similar loop as presence, but is usually only 6 feet long, and is place in advance of the intersection and/or placed immediately before the stop bar.

Gap: Gaps refer to the time between vehicles. Through vehicle detection, a signal will know that no vehicles are present, and begin by counting down the passage time. If no additional vehicles arrive, the phase will "gap out" or end due to the lack of traffic demand.

Headway: The distance between successive vehicles, usually measured in time.

Master Controller: The master controller controls all of the subsequent traffic signal controllers within a coordinated corridor.

Measures of effectiveness (MOEs): A MOE serves as performance measure for a traffic simulation evaluation.

Minimum Green: The minimum amount of green time provided for a phase.

Minimum Split: The minimum amount of green time plus the yellow and all-red clearance time provided for a phase.

Passage Time (Vehicle Extension): The maximum allowable time separation between vehicle calls before the signal phase gaps out to serve other approaches.

Phases: Different indications displayed on the traffic signal faces allowing specific movements to proceed through the intersection.

> Permitted: Permitted phases allow drivers to turn after yielding to on-coming traffic. For example, a left turn movement must first yield to on-coming traffic before proceeding under a permitted left turn phase, displayed as a green ball.
>
> Protected: Protected phases, indicated with green arrows, allow drivers to proceed by holding all other conflicting traffic movements with red lights.

Split: Split phases are traffic phases that could normally run together like northbound and southbound movements, but for some reason are separated or split, from each other. Under split phasing, each phase operates as a protected phase, one following the other.

Performance Index (PI): The PI is a Measure of Effectiveness (MOE) provided by the simulation model that represents a combination of the delays, stops, and queuing penalty. A lower PI indicates better overall operations.

Recall – A phase timing setting determining the length of each phase.

None or no recall: This phase can be skipped by the signal controller of no vehicles are detected on the approach.

Minimum: This phase must turn on and stay on for the preset minimum amount of time. If no additional traffic is detected, the phase will turn off and serve other approaches. Typically used for mainline approaches with presence or point loop detectors.

Maximum: This phase must turn on and stay on for the preset maximum amount of time. If no additional traffic is detected, the phase will continue to run until the maximum before serving other approaches. Typically used when no vehicle detection is provided.

LOS Definitions

The following is an excerpt from the 2000 Highway Capacity Manual (HCM).

Level of Service for Signalized Intersections

Level of service for a signalized intersection is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group. Levels of service are defined to represent reasonable ranges in control delay.

LOS A describes operations with low control delay, up to 10 s/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay.

LOS B describes operations with control delay greater than 10 and up to 20 s/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

LOS C describes operations with control delay greater than 20 and up to 35 s/veh. These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

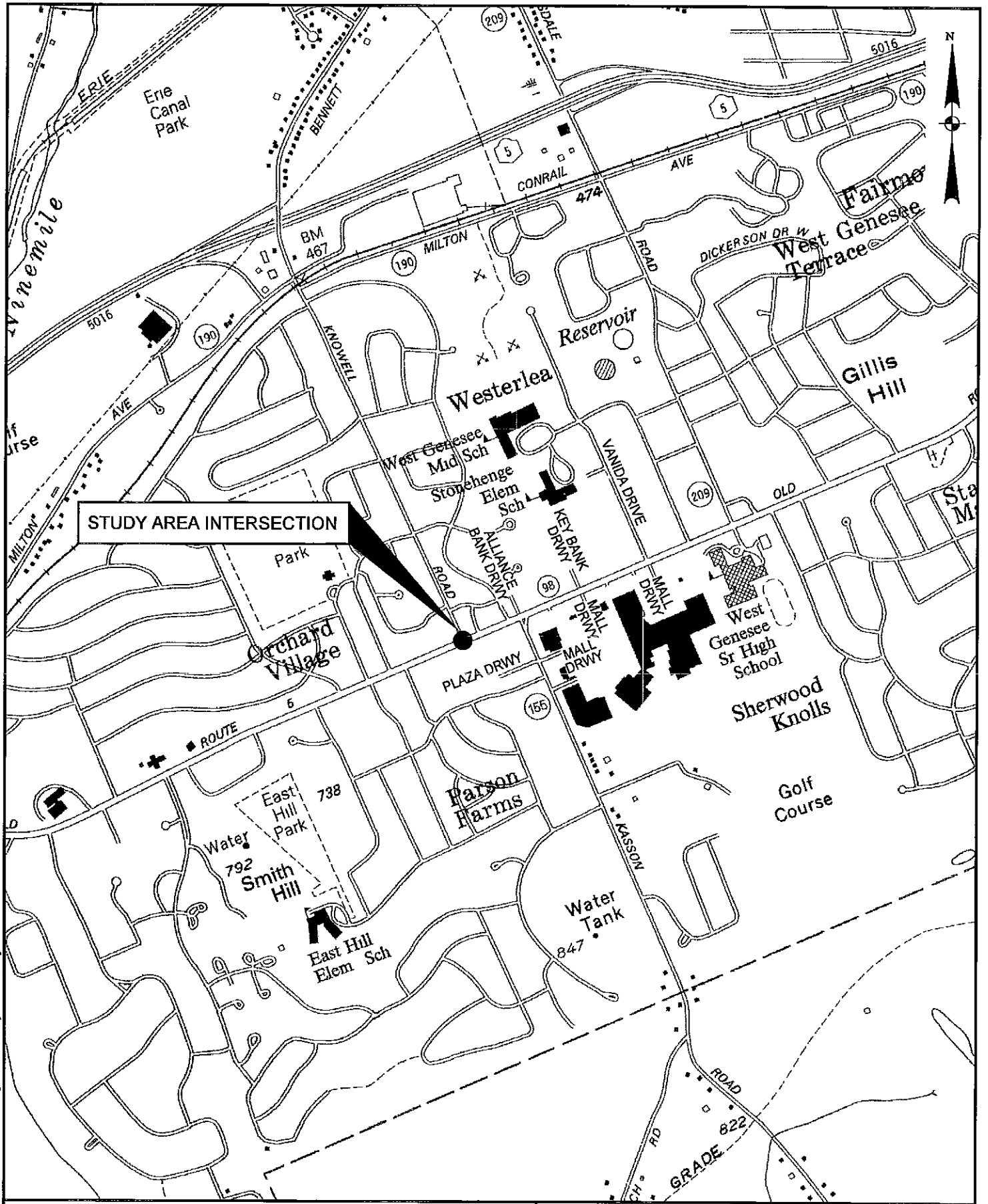
LOS D describes operations with control delay greater than 35 and up to 55 s/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay greater than 55 and up to 80 s/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

LOS F describes operations with control delay in excess of 80 s/veh. This level, considered unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also be contribute significantly to high delay levels.

Appendix B – Intersection Details

Signal Optimization Study
Onondaga County, New York



LOCATION MAP
WEST GENESEE ST/KNOWELL RD

TRAFFIC SIGNAL OPTIMIZATION
ONONDAGA COUNTY
SYRACUSE, NEW YORK

CME
CREIGHTON MANNING ENGINEERING, LLP

PROJECT: 09-094d	DATE: 8/10	FIGURE: B.1

INTERSECTION DIAGRAM

Location: W. Genesee Street at Knowell Road

Legend: Sign; Signal with Span Wire; Signal Head; ## (Feet); Utility Pole; Fire Hydrant

Drawn By: JC

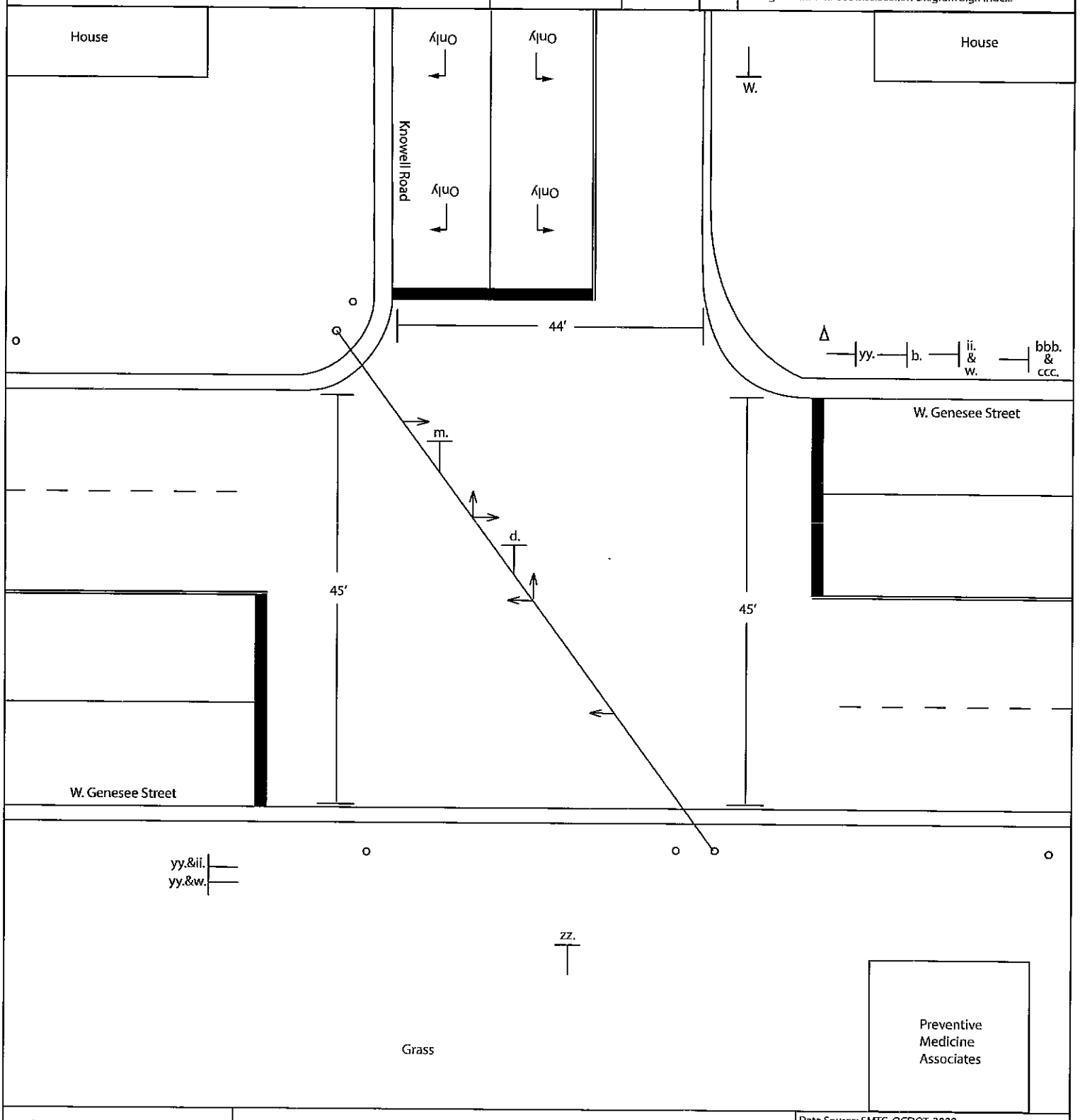
Date: May 2010

Prepared By: SMTC

N

Note:
Only actual pavement markings were drawn. An absence of arrows/striping indicates no pavement markings.

For sign definitions see Intersection Diagram Sign Index.



Task: OCDOT Signal Optimization

Data Source: SMTC, OCDOT, 2009.

Diagram is for presentation purposes only.
SMTC does not guarantee the accuracy or completeness of this diagram.

Diagram is not to scale.


TO WEST
TO EAST
5
5


Nationwide

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	80	831	1174	139	104	111
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.90	0.90	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						

Intersection Summary

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	61	673	648	115	112	54
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.84	0.84	0.85	0.85	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	2%	2%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						

Intersection Summary

INTERSECTION NAME: W. Genesee @ Knowell
INTERSECTION NUMBER: 91

INSTALLATION DATE:
PROGRAM DATE:

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL								
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN		10		8		10		
PASSAGE		4		4		4		
YELLOW		2		4		4		
RED								
MAX I		45		25		45		
MAX II								
WALK								
PED CLEAR								
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF		X		X		X		

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA								
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Knowell
INTERSECTION NUMBER: 91

INSTALLATION DATE: COORDINATED
PROGRAM DATE: OPTIMIZED TIMINGS

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN		10		10		10		
PASSAGE		2.5		1.8		2.5		
YELLOW		3.5		3.5		3.5		
RED		1.5		1.5		1.5		
MAX I (PM)		78		22		78		
MAX II (Sat)		51		19		51		
WALK								
PED CLEAR								
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

	PHASES USED							
	1	2	3	4	5	6	7	8
ON/OFF		X		X		X		

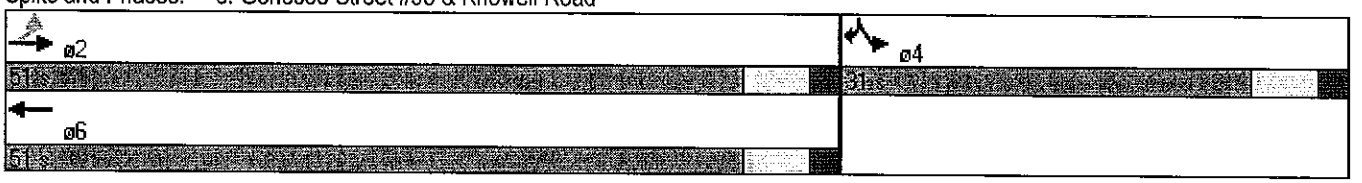
INHIBIT O/L	PED Overlaps							
	1	2	3	4	5	6	7	8
OLA								
OVERLAP B								
OVERLAP C								
OVERLAP D								

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Volume (vph)	80	831	1174	104	111
Turn Type	Perm				Prot
Protected Phases		2	6	4	4
Permitted Phases	2				
Detector Phase				4	4
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0
Minimum Split (s)	16.0	16.0	16.0	14.0	14.0
Total Split (s)	51.0	51.0	51.0	31.0	31.0
Total Split (%)	62.2%	62.2%	62.2%	37.8%	37.8%
Maximum Green (s)	45.0	45.0	45.0	25.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Min	C-Min	C-Min	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 82
Actuated Cycle Length: 82
Offset: 61 (74%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 45
Control Type: Actuated-Coordinated

Splits and Phases: 6: Genesee Street #98 & Knowell Road

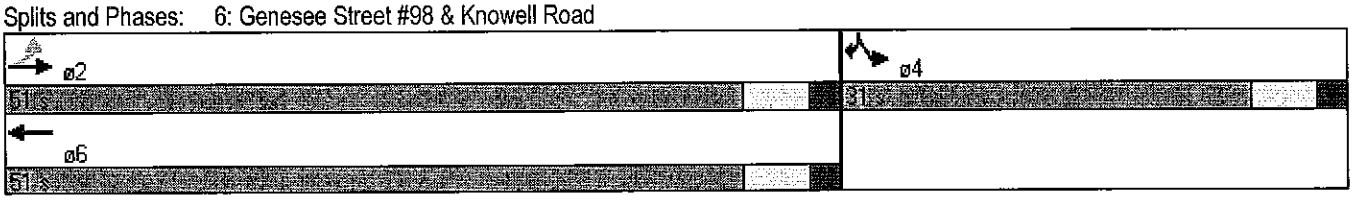


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Volume (vph)	61	673	648	112	54
Turn Type	Perm				Prot
Protected Phases		2	6	4	4
Permitted Phases	2				
Detector Phase				4	4
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	8.0	8.0
Minimum Split (s)	16.0	16.0	16.0	14.0	14.0
Total Split (s)	51.0	51.0	51.0	31.0	31.0
Total Split (%)	62.2%	62.2%	62.2%	37.8%	37.8%
Maximum Green (s)	45.0	45.0	45.0	25.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Min	C-Min	C-Min	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 82
Actuated Cycle Length: 82
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated

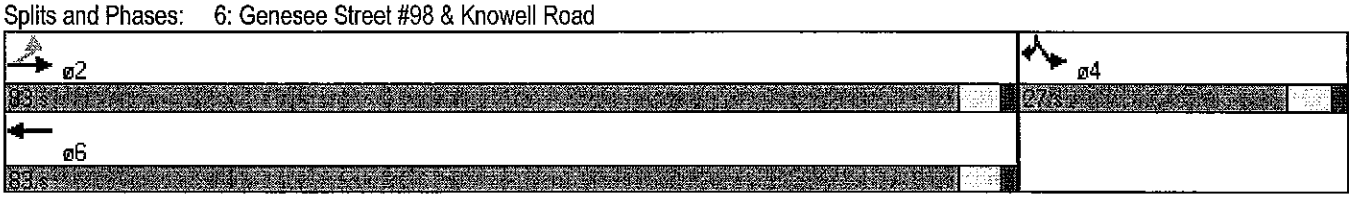
Splits and Phases: 6: Genesee Street #98 & Knowell Road



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Volume (vph)	80	831	1174	104	111
Turn Type	Perm				Prot
Protected Phases		2	6	4	4
Permitted Phases	2				
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0
Total Split (s)	83.0	83.0	83.0	27.0	27.0
Total Split (%)	75.5%	75.5%	75.5%	24.5%	24.5%
Maximum Green (s)	78.0	78.0	78.0	22.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.5	2.5	2.5	1.8	1.8
Minimum Gap (s)	2.5	2.5	2.5	1.8	1.8
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Min	C-Min	C-Min	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 40 (36%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated

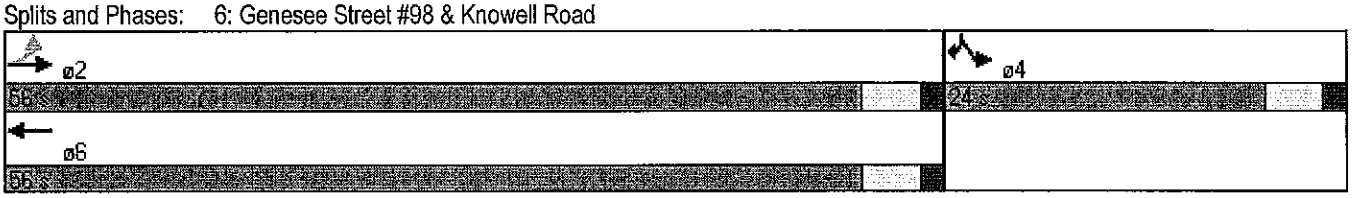
Splits and Phases: 6: Genesee Street #98 & Knowell Road



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Volume (vph)	61	673	648	112	54
Turn Type	Perm				Prot
Protected Phases		2	6	4	4
Permitted Phases	2				
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0
Total Split (s)	56.0	56.0	56.0	24.0	24.0
Total Split (%)	70.0%	70.0%	70.0%	30.0%	30.0%
Maximum Green (s)	51.0	51.0	51.0	19.0	19.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.5	2.5	2.5	1.8	1.8
Minimum Gap (s)	2.5	2.5	2.5	1.8	1.8
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Min	C-Min	C-Min	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

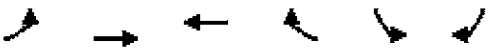
Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated

Splits and Phases: 6: Genesee Street #98 & Knowell Road



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	80	831	1174	139	104	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11
Total Lost time (s)		4.0	4.0		6.0	6.0
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	0.98		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3412	3404		1745	1561
Flt Permitted		0.69	1.00		0.95	1.00
Satd. Flow (perm)		2350	3404		1745	1561
Peak-hour factor, PHF	0.98	0.98	0.90	0.90	0.70	0.70
Adj. Flow (vph)	82	848	1304	154	149	159
RTOR Reduction (vph)	0	0	7	0	0	44
Lane Group Flow (vph)	0	930	1451	0	149	115
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Turn Type	Perm					Prot
Protected Phases		2	6		4	4
Permitted Phases	2					
Actuated Green, G (s)		56.6	56.6		13.4	13.4
Effective Green, g (s)		58.6	58.6		13.4	13.4
Actuated g/C Ratio		0.71	0.71		0.16	0.16
Clearance Time (s)		6.0	6.0		6.0	6.0
Vehicle Extension (s)		4.0	4.0		4.0	4.0
Lane Grp Cap (vph)		1679	2433		285	255
v/s Ratio Prot			c0.43		c0.09	0.07
v/s Ratio Perm		0.40				
v/c Ratio		0.55	0.60		0.52	0.45
Uniform Delay, d1		5.5	5.8		31.4	31.0
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		1.3	1.1		2.2	1.7
Delay (s)		6.8	6.9		33.6	32.7
Level of Service		A	A		C	C
Approach Delay (s)		6.8	6.9		33.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	61	673	648	115	112	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11
Total Lost time (s)		4.0	4.0		6.0	6.0
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	0.98		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3444	3344		1678	1561
Flt Permitted		0.80	1.00		0.95	1.00
Satd. Flow (perm)		2769	3344		1678	1561
Peak-hour factor, PHF	0.84	0.84	0.85	0.85	0.96	0.96
Adj. Flow (vph)	73	801	762	135	117	56
RTOR Reduction (vph)	0	0	10	0	0	49
Lane Group Flow (vph)	0	874	887	0	117	7
Heavy Vehicles (%)	0%	1%	2%	2%	4%	0%
Turn Type	Perm					Prot
Protected Phases		2	6		4	4
Permitted Phases	2					
Actuated Green, G (s)		59.5	59.5		10.5	10.5
Effective Green, g (s)		61.5	61.5		10.5	10.5
Actuated g/C Ratio		0.75	0.75		0.13	0.13
Clearance Time (s)		6.0	6.0		6.0	6.0
Vehicle Extension (s)		4.0	4.0		4.0	4.0
Lane Grp Cap (vph)		2077	2508		215	200
v/s Ratio Prot			0.27		c0.07	0.00
v/s Ratio Perm		c0.32				
v/c Ratio		0.42	0.35		0.54	0.04
Uniform Delay, d1		3.7	3.5		33.5	31.3
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.6	0.4		3.5	0.1
Delay (s)		4.4	3.9		37.0	31.4
Level of Service		A	A		D	C
Approach Delay (s)		4.4	3.9		35.2	
Approach LOS		A	A		D	

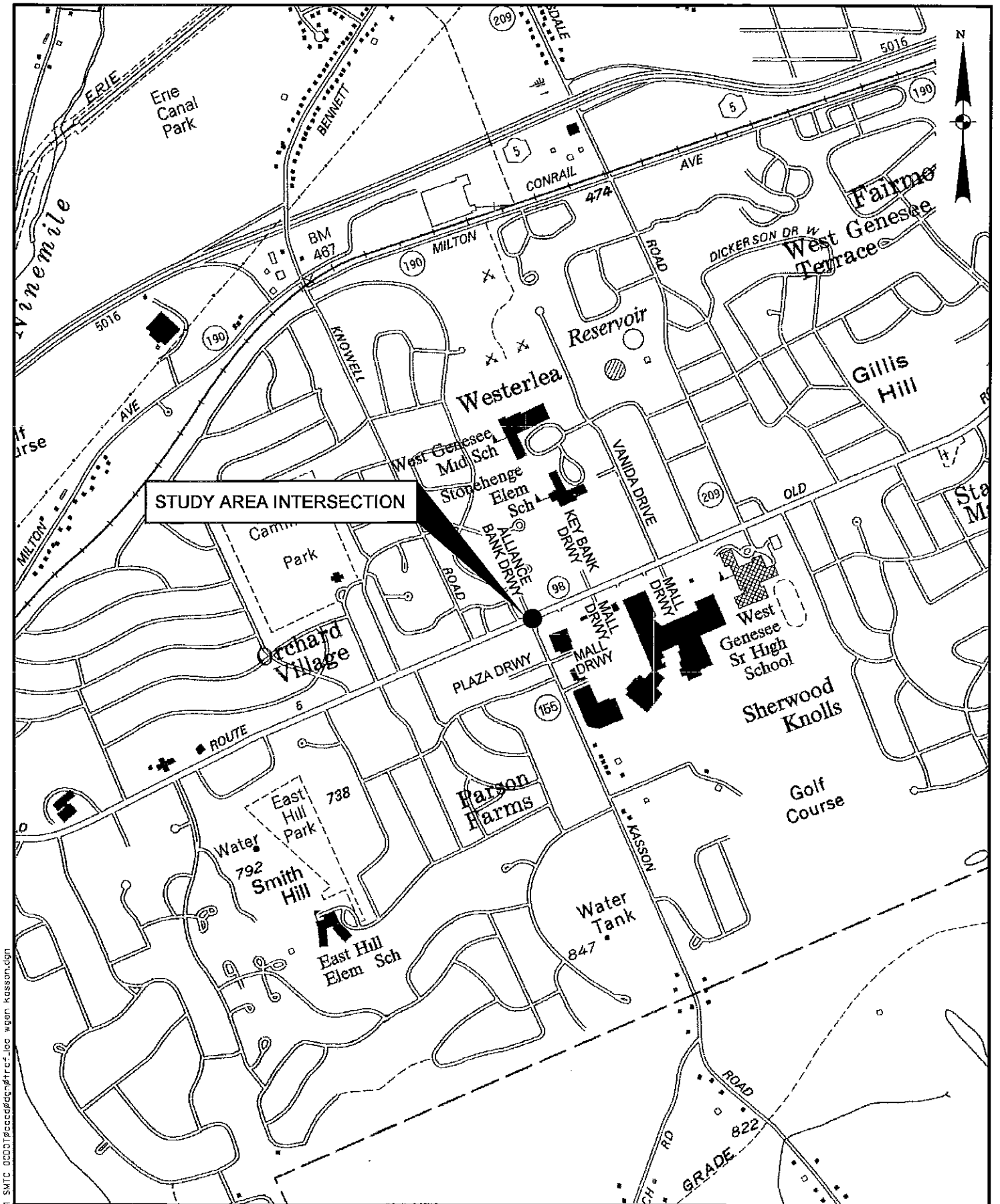
Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	80	831	1174	139	104	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11
Total Lost time (s)		3.0	3.0		5.0	5.0
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	0.98		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3412	3404		1745	1561
Flt Permitted		0.68	1.00		0.95	1.00
Satd. Flow (perm)		2316	3404		1745	1561
Peak-hour factor, PHF	0.98	0.98	0.90	0.90	0.70	0.70
Adj. Flow (vph)	82	848	1304	154	149	159
RTOR Reduction (vph)	0	0	6	0	0	88
Lane Group Flow (vph)	0	930	1452	0	149	71
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Turn Type	Perm					Prot
Protected Phases		2	6		4	4
Permitted Phases	2					
Actuated Green, G (s)		86.0	86.0		14.0	14.0
Effective Green, g (s)		88.0	88.0		14.0	14.0
Actuated g/C Ratio		0.80	0.80		0.13	0.13
Clearance Time (s)		5.0	5.0		5.0	5.0
Vehicle Extension (s)		2.5	2.5		1.8	1.8
Lane Grp Cap (vph)		1853	2723		222	199
v/s Ratio Prot			c0.43		c0.09	0.05
v/s Ratio Perm		0.40				
v/c Ratio		0.50	0.53		0.67	0.36
Uniform Delay, d1		3.7	3.8		45.8	43.9
Progression Factor		1.00	0.57		1.00	1.00
Incremental Delay, d2		1.0	0.6		6.1	0.4
Delay (s)		4.7	2.8		51.9	44.3
Level of Service		A	A		D	D
Approach Delay (s)		4.7	2.8		48.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	61	673	648	115	112	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11
Total Lost time (s)		3.0	3.0		5.0	5.0
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	0.98		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3444	3344		1678	1561
Flt Permitted		0.81	1.00		0.95	1.00
Satd. Flow (perm)		2791	3344		1678	1561
Peak-hour factor, PHF	0.84	0.84	0.85	0.85	0.96	0.96
Adj. Flow (vph)	73	801	762	135	117	56
RTOR Reduction (vph)	0	0	11	0	0	50
Lane Group Flow (vph)	0	874	886	0	117	6
Heavy Vehicles (%)	0%	1%	2%	2%	4%	0%
Turn Type	Perm					Prot
Protected Phases		2	6		4	4
Permitted Phases	2					
Actuated Green, G (s)		60.9	60.9		9.1	9.1
Effective Green, g (s)		62.9	62.9		9.1	9.1
Actuated g/C Ratio		0.79	0.79		0.11	0.11
Clearance Time (s)		5.0	5.0		5.0	5.0
Vehicle Extension (s)		2.5	2.5		1.8	1.8
Lane Grp Cap (vph)		2194	2629		191	178
v/s Ratio Prot			0.26		c0.07	0.00
v/s Ratio Perm		c0.31				
v/c Ratio		0.40	0.34		0.61	0.04
Uniform Delay, d1		2.7	2.5		33.8	31.5
Progression Factor		1.00	0.58		1.00	1.00
Incremental Delay, d2		0.5	0.3		4.0	0.0
Delay (s)		3.2	1.8		37.8	31.6
Level of Service		A	A		D	C
Approach Delay (s)		3.2	1.8		35.8	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	5.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



LOCATION MAP
WEST GENESEE ST/KASSON RD/ALLIANCE BANK DRWY

TRAFFIC SIGNAL OPTIMIZATION
ONONDAGA COUNTY
SYRACUSE, NEW YORK

CME
CREIGHTON MANNING ENGINEERING, LLP

PROJECT: 09-094d	DATE: 8/10	FIGURE: B.2

INTERSECTION DIAGRAM

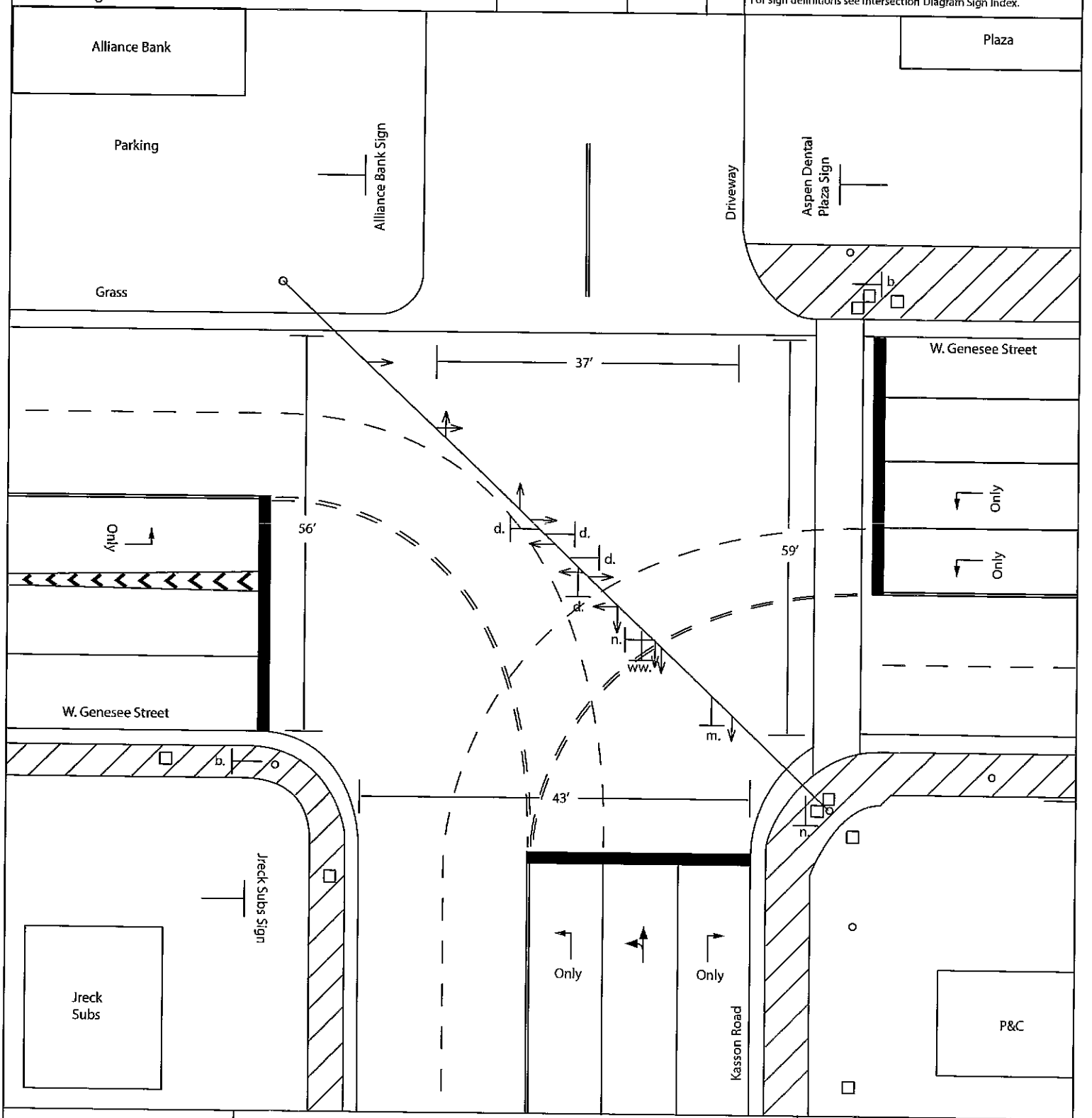
Location: W. Genesee Street at Kasson Road

Legend: Sign; Signal Head; Signal with Span Wire; Light Pole; ## (Feet); Utility Pole; Pedestrian Signal; Sidewalk

Drawn By: JC | Date: May 2010 | Prepared By: SMTC | N

Note:
Only actual pavement markings were drawn. An absence of arrows/striping indicates no pavement markings.

For sign definitions see Intersection Diagram Sign Index.



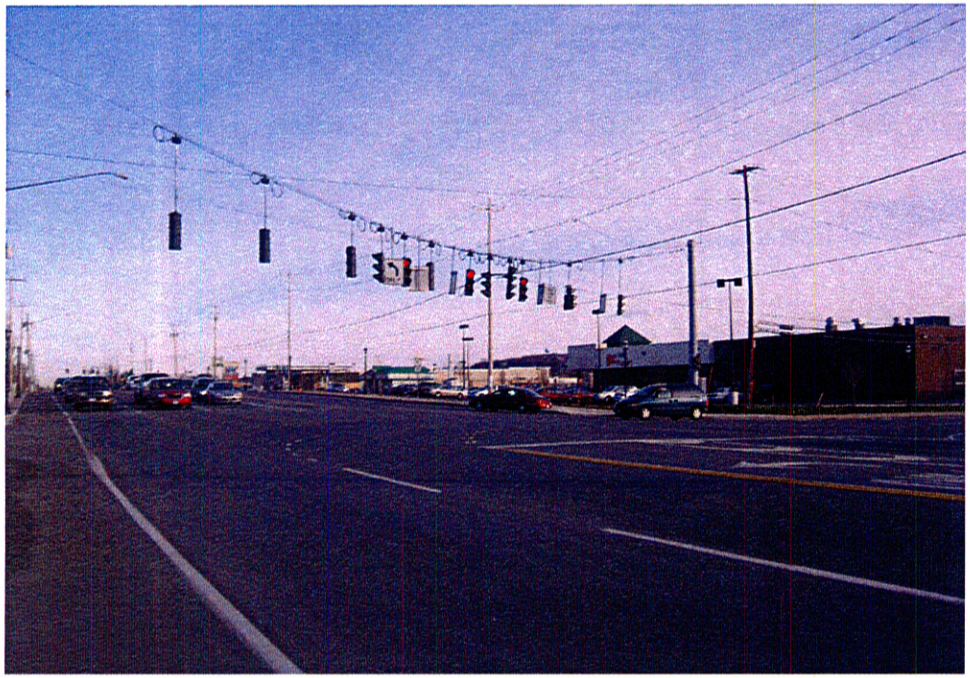
Task: OCDOT Signal Optimization

Data Source: SMTC, OCDOT, 2009.

Diagram is for presentation purposes only. SMTC does not guarantee the accuracy or completeness of this diagram.

Diagram is not to scale.


ONLY



Lane Group	SBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	5	631	304	567	882	5	431	5	118	5	5	5
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.89	0.89	0.79	0.79	0.92	0.81	0.92	0.81	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	1%	1%	2%	1%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)							50%					

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	5	581	204	334	454	5	309	5	237	5	5	5
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.87	0.87	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	1%	1%	1%	0%	2%	2%	2%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)							49%					

Intersection Summary

INTERSECTION NAME: W. Genesee @ Kasson
INTERSECTION NUMBER: 53

INSTALLATION DATE:
PROGRAM DATE:

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL								
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	8	10		8	8	10		8
PASSAGE	4	4		4	4	4		4
YELLOW	3	3		3	3	3		3
RED	2	2		2	2	2		2
MAX I	30	30		25	10	30		15
MAX II								
WALK								
PED CLEAR				16				
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

	PHASES USED							
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

INHIBIT O/L	PED Overlaps							
	1	2	3	4	5	6	7	8
OLA				X				
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Kasson
INTERSECTION NUMBER: 53

INSTALLATION DATE: COORDINATED
PROGRAM DATE: OPTIMIZED TIMINGS

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	10		10	5	10		5
PASSAGE	1.6	2.5		1.2	1.6	2.5		1.2
YELLOW	3.5	3.5		3.5	3.5	3.5		3.5
RED	2	2		2	2	2		2
MAX I (PM)	24.5	34.5		23.5	5.5	53.5		5.5
MAX II (SAT)	8.5	20.5		23.5	5.5	23.5		5.5
WALK				5				
PED CLEAR				18				
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

	PHASES USED							
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

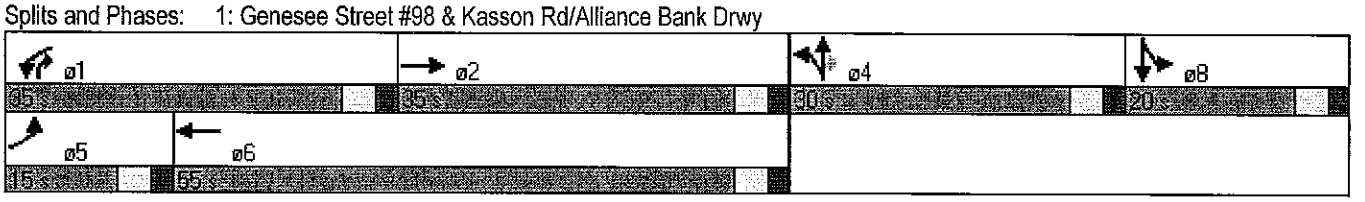
INHIBIT O/L	PED Overlaps							
	1	2	3	4	5	6	7	8
OLA				X				
OVERLAP B								
OVERLAP C								
OVERLAP D								

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Volume (vph)	5	631	567	882	431	5	118	5
Turn Type	Prot		Prot		Split		pm+ov	
Protected Phases	5	2	1	6	4	4	1	8
Permitted Phases							4	
Detector Phase	5		1		4	4	1	8
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.0	15.0	13.0	15.0	21.0	21.0	13.0	13.0
Total Split (s)	15.0	35.0	35.0	55.0	30.0	30.0	35.0	20.0
Total Split (%)	12.5%	29.2%	29.2%	45.8%	25.0%	25.0%	29.2%	16.7%
Maximum Green (s)	10.0	30.0	30.0	50.0	25.0	25.0	30.0	15.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag			Lead	
Lead-Lag Optimize?								
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)					5.0	5.0		
Flash Dont Walk (s)					11.0	11.0		
Pedestrian Calls (#/hr)					0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Genesee Street #98 & Kasson Rd/Alliance Bank Drwy

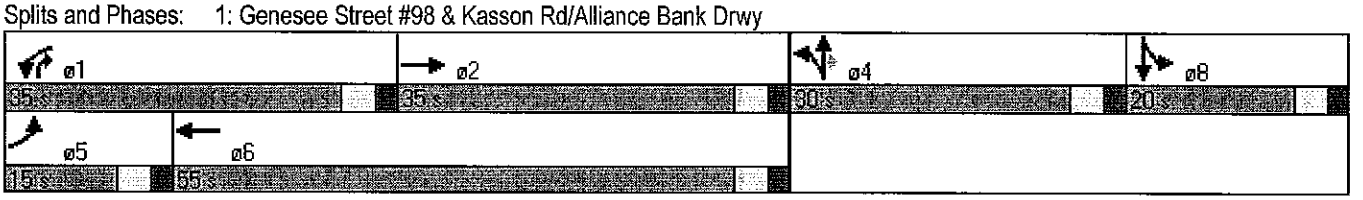


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Volume (vph)	5	581	334	454	309	5	237	5
Turn Type	Prot		Prot		Split		pm+ov	
Protected Phases	5	2	1	6	4	4	1	8
Permitted Phases							4	
Detector Phase	5		1		4	4	1	8
Switch Phase								
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	13.0	15.0	13.0	15.0	21.0	21.0	13.0	13.0
Total Split (s)	15.0	35.0	35.0	55.0	30.0	30.0	35.0	20.0
Total Split (%)	12.5%	29.2%	29.2%	45.8%	25.0%	25.0%	29.2%	16.7%
Maximum Green (s)	10.0	30.0	30.0	50.0	25.0	25.0	30.0	15.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag			Lead	
Lead-Lag Optimize?								
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)					5.0	5.0		
Flash Dont Walk (s)					11.0	11.0		
Pedestrian Calls (#/hr)					0	0		

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Genesee Street #98 & Kasson Rd/Alliance Bank Drwy

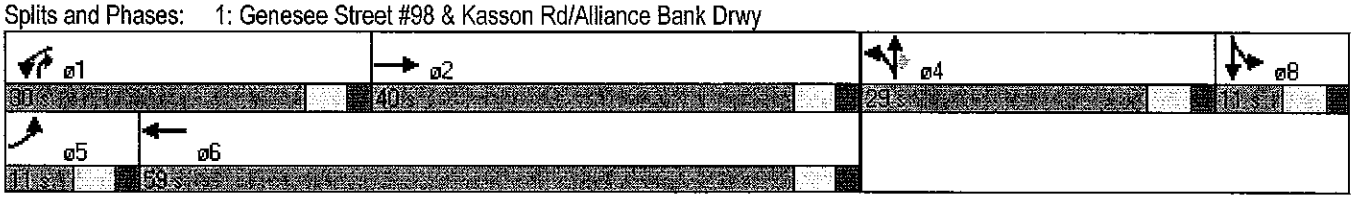


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Volume (vph)	5	631	567	882	431	5	118	5
Turn Type	Prot		Prot		Split		pm+ov	
Protected Phases	5	2	1	6	4	4	1	8
Permitted Phases							4	
Detector Phase	5	2	1	6	4	4	1	8
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	10.5	15.5	10.5	15.5	28.5	28.5	10.5	10.5
Total Split (s)	11.0	40.0	30.0	59.0	29.0	29.0	30.0	11.0
Total Split (%)	10.0%	36.4%	27.3%	53.6%	26.4%	26.4%	27.3%	10.0%
Maximum Green (s)	5.5	34.5	24.5	53.5	23.5	23.5	24.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag			Lead	
Lead-Lag Optimize?								
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)					5.0	5.0		
Flash Dont Walk (s)					18.0	18.0		
Pedestrian Calls (#/hr)					0	0		

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: Genesee Street #98 & Kasson Rd/Alliance Bank Drwy

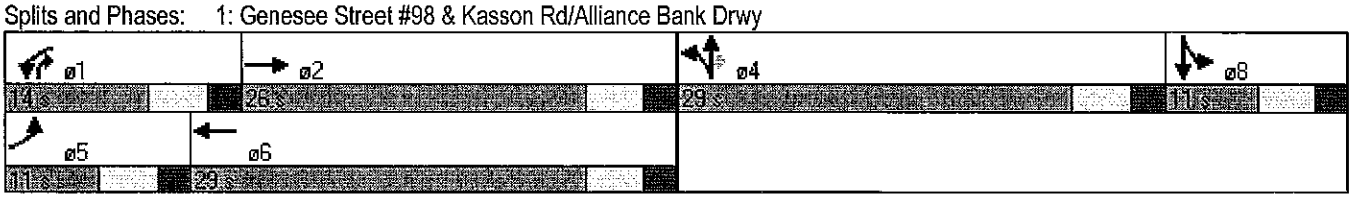


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Volume (vph)	5	581	334	454	309	5	237	5
Turn Type	Prot		Prot		Split		pm+ov	
Protected Phases	5	2	1	6	4	4	1	8
Permitted Phases							4	
Detector Phase	5	2	1	6	4	4	1	8
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	10.5	15.5	10.5	15.5	28.5	28.5	10.5	10.5
Total Split (s)	11.0	26.0	14.0	29.0	29.0	29.0	14.0	11.0
Total Split (%)	13.8%	32.5%	17.5%	36.3%	36.3%	36.3%	17.5%	13.8%
Maximum Green (s)	5.5	20.5	8.5	23.5	23.5	23.5	8.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag			Lead	
Lead-Lag Optimize?								
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)					5.0	5.0		
Flash Dont Walk (s)					18.0	18.0		
Pedestrian Calls (#/hr)					0	0		

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 1: Genesee Street #98 & Kasson Rd/Alliance Bank Drwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	631	304	567	882	5	431	5	118	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		0.97	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3366		3467	3572		1641	1703	1531		1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (perm)	1770	3366		3467	3572		1641	1703	1531		1750	
Peak-hour factor, PHF	0.92	0.89	0.89	0.79	0.79	0.92	0.81	0.92	0.81	0.92	0.92	0.92
Adj. Flow (vph)	5	709	342	718	1116	5	532	5	146	5	5	5
RTOR Reduction (vph)	0	45	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	5	1006	0	718	1121	0	266	271	146	0	10	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	2%	1%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		4	4	1	8	8	
Permitted Phases									4			
Actuated Green, G (s)	1.6	37.7		32.8	68.9		26.1	26.1	58.9		3.4	
Effective Green, g (s)	2.6	38.7		33.8	69.9		27.1	27.1	60.9		4.4	
Actuated g/C Ratio	0.02	0.32		0.28	0.58		0.23	0.23	0.51		0.04	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	38	1086		977	2081		371	385	777		64	
v/s Ratio Prot	0.00	c0.30		c0.21	0.31		c0.16	0.16	0.05		c0.01	
v/s Ratio Perm									0.04			
v/c Ratio	0.13	0.93		0.73	0.54		0.72	0.70	0.19		0.16	
Uniform Delay, d1	57.6	39.3		39.0	15.2		42.9	42.8	16.1		56.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.1	14.5		3.1	1.0		6.9	6.2	0.2		1.6	
Delay (s)	59.7	53.8		42.1	16.2		49.8	48.9	16.2		57.6	
Level of Service	E	D		D	B		D	D	B		E	
Approach Delay (s)		53.8			26.4			42.3			57.6	
Approach LOS		D			C			D			E	

Intersection Summary				
HCM Average Control Delay	37.6	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	72.1%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	581	204	334	454	5	309	5	237	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		0.97	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3435		3467	3604		1625	1688	1561		1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (perm)	1770	3435		3467	3604		1625	1688	1561		1750	
Peak-hour factor, PHF	0.92	0.87	0.87	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	668	234	363	493	5	343	5	263	5	5	5
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	5	882	0	363	498	0	175	173	263	0	10	0
Heavy Vehicles (%)	2%	1%	1%	1%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		4	4	1	8	8	
Permitted Phases									4			
Actuated Green, G (s)	1.6	57.6		19.9	75.9		19.1	19.1	39.0		3.4	
Effective Green, g (s)	2.6	58.6		20.9	76.9		20.1	20.1	41.0		4.4	
Actuated g/C Ratio	0.02	0.49		0.17	0.64		0.17	0.17	0.34		0.04	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	38	1677		604	2310		272	283	533		64	
v/s Ratio Prot	0.00	c0.26		c0.10	0.14		c0.11	0.10	0.09		c0.01	
v/s Ratio Perm									0.08			
v/c Ratio	0.13	0.53		0.60	0.22		0.64	0.61	0.49		0.16	
Uniform Delay, d1	57.6	21.1		45.7	9.0		46.6	46.3	31.3		56.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	2.1	1.2		2.0	0.2		5.7	4.4	1.0		1.6	
Delay (s)	59.7	22.3		47.7	9.2		52.3	50.8	32.3		57.6	
Level of Service	E	C		D	A		D	D	C		E	
Approach Delay (s)		22.5			25.4			43.2			57.6	
Approach LOS		C			C			D			E	

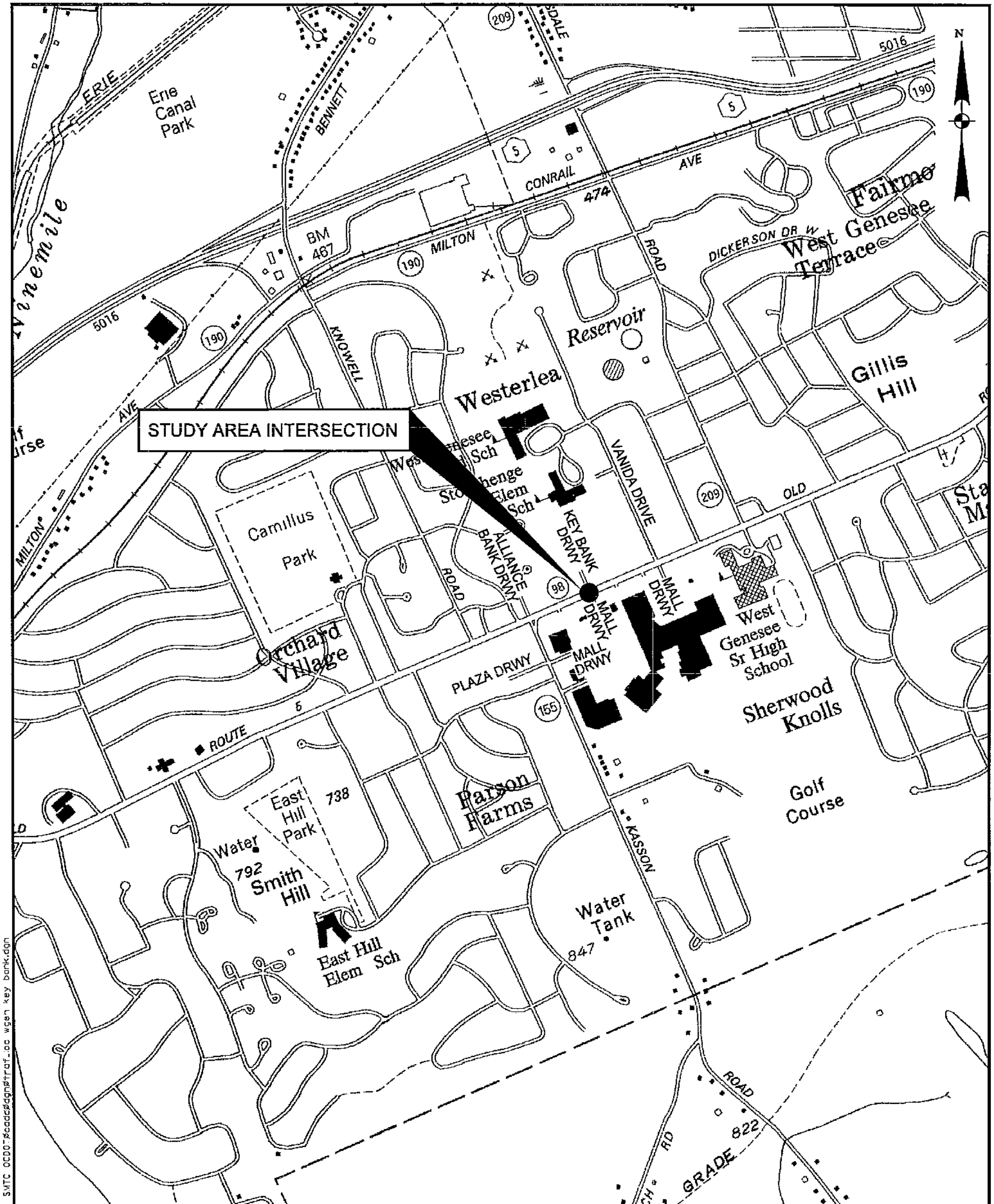
Intersection Summary				
HCM Average Control Delay	29.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	57.5%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	631	304	567	882	5	431	5	118	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		0.97	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3366		3467	3572		1641	1703	1531		1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (perm)	1770	3366		3467	3572		1641	1703	1531		1750	
Peak-hour factor, PHF	0.92	0.89	0.89	0.79	0.79	0.92	0.81	0.92	0.81	0.92	0.92	0.92
Adj. Flow (vph)	5	709	342	718	1116	5	532	5	146	5	5	5
RTOR Reduction (vph)	0	48	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	5	1003	0	718	1121	0	266	271	146	0	10	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	2%	1%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		4	4	1	8	8	
Permitted Phases									4			
Actuated Green, G (s)	1.1	40.8		24.9	64.6		20.2	20.2	45.1		2.1	
Effective Green, g (s)	2.1	41.8		25.9	65.6		21.2	21.2	47.1		3.1	
Actuated g/C Ratio	0.02	0.38		0.24	0.60		0.19	0.19	0.43		0.03	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5		5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5		1.2	1.2	1.6		1.2	
Lane Grp Cap (vph)	34	1279		816	2130		316	328	656		49	
v/s Ratio Prot	0.00	c0.30		c0.21	0.31		c0.16	0.16	0.05		c0.01	
v/s Ratio Perm									0.04			
v/c Ratio	0.15	0.78		0.88	0.53		0.84	0.83	0.22		0.21	
Uniform Delay, d1	53.1	30.1		40.6	13.1		42.8	42.6	19.9		52.2	
Progression Factor	1.02	0.87		1.12	0.96		0.82	0.82	1.33		1.00	
Incremental Delay, d2	0.7	4.4		8.4	0.7		15.7	13.4	0.1		0.8	
Delay (s)	54.9	30.6		53.8	13.2		51.0	48.5	26.4		53.0	
Level of Service	D	C		D	B		D	D	C		D	
Approach Delay (s)		30.7			29.0			44.8			53.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	581	204	334	454	5	309	5	237	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		0.97	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3435		3467	3604		1625	1688	1561		1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (perm)	1770	3435		3467	3604		1625	1688	1561		1750	
Peak-hour factor, PHF	0.92	0.87	0.87	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	5	668	234	363	493	5	343	5	263	5	5	5
RTOR Reduction (vph)	0	36	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	5	866	0	363	498	0	175	173	263	0	10	0
Heavy Vehicles (%)	2%	1%	1%	1%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		4	4	1	8	8	
Permitted Phases									4			
Actuated Green, G (s)	1.0	31.3		12.6	42.9		13.0	13.0	25.6		1.1	
Effective Green, g (s)	2.0	32.3		13.6	43.9		14.0	14.0	27.6		2.1	
Actuated g/C Ratio	0.02	0.40		0.17	0.55		0.18	0.18	0.35		0.03	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5		5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5		1.2	1.2	1.6		1.2	
Lane Grp Cap (vph)	44	1387		589	1978		284	295	539		46	
v/s Ratio Prot	0.00	c0.25		c0.10	0.14		c0.11	0.10	0.08		c0.01	
v/s Ratio Perm									0.09			
v/c Ratio	0.11	0.62		0.62	0.25		0.62	0.59	0.49		0.22	
Uniform Delay, d1	38.1	19.0		30.8	9.4		30.5	30.3	20.6		38.1	
Progression Factor	1.08	0.99		0.70	0.84		0.77	0.77	0.93		1.00	
Incremental Delay, d2	0.4	2.0		1.3	0.3		2.5	1.7	0.2		0.9	
Delay (s)	41.5	20.9		23.0	8.3		26.1	25.1	19.4		39.0	
Level of Service	D	C		C	A		C	C	B		D	
Approach Delay (s)		21.0			14.5			22.9			39.0	
Approach LOS		C			B			C			D	

Intersection Summary				
HCM Average Control Delay	19.3	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	58.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



LOCATION MAP WEST GENESEE ST/CAMILLUS MALL DRWY/ KEY BANK DRWY	CME CREIGHTON MANNING ENGINEERING, LLP
TRAFFIC SIGNAL OPTIMIZATION ONONDAGA COUNTY SYRACUSE, NEW YORK	PROJECT: 09-094d — DATE: 8/10 — FIGURE: B.3

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INTERSECTION DIAGRAM

Location: W. Genesee Street at Mall Entrance (b/t Kasson Rd and Vanida Dr)

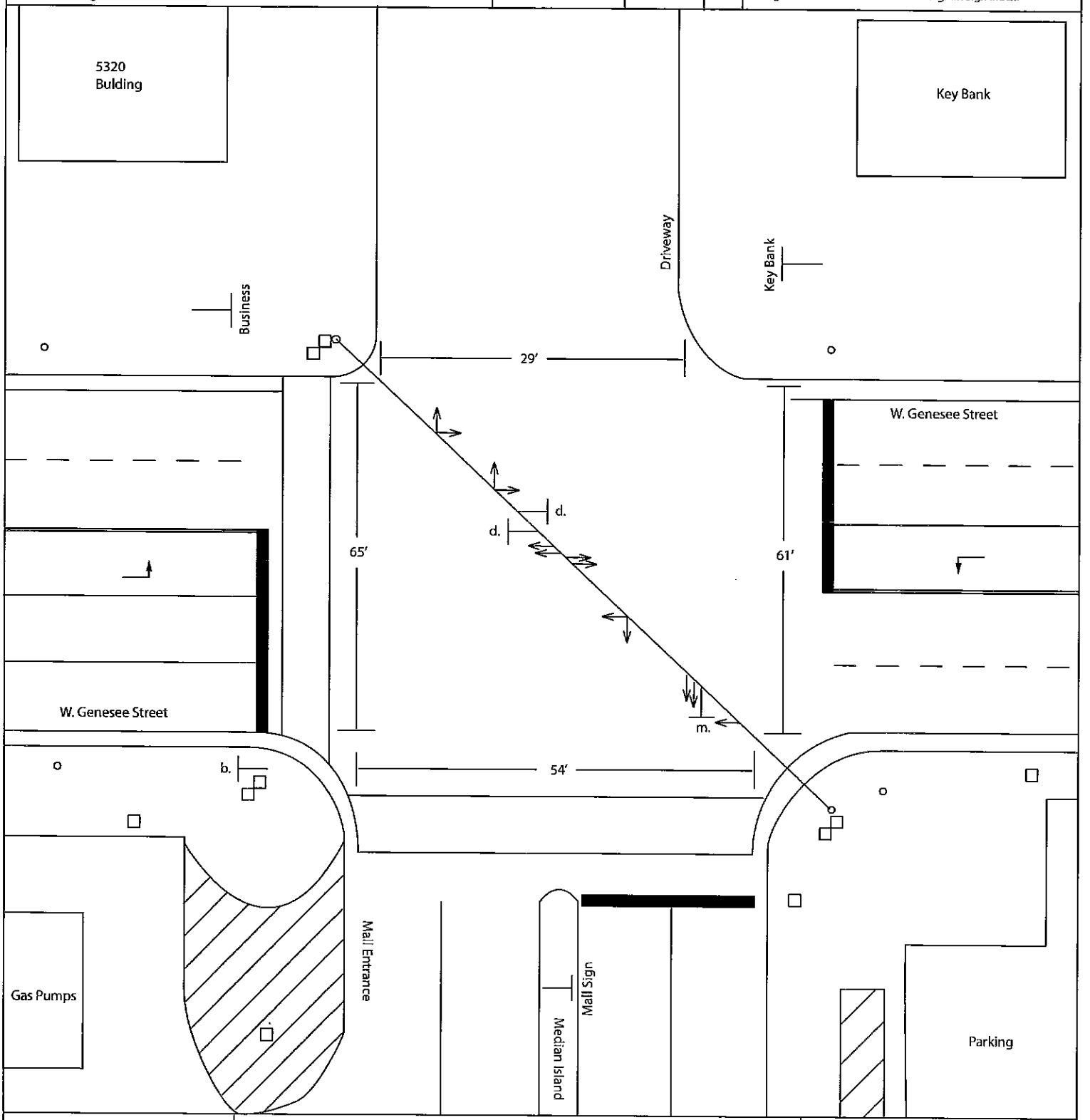
Legend: Sign; Signal Head; Signal with Span Wire; Light Pole; ## (Feet); Utility Pole; Pedestrian Signal; Sidewalk

Drawn By	JC	Prepared By	SMTC
Date	May 2010		

N

Note:
Only actual pavement markings were drawn. An absence of arrows/striping indicates no pavement markings.

For sign definitions see Intersection Diagram Sign Index.



Task

OCDOT Signal Optimization

Data Source: SMTC, OCDOT, 2009.

Diagram is for presentation purposes only.
SMTC does not guarantee the accuracy or completeness of this diagram.

Diagram is not to scale.


RITE AID


8320

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	5	656	38	332	1322	7	118	9	221	9	9	9
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.80	0.80	0.80	0.67	0.67	0.67	0.60	0.60	0.60
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	3%	1%	0%	0%	0%	4%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	7	597	72	548	598	6	169	15	272	27	15	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.95	0.95	0.95	0.91	0.91	0.91	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												

Intersection Summary

INTERSECTION NAME: W. Genesee @ Sight Dr #4/Key Bank INSTALLATION DATE:
INTERSECTION NUMBER: 93 PROGRAM DATE:

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL								
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2		4	5	6		8
MIN GREEN	5	10		8	5	10		8
PASSAGE	4	4		4	4	4		4
YELLOW	3	3		3	3	3		3
RED	2	2		2	2	2		2
MAX I	25	35		35	25	35		25
MAX II								
WALK								
PED CLEAR								
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA								
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Sight Dr #4/Key Bank INSTALLATION DATE: COORDINATED
INTERSECTION NUMBER: 93 PROGRAM DATE: OPTIMIZED TIMINGS

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2		4	5	6		8
MIN GREEN	5	10		7	5	10		7
PASSAGE	1.6	2.5		1.2	1.6	2.5		1.2
YELLOW	3.5	3.5		3.5	3.5	3.5		3.5
RED	2	2		2	2	2		2
MAX I (PM)	32.5	36.5		24.5	5.5	63.5		24.5
MAX II (SAT)	21.5	18.5		23.5	5.5	34.5		23.5
WALK		5						5
PED CLEAR		11						18
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

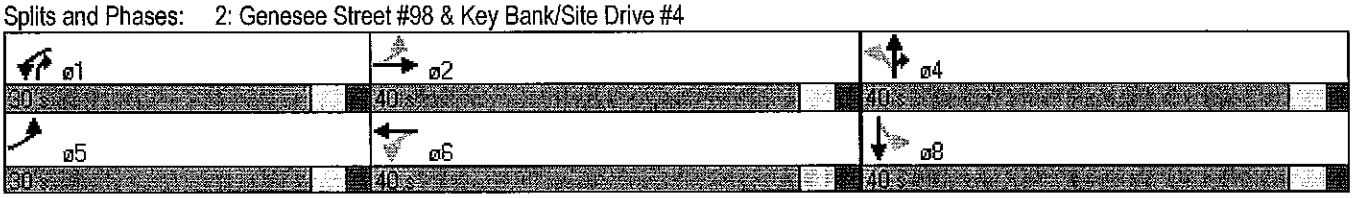
PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA		X						X
OVERLAP B								
OVERLAP C								
OVERLAP D								

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	5	656	332	1322	118	9	221	9	9
Turn Type	pm+pt		pm+pt		Perm		pt+ov	Perm	
Protected Phases	5	2	1	6		4	4 1		8
Permitted Phases	2		6		4			8	
Detector Phase	5		1		4	4	4 1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0		8.0	8.0
Minimum Split (s)	10.0	21.0	10.0	21.0	21.0	21.0		21.0	21.0
Total Split (s)	30.0	40.0	30.0	40.0	40.0	40.0	70.0	40.0	40.0
Total Split (%)	27.3%	36.4%	27.3%	36.4%	36.4%	36.4%	63.6%	36.4%	36.4%
Maximum Green (s)	25.0	35.0	25.0	35.0	35.0	35.0		35.0	35.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?									
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None		None	None
Walk Time (s)		5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0		0	0

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 2: Genesee Street #98 & Key Bank/Site Drive #4

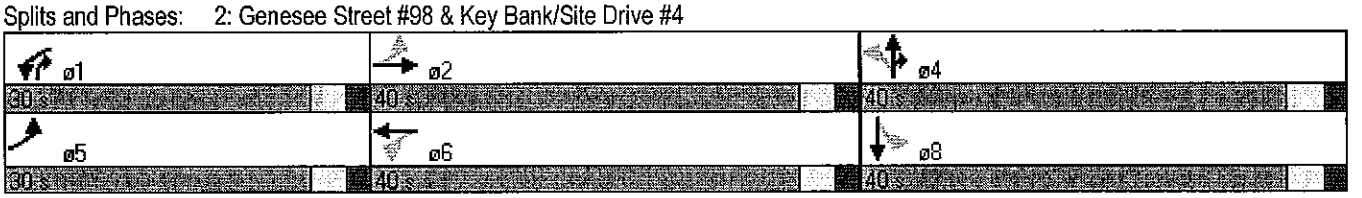


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	7	597	548	598	169	15	272	27	15
Turn Type	pm+pt		pm+pt		Perm		pt+ov	Perm	
Protected Phases	5	2	1	6		4	4 1		8
Permitted Phases	2		6		4			8	
Detector Phase	5		1		4	4	4 1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0		8.0	8.0
Minimum Split (s)	10.0	21.0	10.0	21.0	21.0	21.0		21.0	21.0
Total Split (s)	30.0	40.0	30.0	40.0	40.0	40.0	70.0	40.0	40.0
Total Split (%)	27.3%	36.4%	27.3%	36.4%	36.4%	36.4%	63.6%	36.4%	36.4%
Maximum Green (s)	25.0	35.0	25.0	35.0	35.0	35.0		35.0	35.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?									
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None		None	None
Walk Time (s)		5.0		5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0		0	0	0		0	0

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 12 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 2: Genesee Street #98 & Key Bank/Site Drive #4

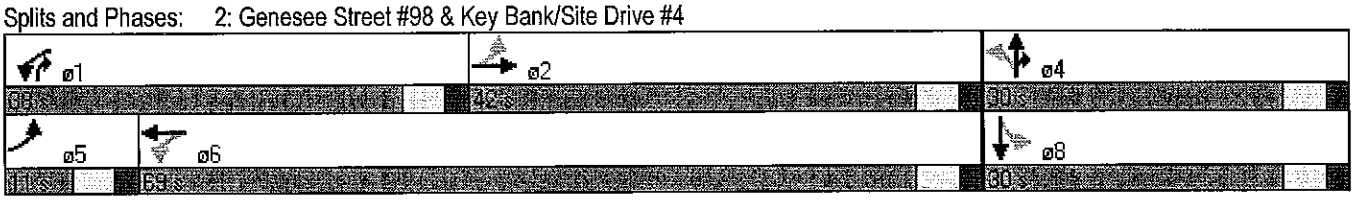


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	5	656	332	1322	118	9	221	9	9
Turn Type	pm+pt		pm+pt		Perm		pt+ov	Perm	
Protected Phases	5	2	1	6		4	4 1		8
Permitted Phases	2		6		4			8	
Detector Phase	5	2	1	6	4	4	4 1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0		7.0	7.0
Minimum Split (s)	10.5	21.5	10.5	15.5	12.5	12.5		28.5	28.5
Total Split (s)	11.0	42.0	38.0	69.0	30.0	30.0	68.0	30.0	30.0
Total Split (%)	10.0%	38.2%	34.5%	62.7%	27.3%	27.3%	61.8%	27.3%	27.3%
Maximum Green (s)	5.5	36.5	32.5	63.5	24.5	24.5		24.5	24.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?									
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2		1.2	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2		1.2	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None		None	None
Walk Time (s)		5.0						5.0	5.0
Flash Dont Walk (s)		11.0						18.0	18.0
Pedestrian Calls (#/hr)		0						0	0

Intersection Summary

Cycle Length: 110
Actual Cycle Length: 110
Offset: 22 (20%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 2: Genesee Street #98 & Key Bank/Site Drive #4

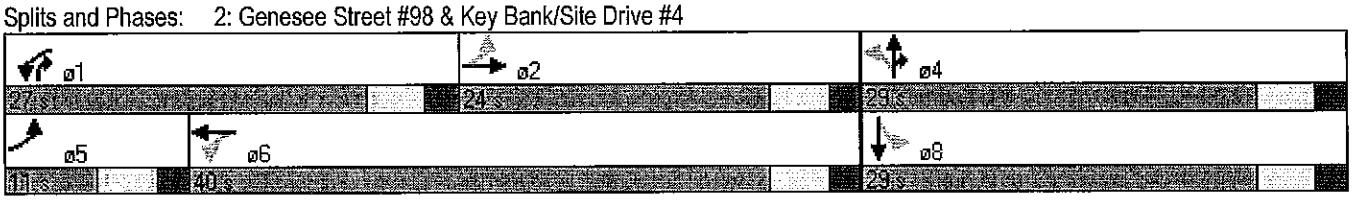


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	7	597	548	598	169	15	272	27	15
Turn Type	pm+pt		pm+pt		Perm		pt+ov	Perm	
Protected Phases	5	2	1	6		4	4 1		8
Permitted Phases	2		6		4			8	
Detector Phase	5	2	1	6	4	4	4 1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0		7.0	7.0
Minimum Split (s)	10.5	21.5	10.5	15.5	12.5	12.5		28.5	28.5
Total Split (s)	11.0	24.0	27.0	40.0	29.0	29.0	56.0	29.0	29.0
Total Split (%)	13.8%	30.0%	33.8%	50.0%	36.3%	36.3%	70.0%	36.3%	36.3%
Maximum Green (s)	5.5	18.5	21.5	34.5	23.5	23.5		23.5	23.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?									
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2		1.2	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2		1.2	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None		None	None
Walk Time (s)		5.0						5.0	5.0
Flash Dont Walk (s)		11.0						18.0	18.0
Pedestrian Calls (#/hr)		0						0	0

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 70 (88%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 2: Genesee Street #98 & Key Bank/Site Drive #4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	656	38	332	1322	7	118	9	221	9	9	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11	12	13	13	12	16	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3514		1752	3572			1876	1605		2023	
Flt Permitted	0.15	1.00		0.21	1.00			0.75	1.00		0.89	
Satd. Flow (perm)	280	3514		391	3572			1480	1605		1824	
Peak-hour factor, PHF	0.92	0.92	0.92	0.80	0.80	0.80	0.67	0.67	0.67	0.60	0.60	0.60
Adj. Flow (vph)	5	713	41	415	1652	9	176	13	330	15	15	15
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	27	0	12	0
Lane Group Flow (vph)	5	750	0	415	1661	0	0	189	303	0	33	0
Heavy Vehicles (%)	0%	2%	0%	3%	1%	0%	0%	0%	4%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pt+ov	Perm		
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	42.3	40.9		78.5	72.1			21.5	59.1		21.5	
Effective Green, g (s)	44.3	41.9		79.5	73.1			22.5	60.1		22.5	
Actuated g/C Ratio	0.40	0.38		0.72	0.66			0.20	0.55		0.20	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)	146	1339		698	2374			303	877		373	
v/s Ratio Prot	0.00	0.21		c0.18	c0.46				0.19			
v/s Ratio Perm	0.01			0.25				c0.13			0.02	
v/c Ratio	0.03	0.56		0.59	0.70			0.62	0.35		0.09	
Uniform Delay, d1	20.0	26.8		10.8	11.6			39.9	14.0		35.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.7		1.6	1.7			4.5	0.3		0.1	
Delay (s)	20.1	28.5		12.4	13.3			44.4	14.3		35.6	
Level of Service	C	C		B	B			D	B		D	
Approach Delay (s)		28.4			13.1			25.2			35.6	
Approach LOS		C			B			C			D	

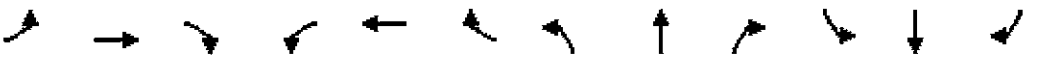
Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	597	72	548	598	6	169	15	272	27	15	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11	12	13	13	12	16	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3520		1805	3605			1877	1669		2014	
Flt Permitted	0.41	1.00		0.14	1.00			0.69	1.00		0.78	
Satd. Flow (perm)	781	3520		260	3605			1354	1669		1602	
Peak-hour factor, PHF	0.84	0.84	0.84	0.95	0.95	0.95	0.91	0.91	0.91	0.80	0.80	0.80
Adj. Flow (vph)	8	711	86	577	629	6	186	16	299	34	19	26
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	18	0	19	0
Lane Group Flow (vph)	8	787	0	577	635	0	0	202	281	0	60	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pt+ov	Perm		
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	25.6	24.2		77.0	70.6			23.0	75.8		23.0	
Effective Green, g (s)	27.6	25.2		78.0	71.6			24.0	76.8		24.0	
Actuated g/C Ratio	0.25	0.23		0.71	0.65			0.22	0.70		0.22	
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)	218	806		870	2347			295	1165		350	
v/s Ratio Prot	0.00	c0.22		c0.29	0.18				0.17			
v/s Ratio Perm	0.01			0.18				c0.15			0.04	
v/c Ratio	0.04	0.98		0.66	0.27			0.68	0.24		0.17	
Uniform Delay, d1	31.2	42.1		17.9	8.1			39.5	6.0		34.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	26.5		2.1	0.3			7.0	0.1		0.3	
Delay (s)	31.3	68.6		20.0	8.4			46.5	6.2		35.3	
Level of Service	C	E		B	A			D	A		D	
Approach Delay (s)		68.2			13.9			22.4			35.3	
Approach LOS		E			B			C			D	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

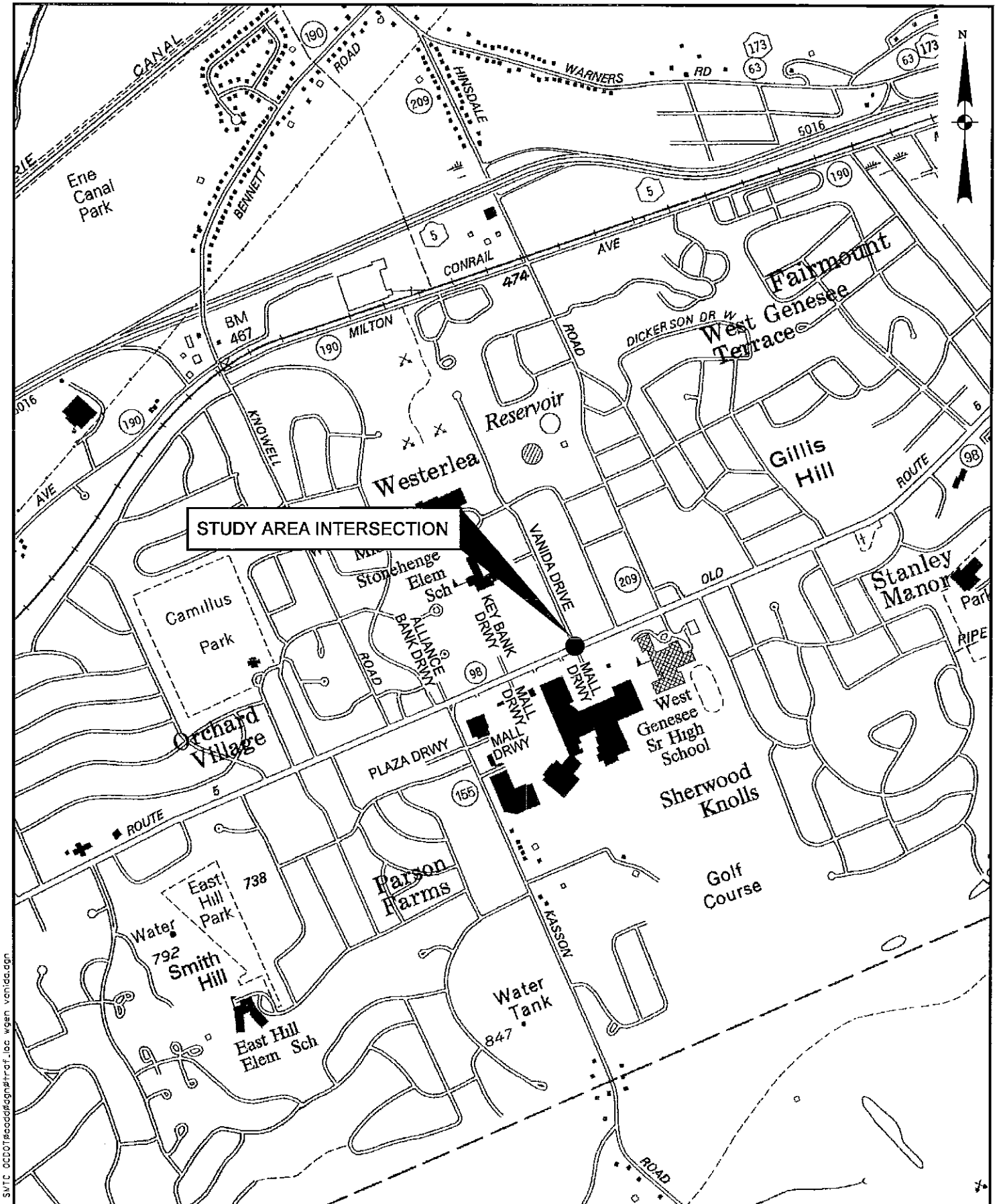
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	656	38	332	1322	7	118	9	221	9	9	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11	12	13	13	12	16	12
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3514		1752	3572			1876	1605		2023	
Flt Permitted	0.13	1.00		0.27	1.00			0.77	1.00		0.86	
Satd. Flow (perm)	248	3514		492	3572			1506	1605		1775	
Peak-hour factor, PHF	0.92	0.92	0.92	0.80	0.80	0.80	0.67	0.67	0.67	0.60	0.60	0.60
Adj. Flow (vph)	5	713	41	415	1652	9	176	13	330	15	15	15
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	38	0	12	0
Lane Group Flow (vph)	5	751	0	415	1661	0	0	189	292	0	33	0
Heavy Vehicles (%)	0%	2%	0%	3%	1%	0%	0%	0%	4%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pt+ov	Perm		
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	54.1	53.1		81.3	74.8			17.7	45.9		17.7	
Effective Green, g (s)	56.1	54.1		82.3	75.8			18.7	46.9		18.7	
Actuated g/C Ratio	0.51	0.49		0.75	0.69			0.17	0.43		0.17	
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5			5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5			1.2			1.2	
Lane Grp Cap (vph)	155	1728		640	2461			256	684		302	
v/s Ratio Prot	0.00	0.21		c0.14	c0.46				c0.18			
v/s Ratio Perm	0.02			0.35				c0.13			0.02	
v/c Ratio	0.03	0.43		0.65	0.67			0.74	0.43		0.11	
Uniform Delay, d1	13.4	18.1		7.5	9.9			43.3	22.1		38.6	
Progression Factor	0.43	0.50		2.35	0.98			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.6		1.1	1.0			9.2	0.2		0.1	
Delay (s)	5.8	9.7		18.8	10.7			52.5	22.3		38.7	
Level of Service	A	A		B	B			D	C		D	
Approach Delay (s)		9.7			12.3			33.3			38.7	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	4.5
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	597	72	548	598	6	169	15	272	27	15	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11	12	13	13	12	16	12
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3520		1805	3605			1877	1669		2014	
Flt Permitted	0.41	1.00		0.15	1.00			0.74	1.00		0.77	
Satd. Flow (perm)	781	3520		289	3605			1447	1669		1585	
Peak-hour factor, PHF	0.84	0.84	0.84	0.95	0.95	0.95	0.91	0.91	0.91	0.80	0.80	0.80
Adj. Flow (vph)	8	711	86	577	629	6	186	16	299	34	19	26
RTOR Reduction (vph)	0	10	0	0	0	0	0	0	9	0	21	0
Lane Group Flow (vph)	8	787	0	577	635	0	0	202	290	0	58	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pt+ov	Perm		
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	25.0	24.0		54.0	47.5			15.0	45.0		15.0	
Effective Green, g (s)	27.0	25.0		55.0	48.5			16.0	46.0		16.0	
Actuated g/C Ratio	0.34	0.31		0.69	0.61			0.20	0.58		0.20	
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5			5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5			1.2			1.2	
Lane Grp Cap (vph)	289	1100		682	2186			289	960		317	
v/s Ratio Prot	0.00	0.22		c0.27	0.18				0.17			
v/s Ratio Perm	0.01			c0.31				c0.14			0.04	
v/c Ratio	0.03	0.72		0.85	0.29			0.70	0.30		0.18	
Uniform Delay, d1	17.7	24.3		17.4	7.5			29.8	8.7		26.6	
Progression Factor	1.31	1.00		1.42	1.54			1.00	1.00		1.00	
Incremental Delay, d2	0.0	3.5		7.9	0.3			5.9	0.1		0.1	
Delay (s)	23.2	27.7		32.7	11.9			35.6	8.8		26.7	
Level of Service	C	C		C	B			D	A		C	
Approach Delay (s)		27.7			21.8			19.6			26.7	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



LOCATION MAP
WEST GENESEE ST/CAMILLUS MALL DRWY/
VANIDA DRIVE

TRAFFIC SIGNAL OPTIMIZATION
ONONDAGA COUNTY
SYRACUSE, NEW YORK

CME
CREIGHTON MANNING ENGINEERING, LLP

PROJECT: 09-094d	DATE: 8/10	FIGURE: B.4

ddaron
P:\Projects\2009\09-094 SYTC OCDOT\acadd\dgn\traf_loc wgen vanida.dgn

INTERSECTION DIAGRAM

Location: W. Genesee Street at Vanida Drive

Legend: Sign; Signal Head; Signal with Span Wire; ## (Feet); Utility Pole; Light Pole; Sidewalk; Pedestrian Signal

Drawn By: JC

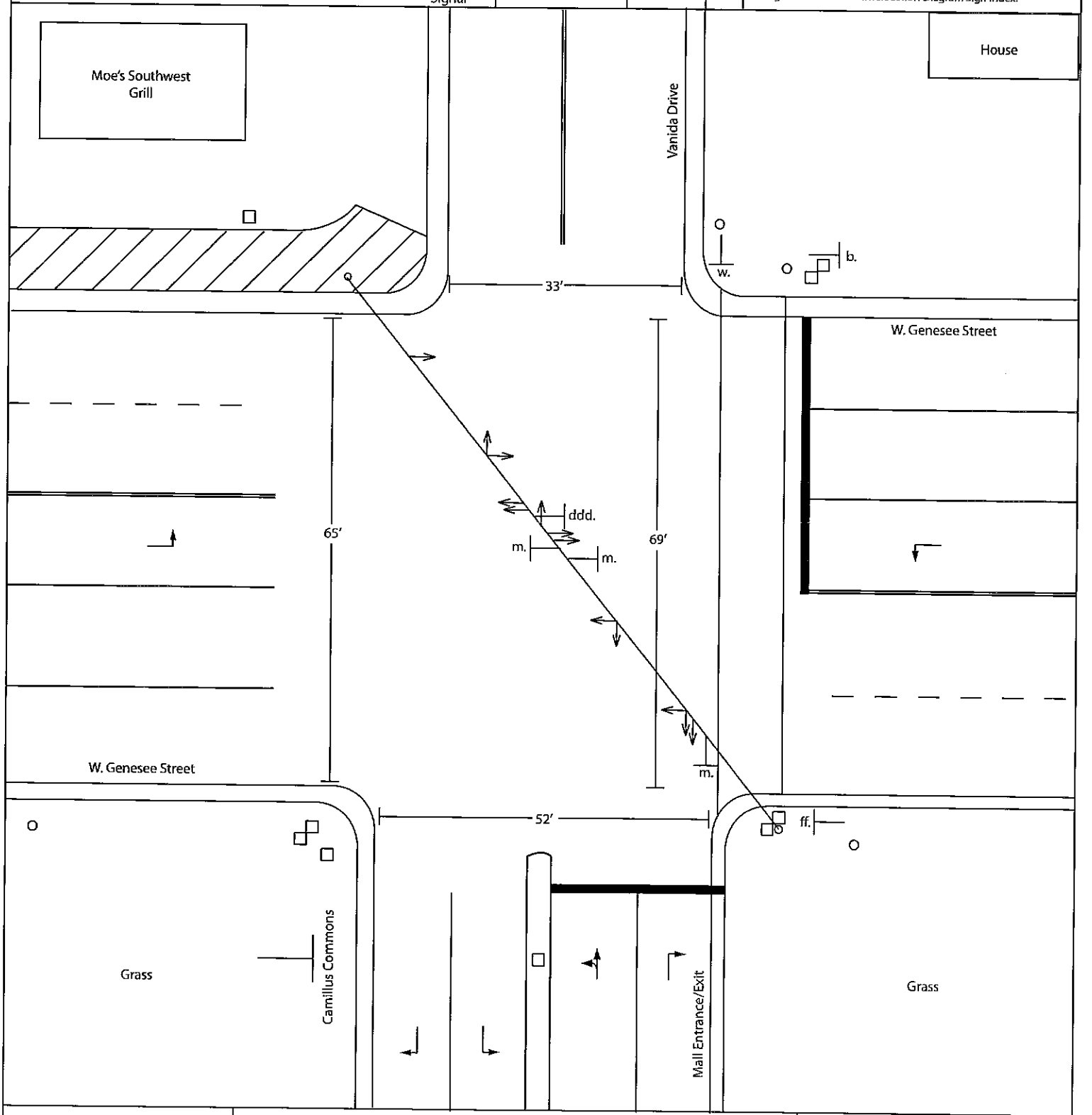
Date: May 2010

Prepared By: SMTC

N

Note:
Only actual pavement markings were drawn. An absence of arrows/striping indicates no pavement markings.

For sign definitions see Intersection Diagram Sign Index.



Task: OCDOT Signal Optimization

Data Source: SMTC, OCDOT, 2009.

Diagram is for presentation purposes only. SMTC does not guarantee the accuracy or completeness of this diagram.

Diagram is not to scale.


LOWE'S

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	19	842	25	89	1589	24	44	14	150	23	8	28
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.79	0.79	0.79	0.83	0.83	0.83	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	67	792	37	131	1076	67	36	12	173	20	16	40
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												

Intersection Summary

INTERSECTION NAME: W. Genesee @ Sight Dr. #2/Vanida INSTALLATION DATE:
INTERSECTION NUMBER: 92 PROGRAM DATE:

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL								
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	8	10		8	8	10		8
PASSAGE	4	4		4	4	4		4
YELLOW	4	4		4	4	4		4
RED	2	2		2	2	2		2
MAX I	12	35		15	12	30		10
MAX II								
WALK								
PED CLEAR								
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA								
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Sight Dr. #2/Vanida
INTERSECTION NUMBER: 92

INSTALLATION DATE: COORDINATED
PROGRAM DATE: OPTIMIZED TIMINGS

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	10		7	5	10		7
PASSAGE	1.6	2.5		1.2	1.6	2.5		1.2
YELLOW	3.5	3.5		3.5	3.5	3.5		3.5
RED	2	2		2	2	2		2
MAX I (PM)	5.5	64.5		23.5	5.5	64.5		23.5
MAX II (SAT)	8.5	31.5		23.5	5.5	34.5		23.5
WALK				5		5		
PED CLEAR				18		11		
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

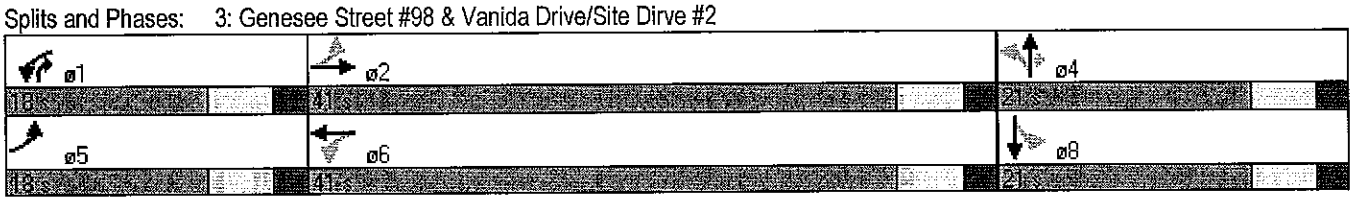
PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA				X		X		
OVERLAP B								
OVERLAP C								
OVERLAP D								

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	19	842	89	1589	44	14	150	23	8
Turn Type	pm+pt		pm+pt		Perm		pm+ov	Perm	
Protected Phases	5	2	1	6		4	1		8
Permitted Phases	2		6		4		4	8	
Detector Phase	5		1		4	4	1	8	8
Switch Phase									
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	16.0	14.0	16.0	21.0	21.0	14.0	21.0	21.0
Total Split (s)	18.0	41.0	18.0	41.0	21.0	21.0	18.0	21.0	21.0
Total Split (%)	22.5%	51.3%	22.5%	51.3%	26.3%	26.3%	22.5%	26.3%	26.3%
Maximum Green (s)	12.0	35.0	12.0	35.0	15.0	15.0	12.0	15.0	15.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?									
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)					5.0	5.0		5.0	5.0
Flash Dont Walk (s)					10.0	10.0		10.0	10.0
Pedestrian Calls (#/hr)					0	0		0	0

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 46 (58%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Genesee Street #98 & Vanida Drive/Site Dirve #2

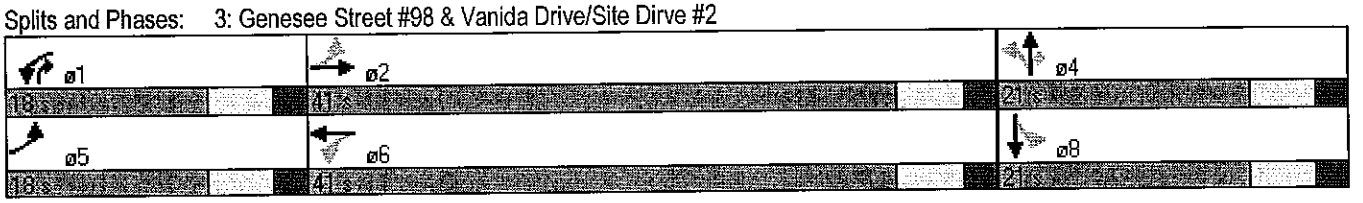


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	67	792	131	1076	36	12	173	20	16
Turn Type	pm+pt		pm+pt		Perm		pm+ov	Perm	
Protected Phases	5	2	1	6		4	1		8
Permitted Phases	2		6		4		4	8	
Detector Phase	5		1		4	4	1	8	8
Switch Phase									
Minimum Initial (s)	8.0	10.0	8.0	10.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	14.0	16.0	14.0	16.0	21.0	21.0	14.0	21.0	21.0
Total Split (s)	18.0	41.0	18.0	41.0	21.0	21.0	18.0	21.0	21.0
Total Split (%)	22.5%	51.3%	22.5%	51.3%	26.3%	26.3%	22.5%	26.3%	26.3%
Maximum Green (s)	12.0	35.0	12.0	35.0	15.0	15.0	12.0	15.0	15.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?									
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)					5.0	5.0		5.0	5.0
Flash Dont Walk (s)					10.0	10.0		10.0	10.0
Pedestrian Calls (#/hr)					0	0		0	0

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 30 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 3: Genesee Street #98 & Vanida Drive/Site Dirve #2

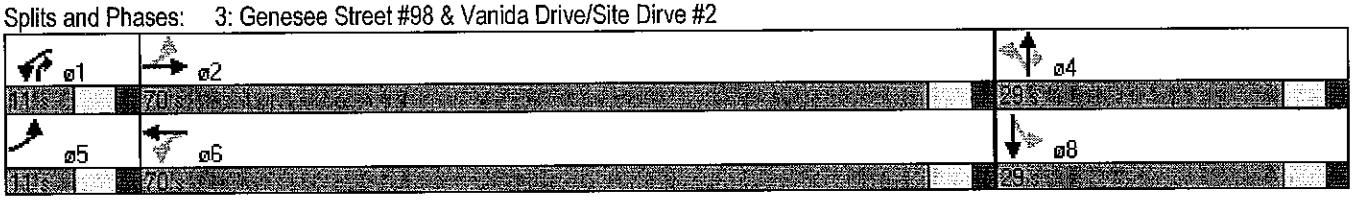


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	19	842	89	1589	44	14	150	23	8
Turn Type	pm+pt		pm+pt		Perm		pm+ov	Perm	
Protected Phases	5	2	1	6		4	1		8
Permitted Phases	2		6		4		4	8	
Detector Phase	5	2	1	6	4	4	1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	10.5	15.5	10.5	21.5	28.5	28.5	10.5	12.5	12.5
Total Split (s)	11.0	70.0	11.0	70.0	29.0	29.0	11.0	29.0	29.0
Total Split (%)	10.0%	63.6%	10.0%	63.6%	26.4%	26.4%	10.0%	26.4%	26.4%
Maximum Green (s)	5.5	64.5	5.5	64.5	23.5	23.5	5.5	23.5	23.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?									
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)				5.0	5.0	5.0			
Flash Dont Walk (s)				11.0	18.0	18.0			
Pedestrian Calls (#/hr)				0	20	20			

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 3: Genesee Street #98 & Vanida Drive/Site Dirve #2

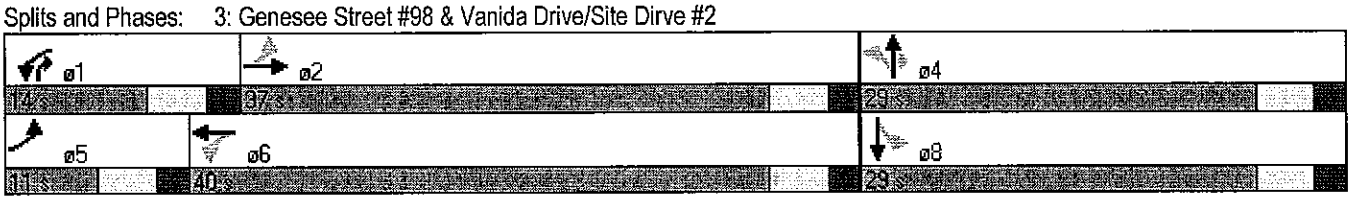


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	67	792	131	1076	36	12	173	20	16
Turn Type	pm+pt		pm+pt		Perm		pm+ov	Perm	
Protected Phases	5	2	1	6		4	1		8
Permitted Phases	2		6		4		4	8	
Detector Phase	5	2	1	6	4	4	1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	10.5	15.5	10.5	15.5	28.5	28.5	10.5	12.5	12.5
Total Split (s)	11.0	37.0	14.0	40.0	29.0	29.0	14.0	29.0	29.0
Total Split (%)	13.8%	46.3%	17.5%	50.0%	36.3%	36.3%	17.5%	36.3%	36.3%
Maximum Green (s)	5.5	31.5	8.5	34.5	23.5	23.5	8.5	23.5	23.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?									
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)					5.0	5.0			
Flash Dont Walk (s)					18.0	18.0			
Pedestrian Calls (#/hr)					20	20			

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 5 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 3: Genesee Street #98 & Vanida Drive/Site Dirve #2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	842	25	89	1589	24	44	14	150	23	8	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	13	11	11	12	12	15	12	13	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3408		1865	3448			1831	1776		1801	
Flt Permitted	0.09	1.00		0.23	1.00			0.79	1.00		0.85	
Satd. Flow (perm)	166	3408		452	3448			1494	1776		1566	
Peak-hour factor, PHF	0.94	0.94	0.94	0.79	0.79	0.79	0.83	0.83	0.83	0.85	0.85	0.85
Adj. Flow (vph)	20	896	27	113	2011	30	53	17	181	27	9	33
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	60	0	29	0
Lane Group Flow (vph)	20	921	0	113	2040	0	0	70	121	0	40	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		
Protected Phases	5	2		1	6			4	1		8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	46.9	43.7		59.1	49.9			8.9	18.3		8.9	
Effective Green, g (s)	50.9	45.7		61.1	51.9			10.9	22.3		10.9	
Actuated g/C Ratio	0.64	0.57		0.76	0.65			0.14	0.28		0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Grp Cap (vph)	212	1947		547	2237			204	584		213	
v/s Ratio Prot	0.01	0.27		0.03	c0.59				c0.03			
v/s Ratio Perm	0.05			0.13				c0.05	0.04		0.03	
v/c Ratio	0.09	0.47		0.21	0.91			0.34	0.21		0.19	
Uniform Delay, d1	11.8	10.1		3.6	12.1			31.3	22.1		30.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	0.8		0.3	7.1			1.4	0.2		0.6	
Delay (s)	12.0	10.9		3.9	19.2			32.7	22.3		31.2	
Level of Service	B	B		A	B			C	C		C	
Approach Delay (s)		10.9			18.4			25.2			31.2	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	67	792	37	131	1076	67	36	12	173	20	16	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	13	11	11	12	12	15	12	13	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1805	3434		1865	3459			1831	1776		1799	
Flt Permitted	0.17	1.00		0.21	1.00			0.75	1.00		0.90	
Satd. Flow (perm)	324	3434		420	3459			1429	1776		1645	
Peak-hour factor, PHF	0.86	0.86	0.86	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	78	921	43	146	1196	74	40	13	194	21	17	43
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	55	0	38	0
Lane Group Flow (vph)	78	961	0	146	1266	0	0	53	139	0	43	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		
Protected Phases	5	2		1	6			4	1		8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	49.7	43.1		58.1	47.3			8.1	18.9		8.1	
Effective Green, g (s)	53.7	45.1		61.9	49.3			10.1	22.9		10.1	
Actuated g/C Ratio	0.67	0.56		0.77	0.62			0.13	0.29		0.13	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Grp Cap (vph)	377	1936		556	2132			180	597		208	
v/s Ratio Prot	0.02	0.28		0.04	c0.37				c0.04			
v/s Ratio Perm	0.12			0.16				c0.04	0.04		0.03	
v/c Ratio	0.21	0.50		0.26	0.59			0.29	0.23		0.21	
Uniform Delay, d1	5.3	10.6		3.8	9.3			31.7	21.8		31.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.4	0.9		0.3	1.2			1.2	0.3		0.7	
Delay (s)	5.7	11.5		4.1	10.5			33.0	22.1		32.0	
Level of Service	A	B		A	B			C	C		C	
Approach Delay (s)		11.0			9.9			24.4			32.0	
Approach LOS		B			A			C			C	

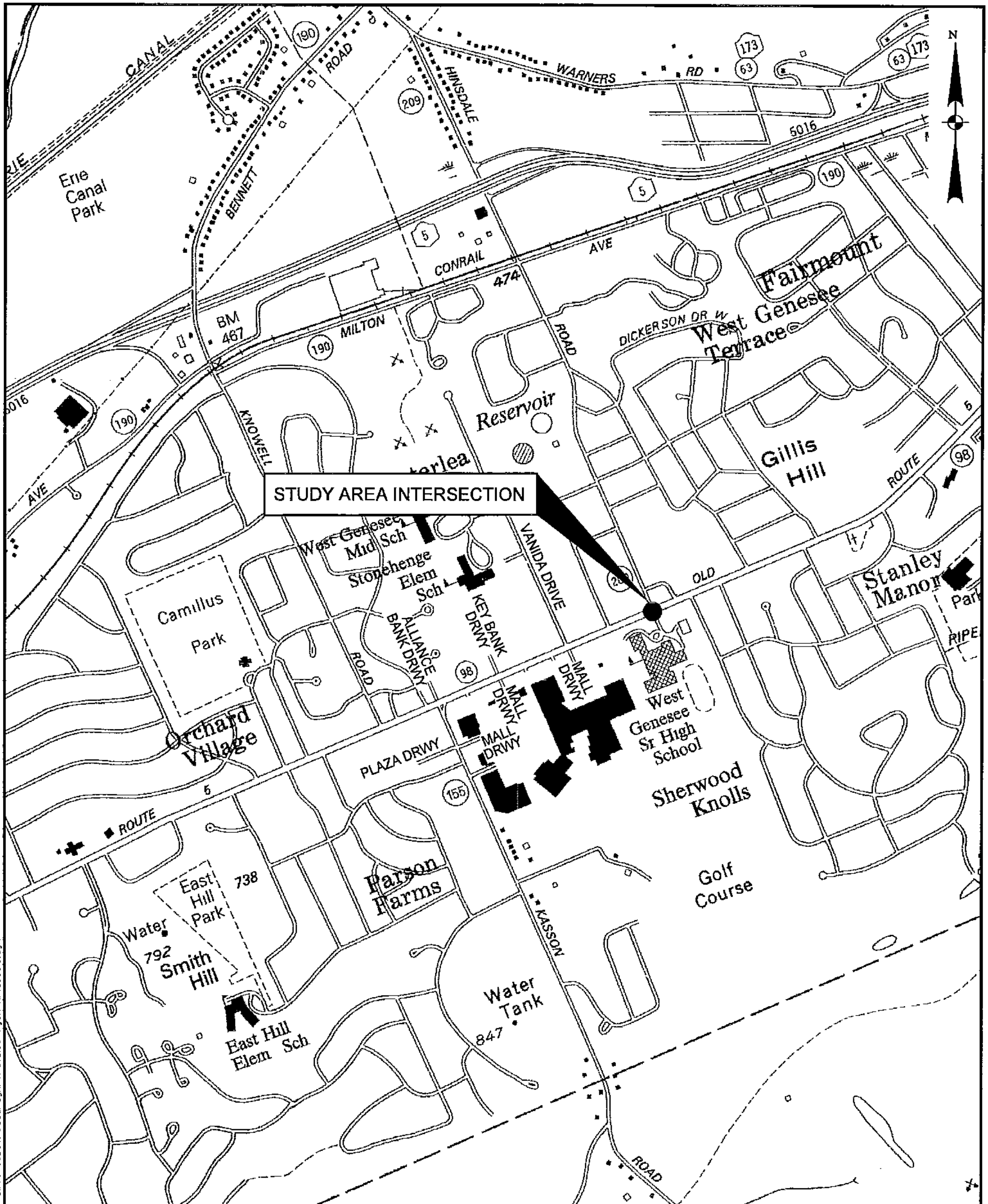
Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	842	25	89	1589	24	44	14	150	23	8	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	13	11	11	12	12	15	12	13	12
Total Lost time (s)	3.5	3.5		3.5	3.5			3.5	3.5		3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3408		1865	3448			1831	1776		1801	
Flt Permitted	0.05	1.00		0.26	1.00			0.74	1.00		0.87	
Satd. Flow (perm)	102	3408		519	3448			1398	1776		1591	
Peak-hour factor, PHF	0.94	0.94	0.94	0.79	0.79	0.79	0.83	0.83	0.83	0.85	0.85	0.85
Adj. Flow (vph)	20	896	27	113	2011	30	53	17	181	27	9	33
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	124	0	29	0
Lane Group Flow (vph)	20	922	0	113	2040	0	0	70	57	0	40	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		
Protected Phases	5	2		1	6			4	1		8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	77.7	75.7		84.5	79.1			12.4	17.8		12.4	
Effective Green, g (s)	81.7	77.7		88.5	81.1			14.4	21.8		14.4	
Actuated g/C Ratio	0.74	0.71		0.80	0.74			0.13	0.20		0.13	
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5	5.5		5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5			1.2	1.6		1.2	
Lane Grp Cap (vph)	138	2407		508	2542			183	408		208	
v/s Ratio Prot	0.01	0.27		c0.01	c0.59				0.01			
v/s Ratio Perm	0.10			0.16				c0.05	0.02		0.03	
v/c Ratio	0.14	0.38		0.22	0.80			0.38	0.14		0.19	
Uniform Delay, d1	10.2	6.5		3.0	9.3			43.7	36.4		42.6	
Progression Factor	1.25	0.67		1.18	0.84			1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.4		0.0	1.4			0.5	0.1		0.2	
Delay (s)	13.0	4.8		3.6	9.3			44.2	36.4		42.8	
Level of Service	B	A		A	A			D	D		D	
Approach Delay (s)		5.0			9.0			38.6			42.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	67	792	37	131	1076	67	36	12	173	20	16	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	13	11	11	12	12	15	12	13	12
Total Lost time (s)	3.5	3.5		3.5	3.5			3.5	3.5		3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1805	3434		1865	3459			1831	1776		1799	
Flt Permitted	0.16	1.00		0.22	1.00			0.82	1.00		0.92	
Satd. Flow (perm)	309	3434		433	3459			1561	1776		1679	
Peak-hour factor, PHF	0.86	0.86	0.86	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	78	921	43	146	1196	74	40	13	194	21	17	43
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	40	0	35	0
Lane Group Flow (vph)	78	961	0	146	1266	0	0	53	154	0	46	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		
Protected Phases	5	2		1	6			4	1		8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	48.6	44.2		54.4	47.1			12.0	19.3		12.0	
Effective Green, g (s)	52.6	46.2		58.4	49.1			14.0	23.3		14.0	
Actuated g/C Ratio	0.66	0.58		0.73	0.61			0.18	0.29		0.18	
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5	5.5		5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5			1.2	1.6		1.2	
Lane Grp Cap (vph)	323	1983		483	2123			273	595		294	
v/s Ratio Prot	0.02	0.28		c0.04	c0.37				c0.03			
v/s Ratio Perm	0.14			0.19				0.03	0.06		0.03	
v/c Ratio	0.24	0.48		0.30	0.60			0.19	0.26		0.15	
Uniform Delay, d1	6.0	9.9		4.5	9.4			28.2	21.7		28.0	
Progression Factor	0.64	0.45		0.82	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.7		0.1	0.9			0.1	0.1		0.1	
Delay (s)	3.9	5.1		3.8	10.3			28.3	21.8		28.1	
Level of Service	A	A		A	B			C	C		C	
Approach Delay (s)		5.0			9.6			23.2			28.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



LOCATION MAP
WEST GENESEE ST/HINSDALE RD/
WEST GENESEE SENIOR HIGH SCHOOL DRWY

TRAFFIC SIGNAL OPTIMIZATION
ONONDAGA COUNTY
SYRACUSE, NEW YORK

CME
CREIGHTON MANNING ENGINEERING, LLP

PROJECT: 09-094d	DATE: 8/10	FIGURE: B.5

ddoran F:@Projects@2009@109-094 SWTC OCDOT@caddd@dgn@traf_loc wgen hinsdale.dgn

INTERSECTION DIAGRAM

Location: W. Genesee Street at Hinsdale Road

Legend: Sign; Signal Head; Signal with Span Wire; Light Pole; ## (Feet); Utility Pole; Pedestrian Signal; Sidewalk; Fire Hydrant

Drawn By: JC

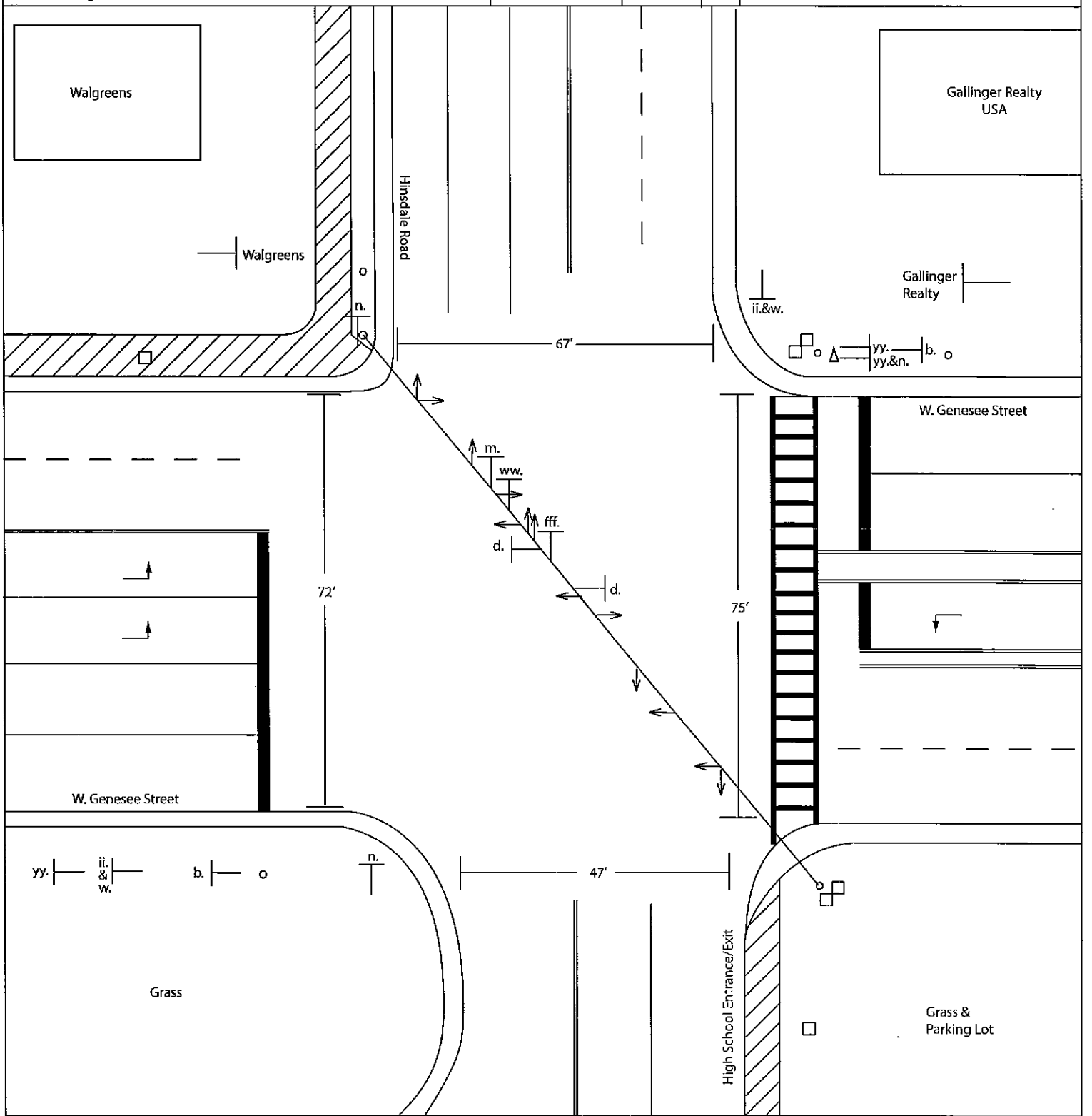
Date: May 2010

Prepared By: SMTC

N

Note:
Only actual pavement markings were drawn. An absence of arrows/striping indicates no pavement markings.

For sign definitions see Intersection Diagram Sign Index.



Task: OCDOT Signal Optimization

Data Source: SMTC, OCDOT, 2009.

Diagram is for presentation purposes only.
SMTC does not guarantee the accuracy or completeness of this diagram.

Diagram is not to scale.

I 5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	305	707	3	2	981	60	4	7	1	135	1	717
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.77	0.77	0.77	0.42	0.42	0.42	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	0%	50%	1%	2%	0%	14%	0%	1%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NER	SBL	SBT	SBR
Volume (vph)	370	615	0	2	831	92	1	2	4	109	2	442
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.95	0.95	0.95	0.44	0.44	0.44	0.79	0.79	0.79
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	2%	0%	0%	3%	2%	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												

Intersection Summary

INTERSECTION NAME: W. Genesee @ Hinsdale
INTERSECTION NUMBER: 52

INSTALLATION DATE:
PROGRAM DATE:

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL								
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	15	7	5	5	15		
PASSAGE	4	4	4	4	4	4		
YELLOW	4	4	4	4	4	4		
RED	2	2	2	2	2	2		
MAX I	22	22	35	18	22	22		
MAX II								
WALK								
PED CLEAR			8					
S/A			15					
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X	X	X	X	X		

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA								
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Hinsdale
INTERSECTION NUMBER: 52

INSTALLATION DATE: COORDINATED
PROGRAM DATE: OPTIMIZED TIMINGS

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	10	7	7	5	10		
PASSAGE	1.3	2.5	1.7	0.6	1.3	2.5		
YELLOW	3.5	3.5	3.5	3.5	3.5	3.5		
RED	2	2	2	2	2	2		
MAX I (PM)	18.5	38.5	7.5	23.5	5.5	51.5		
MAX II (SAT)	7.5	19.5	7.5	23.5	5.5	21.5		
WALK				5		5		
PED CLEAR				18		11		
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X	X	X	X	X		

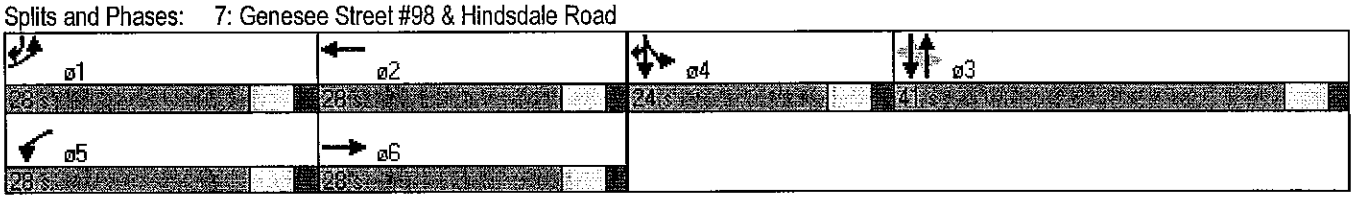
PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA				X		X		
OVERLAP B								
OVERLAP C								
OVERLAP D								

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	305	707	2	981	4	7	135	1	717
Turn Type	Prot		Prot		Perm		pm+pt		custom
Protected Phases	1	6	5	2		3	4	4 3	1 4
Permitted Phases					3		4 3		
Detector Phase	1		5		3	3	4	4 3	1 4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	7.0	7.0	7.0		
Minimum Split (s)	11.0	21.0	11.0	21.0	29.0	29.0	13.0		
Total Split (s)	28.0	28.0	28.0	28.0	41.0	41.0	24.0	65.0	52.0
Total Split (%)	23.1%	23.1%	23.1%	23.1%	33.9%	33.9%	19.8%	53.7%	43.0%
Maximum Green (s)	22.0	22.0	22.0	22.0	35.0	35.0	18.0		
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recall Mode	None	C-Min	None	C-Min	None	None	None		
Walk Time (s)					8.0	8.0			
Flash Dont Walk (s)					15.0	15.0			
Pedestrian Calls (#/hr)					0	0			

Intersection Summary

Cycle Length: 121
Actuated Cycle Length: 121
Offset: 44 (36%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 7: Genesee Street #98 & Hindsdale Road

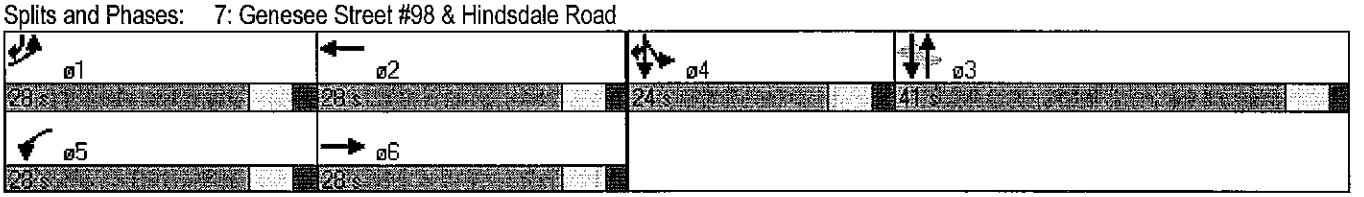


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	370	615	2	831	1	2	109	2	442
Turn Type	Prot		Prot		Perm		pm+pt		custom
Protected Phases	1	6	5	2		3	4	4 3	1 4
Permitted Phases					3		4 3		
Detector Phase	1		5		3	3	4	4 3	1 4
Switch Phase									
Minimum Initial (s)	5.0	15.0	5.0	15.0	7.0	7.0	7.0		
Minimum Split (s)	11.0	21.0	11.0	21.0	29.0	29.0	13.0		
Total Split (s)	28.0	28.0	28.0	28.0	41.0	41.0	24.0	65.0	52.0
Total Split (%)	23.1%	23.1%	23.1%	23.1%	33.9%	33.9%	19.8%	53.7%	43.0%
Maximum Green (s)	22.0	22.0	22.0	22.0	35.0	35.0	18.0		
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes		
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recall Mode	None	C-Min	None	C-Min	None	None	None		
Walk Time (s)					8.0	8.0			
Flash Dont Walk (s)					15.0	15.0			
Pedestrian Calls (#/hr)					0	0			

Intersection Summary

Cycle Length: 121
Actuated Cycle Length: 121
Offset: 54 (45%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 7: Genesee Street #98 & Hindsdale Road

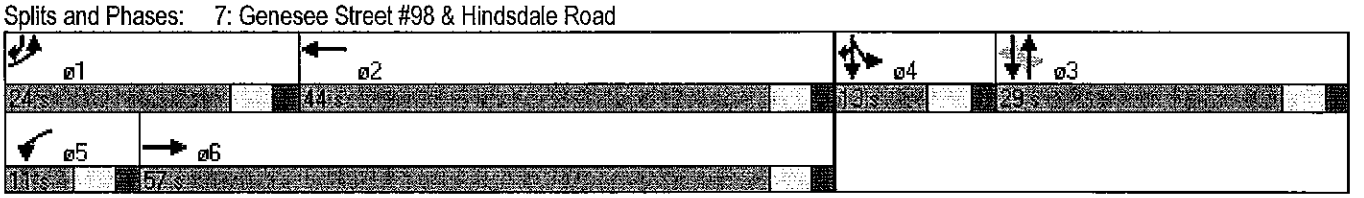


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	305	707	2	981	4	7	135	1	717
Turn Type	Prot		Prot		Perm		pm+pt		custom
Protected Phases	1	6	5	2		3	4	4 3	1 4
Permitted Phases					3		4 3		
Detector Phase	1	6	5	2	3	3	4	4 3	1 4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0	7.0		
Minimum Split (s)	10.5	21.5	10.5	15.5	28.5	28.5	12.5		
Total Split (s)	24.0	57.0	11.0	44.0	29.0	29.0	13.0	42.0	37.0
Total Split (%)	21.8%	51.8%	10.0%	40.0%	26.4%	26.4%	11.8%	38.2%	33.6%
Maximum Green (s)	18.5	51.5	5.5	38.5	23.5	23.5	7.5		
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes		
Vehicle Extension (s)	1.3	2.5	1.3	2.5	1.7	1.7	0.6		
Minimum Gap (s)	1.3	2.5	1.3	2.5	1.7	1.7	0.6		
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recall Mode	None	C-Min	None	C-Min	None	None	None		
Walk Time (s)		5.0			8.0	8.0			
Flash Dont Walk (s)		11.0			15.0	15.0			
Pedestrian Calls (#/hr)		20			0	0			

Intersection Summary

Cycle Length: 110
Actual Cycle Length: 110
Offset: 19 (17%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 7: Genesee Street #98 & Hindsdale Road

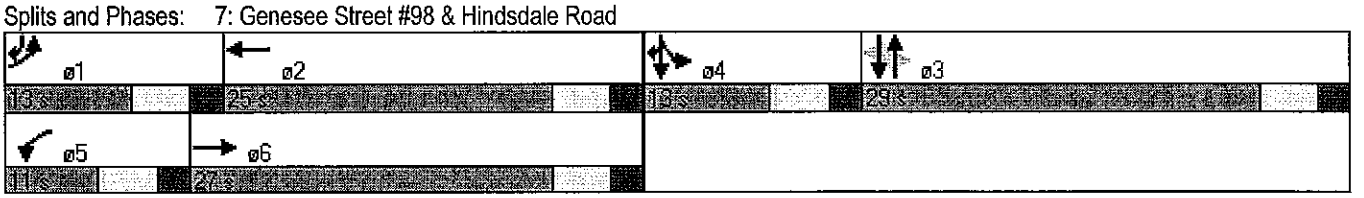


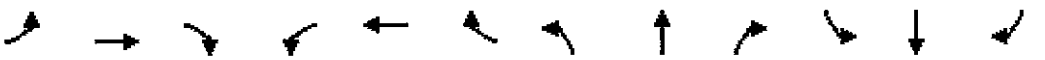
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	370	615	2	831	1	2	109	2	442
Turn Type	Prot		Prot		Perm		pm+pt		custom
Protected Phases	1	6	5	2		3	4	4 3	1 4
Permitted Phases					3		4 3		
Detector Phase	1	6	5	2	3	3	4	4 3	1 4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0	7.0		
Minimum Split (s)	10.5	15.5	10.5	15.5	28.5	28.5	12.5		
Total Split (s)	13.0	27.0	11.0	25.0	29.0	29.0	13.0	42.0	26.0
Total Split (%)	16.3%	33.8%	13.8%	31.3%	36.3%	36.3%	16.3%	52.5%	32.5%
Maximum Green (s)	7.5	21.5	5.5	19.5	23.5	23.5	7.5		
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes		
Vehicle Extension (s)	1.3	2.5	1.3	2.5	1.7	1.7	0.6		
Minimum Gap (s)	1.3	2.5	1.3	2.5	1.7	1.7	0.6		
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recall Mode	None	C-Min	None	C-Min	None	None	None		
Walk Time (s)					5.0	5.0			
Flash Dont Walk (s)					18.0	18.0			
Pedestrian Calls (#/hr)					0	0			

Intersection Summary

Cycle Length: 80
Actual Cycle Length: 80
Offset: 48 (60%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 7: Genesee Street #98 & Hindsdale Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	707	3	2	981	60	4	7	1	135	1	717
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95			0.95			1.00	0.88
Frt	1.00	1.00		1.00	0.99			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.95	1.00
Satd. Flow (prot)	3467	3572		1203	3541			3246			1792	2814
Flt Permitted	0.95	1.00		0.95	1.00			0.83			0.71	1.00
Satd. Flow (perm)	3467	3572		1203	3541			2735			1327	2814
Peak-hour factor, PHF	0.91	0.91	0.91	0.77	0.77	0.77	0.42	0.42	0.42	0.89	0.89	0.89
Adj. Flow (vph)	335	777	3	3	1274	78	10	17	2	152	1	806
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	335	780	0	3	1352	0	0	29	0	0	153	806
Heavy Vehicles (%)	1%	1%	0%	50%	1%	2%	0%	14%	0%	1%	0%	1%
Turn Type	Prot			Prot			Perm			pm+pt		custom
Protected Phases	1	6		5	2			3		4	4 3	1 4
Permitted Phases							3			4 3		
Actuated Green, G (s)	23.8	62.6		1.6	40.4			7.8			32.8	48.8
Effective Green, g (s)	25.8	64.6		3.6	42.4			9.8			36.8	52.8
Actuated g/C Ratio	0.21	0.53		0.03	0.35			0.08			0.30	0.44
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0				
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0				
Lane Grp Cap (vph)	739	1907		36	1241			222			507	1228
v/s Ratio Prot	0.10	0.22		0.00	c0.38						0.07	c0.29
v/s Ratio Perm								0.01			c0.02	
v/c Ratio	0.45	0.41		0.08	1.09			0.13			0.30	0.66
Uniform Delay, d1	41.5	16.8		57.1	39.3			51.6			32.3	26.9
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.6	0.7		1.4	53.5			0.4			0.5	1.4
Delay (s)	42.1	17.5		58.5	92.8			52.0			32.7	28.3
Level of Service	D	B		E	F			D			C	C
Approach Delay (s)		24.9			92.8			52.0			29.0	
Approach LOS		C			F			D			C	

Intersection Summary			
HCM Average Control Delay	52.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	121.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	615	0	2	831	92	1	2	4	109	2	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		1.00	0.95			0.95			1.00	0.88
Frt	1.00	1.00		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.95	1.00
Satd. Flow (prot)	3400	3539		1805	3456			3248			1811	2842
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.72	1.00
Satd. Flow (perm)	3400	3539		1805	3456			2975			1365	2842
Peak-hour factor, PHF	0.91	0.91	0.91	0.95	0.95	0.95	0.44	0.44	0.44	0.79	0.79	0.79
Adj. Flow (vph)	407	676	0	2	875	97	2	5	9	138	3	559
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	407	676	0	2	972	0	0	16	0	0	141	559
Heavy Vehicles (%)	3%	2%	0%	0%	3%	2%	0%	0%	2%	0%	0%	0%
Turn Type	Prot			Prot			Perm			pm+pt		custom
Protected Phases	1	6		5	2			3		4	4 3	1 4
Permitted Phases							3			4 3		
Actuated Green, G (s)	24.7	65.5		1.4	42.2			7.3			30.1	47.5
Effective Green, g (s)	26.7	67.5		3.4	44.2			9.3			34.1	51.5
Actuated g/C Ratio	0.22	0.56		0.03	0.37			0.08			0.28	0.43
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0				
Vehicle Extension (s)	4.0	4.0		4.0	4.0			4.0				
Lane Grp Cap (vph)	750	1974		51	1262			229			476	1210
v/s Ratio Prot	c0.12	0.19		0.00	c0.28						0.06	c0.20
v/s Ratio Perm								0.01			c0.02	
v/c Ratio	0.54	0.34		0.04	0.77			0.07			0.30	0.46
Uniform Delay, d1	41.7	14.6		57.2	33.9			51.8			34.0	24.8
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.0	0.5		0.4	4.6			0.2			0.5	0.4
Delay (s)	42.8	15.1		57.6	38.5			52.0			34.5	25.2
Level of Service	D	B		E	D			D			C	C
Approach Delay (s)		25.5			38.5			52.0			27.1	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	121.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	707	3	2	981	60	4	7	1	135	1	717
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5			3.5			3.5	3.5
Lane Util. Factor	0.97	0.95		1.00	0.95			0.95			1.00	0.88
Frt	1.00	1.00		1.00	0.99			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.95	1.00
Satd. Flow (prot)	3467	3572		1203	3541			3246			1792	2814
Flt Permitted	0.95	1.00		0.95	1.00			0.84			0.71	1.00
Satd. Flow (perm)	3467	3572		1203	3541			2773			1327	2814
Peak-hour factor, PHF	0.91	0.91	0.91	0.77	0.77	0.77	0.42	0.42	0.42	0.89	0.89	0.89
Adj. Flow (vph)	335	777	3	3	1274	78	10	17	2	152	1	806
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	335	780	0	3	1352	0	0	29	0	0	153	806
Heavy Vehicles (%)	1%	1%	0%	50%	1%	2%	0%	14%	0%	1%	0%	1%
Turn Type	Prot			Prot			Perm			pm+pt		custom
Protected Phases	1	6		5	2			3		4	4 3	1 4
Permitted Phases							3			4 3		
Actuated Green, G (s)	30.2	71.5		1.0	42.3			8.0			15.5	37.7
Effective Green, g (s)	32.2	73.5		3.0	44.3			10.0			19.5	41.7
Actuated g/C Ratio	0.29	0.67		0.03	0.40			0.09			0.18	0.38
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5				
Vehicle Extension (s)	1.3	2.5		1.3	2.5			1.7				
Lane Grp Cap (vph)	1015	2387		33	1426			252			275	1067
v/s Ratio Prot	0.10	0.22		0.00	c0.38						0.05	c0.29
v/s Ratio Perm								0.01			c0.05	
v/c Ratio	0.33	0.33		0.09	0.95			0.12			0.56	0.76
Uniform Delay, d1	30.5	7.7		52.2	31.7			45.9			41.3	29.7
Progression Factor	1.26	1.12		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.1	0.3		0.4	14.3			0.1			1.4	2.7
Delay (s)	38.5	9.0		52.6	46.0			46.0			42.7	32.5
Level of Service	D	A		D	D			D			D	C
Approach Delay (s)		17.9			46.1			46.0			34.1	
Approach LOS		B			D			D			C	

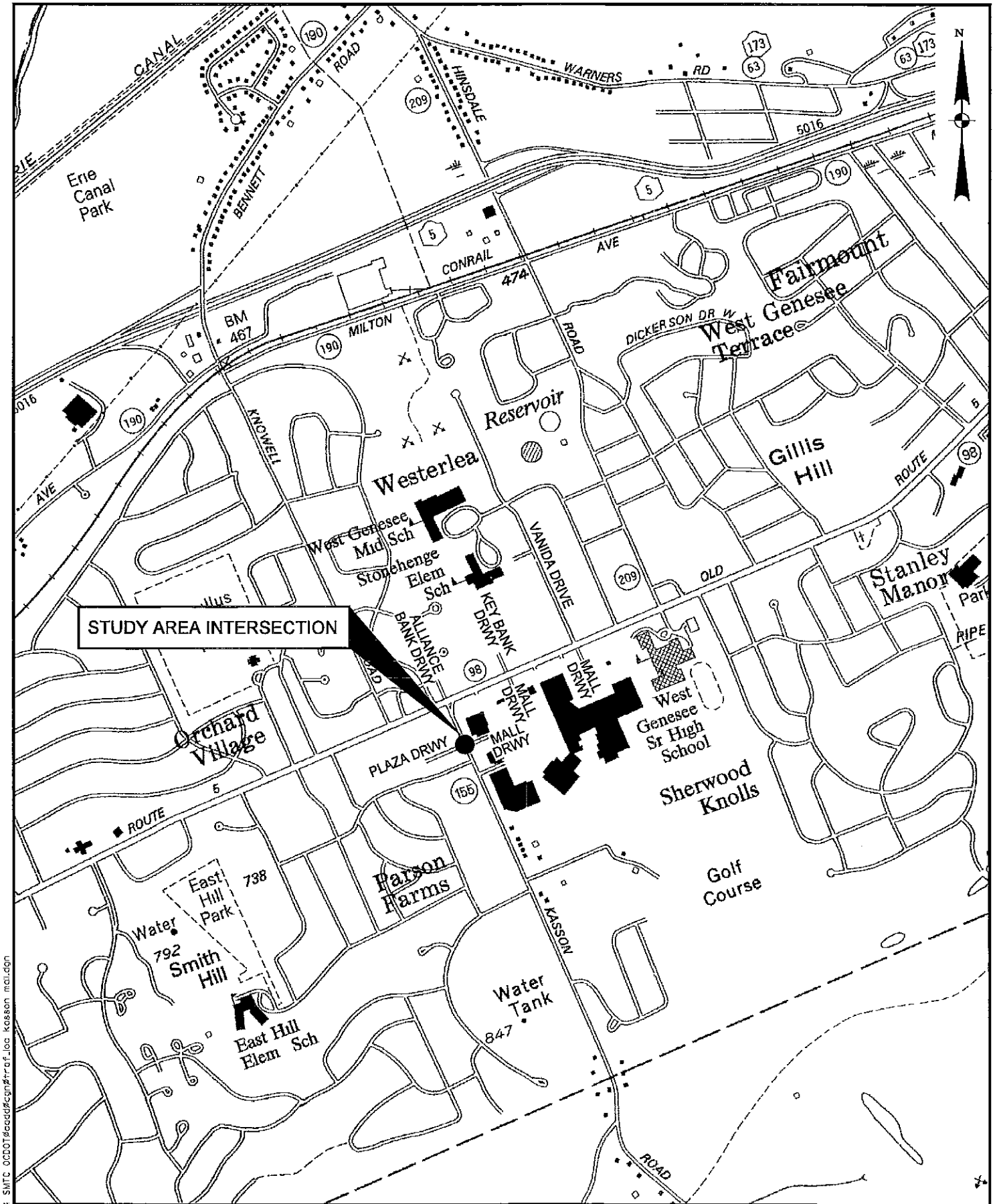
Intersection Summary				
HCM Average Control Delay	33.6	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	69.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	615	0	2	831	92	1	2	4	109	2	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5			3.5			3.5	3.5
Lane Util. Factor	0.97	0.95		1.00	0.95			0.95			1.00	0.88
Frt	1.00	1.00		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.95	1.00
Satd. Flow (prot)	3400	3539		1805	3456			3248			1811	2842
Flt Permitted	0.95	1.00		0.95	1.00			0.91			0.72	1.00
Satd. Flow (perm)	3400	3539		1805	3456			2988			1365	2842
Peak-hour factor, PHF	0.91	0.91	0.91	0.95	0.95	0.95	0.44	0.44	0.44	0.79	0.79	0.79
Adj. Flow (vph)	407	676	0	2	875	97	2	5	9	138	3	559
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	407	676	0	2	972	0	0	16	0	0	141	559
Heavy Vehicles (%)	3%	2%	0%	0%	3%	2%	0%	0%	2%	0%	0%	0%
Turn Type	Prot			Prot			Perm			pm+pt		custom
Protected Phases	1	6		5	2			3		4	4 3	1 4
Permitted Phases							3			4 3		
Actuated Green, G (s)	15.7	42.5		1.0	27.8			7.0			14.5	23.2
Effective Green, g (s)	17.7	44.5		3.0	29.8			9.0			18.5	27.2
Actuated g/C Ratio	0.22	0.56		0.04	0.37			0.11			0.23	0.34
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5				
Vehicle Extension (s)	1.3	2.5		1.3	2.5			1.7				
Lane Grp Cap (vph)	752	1969		68	1287			336			369	966
v/s Ratio Prot	0.12	0.19		0.00	c0.28						0.05	c0.20
v/s Ratio Perm								0.01			c0.04	
v/c Ratio	0.54	0.34		0.03	0.76			0.05			0.38	0.58
Uniform Delay, d1	27.6	9.7		37.1	21.9			31.7			25.9	21.7
Progression Factor	0.80	0.68		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.4	0.4		0.1	4.2			0.0			0.2	0.5
Delay (s)	22.5	7.0		37.2	26.1			31.7			26.2	22.2
Level of Service	C	A		D	C			C			C	C
Approach Delay (s)		12.8			26.1			31.7			23.0	
Approach LOS		B			C			C			C	

Intersection Summary				
HCM Average Control Delay	20.2	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	59.3%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group



LOCATION MAP
KASSON RD/CAMILLUS MALL DRWY/
PLAZA DRWY

TRAFFIC SIGNAL OPTIMIZATION
ONONDAGA COUNTY
SYRACUSE, NEW YORK

CME
CREIGHTON MANNING ENGINEERING, LLP

PROJECT: 09-094d	DATE: 8/10	FIGURE: B.6

INTERSECTION DIAGRAM

Location: Kasson Road at Mall Entrance

Legend: Signal Head; Utility Pole; ## (Feet); Fire Hydrant; Sidewalk; Sign; Signal with Span Wire; Light Pole; Pedestrian Signal

Drawn By: JC

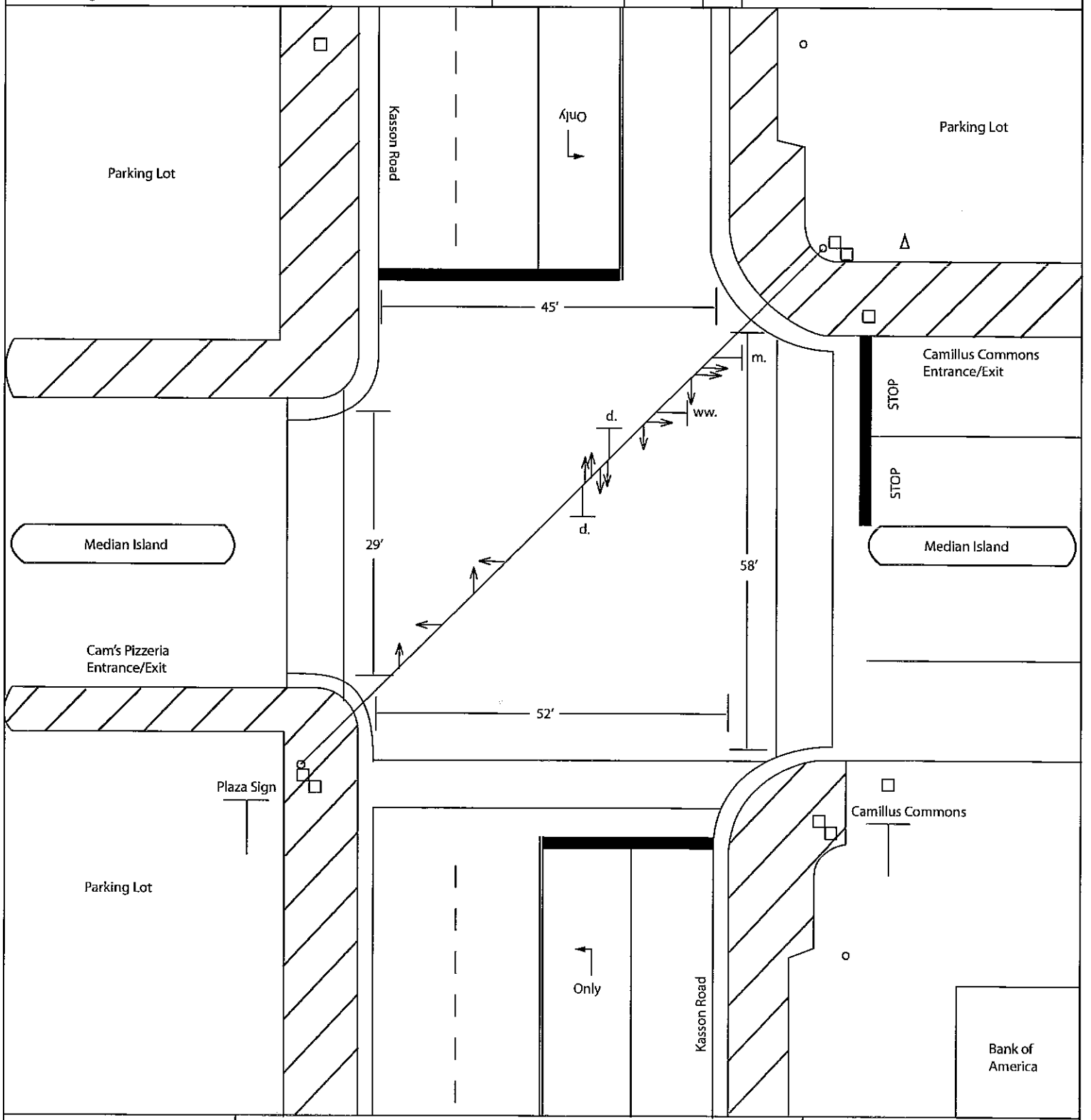
Date: May 2010

Prepared By: SMTC

N

Note:
Only actual pavement markings were drawn. An absence of arrows/striping indicates no pavement markings.

For sign definitions see Intersection Diagram Index.



Task

OCDOT Signal Optimization

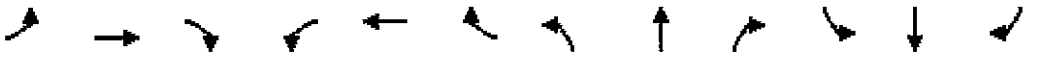
Data Source: SMTC, OCDOT, 2009.

Diagram is for presentation purposes only.
SMTC does not guarantee the accuracy or completeness of this diagram.

Diagram is not to scale.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	5	5	5	250	5	234	5	348	58	113	758	5
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.78	0.92	0.78	0.92	0.76	0.76	0.90	0.90	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	1%	0%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	5	5	5	231	5	260	5	328	99	177	361	5
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.86	0.92	0.83	0.92	0.94	0.94	0.89	0.89	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	1%	2%	0%	1%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												

Intersection Summary

INTERSECTION NAME: Kasson Rd @ Camillus Mall/Plaza INSTALLATION DATE:
INTERSECTION NUMBER: 92 PROGRAM DATE:

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL								
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	8	10		8	8	10		8
PASSAGE	4	4		4	4	4		4
YELLOW	4	4		4	4	4		4
RED	2	2		2	2	2		2
MAX I	12	35		15	12	30		10
MAX II	35	35		35	35	35		35
WALK		9						9
PED CLEAR		11						11
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA								
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: Kasson Rd @ Camillus Mall/Plaza
INTERSECTION NUMBER: 92

INSTALLATION DATE: COORDINATED
PROGRAM DATE: OPTIMIZED TIMINGS

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	7		7	5	7		7
PASSAGE	1.2	2.3		1.2	1.2	2.3		1.2
YELLOW	3	3		3	3	3		3
RED	2.5	2.5		2.5	2.5	2.5		2.5
MAX I (PM)	10.5	44.5		38.5	5.5	49.5		38.5
MAX II (SAT)	9.5	30.5		23.5	5.5	34.5		23.5
WALK		9		9				
PED CLEAR		11		11				
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

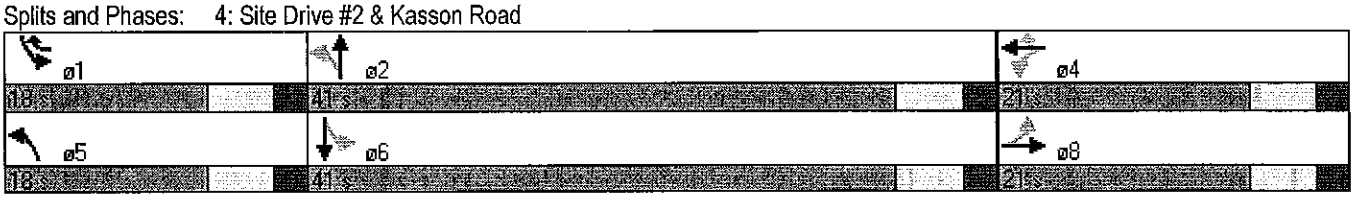
	PHASES USED							
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

INHIBIT O/L	PED Overlaps							
	1	2	3	4	5	6	7	8
OLA		X		X				
OVERLAP B								
OVERLAP C								
OVERLAP D								

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	5	5	250	5	234	5	348	113	758
Turn Type	Perm		Perm		pm+ov	pm+pt		pm+pt	
Protected Phases		8		4	1	5	2	1	6
Permitted Phases	8		4		4	2		6	
Detector Phase	8	8	4	4	1	5		1	
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.0	26.0	26.0	26.0	11.0	11.0	26.0	11.0	26.0
Total Split (s)	21.0	21.0	21.0	21.0	18.0	18.0	41.0	18.0	41.0
Total Split (%)	26.3%	26.3%	26.3%	26.3%	22.5%	22.5%	51.3%	22.5%	51.3%
Maximum Green (s)	15.0	15.0	15.0	15.0	12.0	12.0	35.0	12.0	35.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0			9.0		9.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0			11.0		11.0
Pedestrian Calls (#/hr)	0	0	100	100			0		0

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 21 (26%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 4: Site Drive #2 & Kasson Road

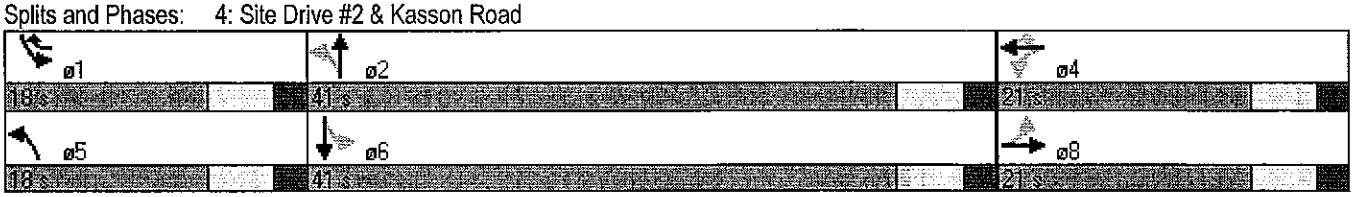


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	5	5	231	5	260	5	328	177	361
Turn Type	Perm		Perm		pm+ov	pm+pt		pm+pt	
Protected Phases		8		4	1	5	2	1	6
Permitted Phases	8		4		4	2		6	
Detector Phase	8	8	4	4	1	5		1	
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	5.0	10.0	5.0	10.0
Minimum Split (s)	26.0	26.0	26.0	26.0	11.0	11.0	26.0	11.0	26.0
Total Split (s)	21.0	21.0	21.0	21.0	18.0	18.0	41.0	18.0	41.0
Total Split (%)	26.3%	26.3%	26.3%	26.3%	22.5%	22.5%	51.3%	22.5%	51.3%
Maximum Green (s)	15.0	15.0	15.0	15.0	12.0	12.0	35.0	12.0	35.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Minimum Gap (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)	9.0	9.0	9.0	9.0			9.0		9.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0			11.0		11.0
Pedestrian Calls (#/hr)	0	0	0	0			0		0

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 22 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 4: Site Drive #2 & Kasson Road

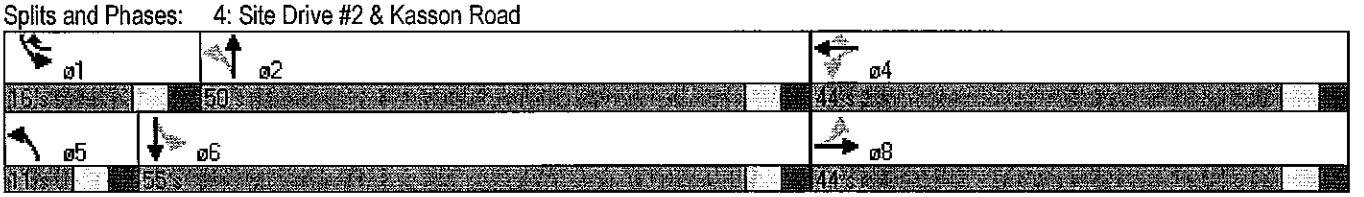


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	5	5	250	5	234	5	348	113	758
Turn Type	Perm		Perm		pm+ov	pm+pt		pm+pt	
Protected Phases		8		4	1	5	2	1	6
Permitted Phases	8		4		4	2		6	
Detector Phase	8	8	4	4	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	7.0	5.0	7.0
Minimum Split (s)	12.5	12.5	25.5	25.5	10.5	10.5	25.5	10.5	12.5
Total Split (s)	44.0	44.0	44.0	44.0	16.0	11.0	50.0	16.0	55.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	14.5%	10.0%	45.5%	14.5%	50.0%
Maximum Green (s)	38.5	38.5	38.5	38.5	10.5	5.5	44.5	10.5	49.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	2.3
Minimum Gap (s)	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	2.3
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)			9.0	9.0			9.0		
Flash Dont Walk (s)			11.0	11.0			11.0		
Pedestrian Calls (#/hr)			0	0			0		

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 8 (7%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 4: Site Drive #2 & Kasson Road

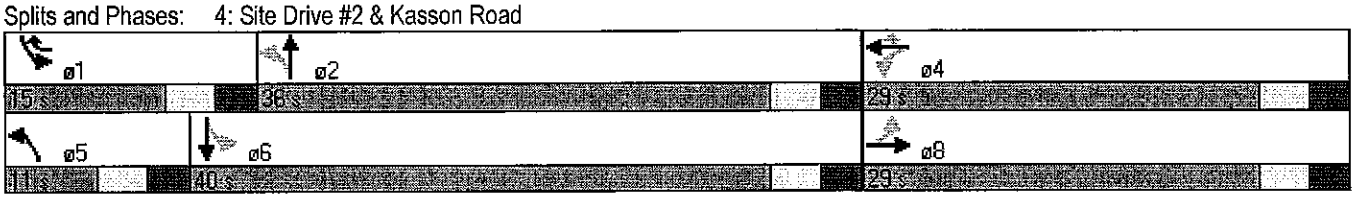


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	5	5	231	5	260	5	328	177	361
Turn Type	Perm		Perm		pm+ov	pm+pt		pm+pt	
Protected Phases		8		4	1	5	2	1	6
Permitted Phases	8		4		4	2		6	
Detector Phase	8	8	4	4	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	7.0	5.0	7.0
Minimum Split (s)	12.5	12.5	25.5	25.5	10.5	10.5	25.5	10.5	12.5
Total Split (s)	29.0	29.0	29.0	29.0	15.0	11.0	36.0	15.0	40.0
Total Split (%)	36.3%	36.3%	36.3%	36.3%	18.8%	13.8%	45.0%	18.8%	50.0%
Maximum Green (s)	23.5	23.5	23.5	23.5	9.5	5.5	30.5	9.5	34.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	2.3
Minimum Gap (s)	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	2.3
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)			9.0	9.0			9.0		
Flash Dont Walk (s)			11.0	11.0			11.0		
Pedestrian Calls (#/hr)			0	0			0		

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 5 (6%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 4: Site Drive #2 & Kasson Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	250	5	234	5	348	58	113	758	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	12	10	12	11	11	11	11	12
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	0.95	
Frt		0.95			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1793	1492	1770	1782		1745	3452	
Flt Permitted		0.91			0.72	1.00	0.30	1.00		0.15	1.00	
Satd. Flow (perm)		1624			1352	1492	553	1782		269	3452	
Peak-hour factor, PHF	0.92	0.92	0.92	0.78	0.92	0.78	0.92	0.76	0.76	0.90	0.90	0.92
Adj. Flow (vph)	5	5	5	321	5	300	5	458	76	126	842	5
RTOR Reduction (vph)	0	3	0	0	0	132	0	10	0	0	1	0
Lane Group Flow (vph)	0	12	0	0	326	168	5	524	0	126	846	0
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	1%	0%	0%	1%	2%
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		
Protected Phases		8			4	1	5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		30.4			30.4	40.7	22.5	21.3		37.6	30.4	
Effective Green, g (s)		32.4			32.4	44.7	26.5	23.3		39.6	32.4	
Actuated g/C Ratio		0.40			0.40	0.56	0.33	0.29		0.50	0.40	
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0			4.0	4.0	3.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		658			548	908	232	519		360	1398	
v/s Ratio Prot						0.03	0.00	c0.29		c0.05	c0.25	
v/s Ratio Perm		0.01			c0.24	0.08	0.01			0.12		
v/c Ratio		0.02			0.59	0.18	0.02	1.01		0.35	0.61	
Uniform Delay, d1		14.3			18.7	8.7	18.0	28.4		14.6	18.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			2.0	0.1	0.0	42.0		0.8	2.0	
Delay (s)		14.3			20.7	8.8	18.0	70.3		15.4	20.7	
Level of Service		B			C	A	B	E		B	C	
Approach Delay (s)		14.3			15.0			69.8			20.0	
Approach LOS		B			B			E			C	

Intersection Summary			
HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	231	5	260	5	328	99	177	361	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	12	10	12	11	11	11	11	12
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	0.95	
Frt		0.95			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1810	1507	1770	1751		1745	3448	
Flt Permitted		0.91			0.72	1.00	0.51	1.00		0.23	1.00	
Satd. Flow (perm)		1619			1366	1507	952	1751		416	3448	
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.92	0.83	0.92	0.94	0.94	0.89	0.89	0.92
Adj. Flow (vph)	5	5	5	269	5	313	5	349	105	199	406	5
RTOR Reduction (vph)	0	3	0	0	0	157	0	16	0	0	1	0
Lane Group Flow (vph)	0	12	0	0	274	157	5	438	0	199	410	0
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	1%	2%	0%	1%	2%
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		
Protected Phases		8			4	1	5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		23.5			23.5	36.0	27.2	26.0		44.5	37.3	
Effective Green, g (s)		25.5			25.5	40.0	31.2	28.0		46.5	39.3	
Actuated g/C Ratio		0.32			0.32	0.50	0.39	0.35		0.58	0.49	
Clearance Time (s)		6.0			6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0			4.0	4.0	3.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		516			435	829	404	613		483	1694	
v/s Ratio Prot						0.03	0.00	c0.25		c0.07	0.12	
v/s Ratio Perm		0.01			c0.20	0.07	0.00			0.16		
v/c Ratio		0.02			0.63	0.19	0.01	0.71		0.41	0.24	
Uniform Delay, d1		18.7			23.2	11.0	14.9	22.5		10.4	11.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0			3.2	0.2	0.0	7.0		0.8	0.3	
Delay (s)		18.7			26.5	11.2	14.9	29.5		11.2	12.1	
Level of Service		B			C	B	B	C		B	B	
Approach Delay (s)		18.7			18.3			29.3			11.8	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	250	5	234	5	348	58	113	758	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	12	10	12	11	11	11	11	12
Total Lost time (s)		3.5			3.5	3.5	3.5	3.5		3.5	3.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	0.95	
Frt		0.95			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1793	1492	1770	1782		1745	3452	
Flt Permitted		0.91			0.72	1.00	0.30	1.00		0.30	1.00	
Satd. Flow (perm)		1615			1352	1492	564	1782		553	3452	
Peak-hour factor, PHF	0.92	0.92	0.92	0.78	0.92	0.78	0.92	0.76	0.76	0.90	0.90	0.92
Adj. Flow (vph)	5	5	5	321	5	300	5	458	76	126	842	5
RTOR Reduction (vph)	0	4	0	0	0	166	0	4	0	0	0	0
Lane Group Flow (vph)	0	11	0	0	326	134	5	530	0	126	847	0
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	1%	0%	0%	1%	2%
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		
Protected Phases		8			4	1	5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		30.1			30.1	37.2	57.3	56.3		68.9	62.4	
Effective Green, g (s)		32.1			32.1	41.2	61.3	58.3		70.9	64.4	
Actuated g/C Ratio		0.29			0.29	0.37	0.56	0.53		0.64	0.59	
Clearance Time (s)		5.5			5.5	5.5	5.5	5.5		5.5	5.5	
Vehicle Extension (s)		1.2			1.2	1.2	1.2	2.3		1.2	2.3	
Lane Grp Cap (vph)		471			395	606	347	944		455	2021	
v/s Ratio Prot						c0.02	0.00	c0.30		0.02	c0.25	
v/s Ratio Perm		0.01			c0.24	0.07	0.01			0.16		
v/c Ratio		0.02			0.83	0.22	0.01	0.56		0.28	0.42	
Uniform Delay, d1		27.8			36.3	23.5	10.9	17.3		10.0	12.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.19	0.37	
Incremental Delay, d2		0.0			12.6	0.1	0.0	2.4		0.1	0.4	
Delay (s)		27.8			48.9	23.5	11.0	19.7		2.0	5.0	
Level of Service		C			D	C	B	B		A	A	
Approach Delay (s)		27.8			36.7			19.6			4.6	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	231	5	260	5	328	99	177	361	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	12	10	12	11	11	11	11	12
Total Lost time (s)		3.5			3.5	3.5	3.5	3.5		3.5	3.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	0.95	
Frt		0.95			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1810	1507	1770	1751		1745	3448	
Flt Permitted		0.90			0.72	1.00	0.51	1.00		0.34	1.00	
Satd. Flow (perm)		1609			1366	1507	952	1751		625	3448	
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.92	0.83	0.92	0.94	0.94	0.89	0.89	0.92
Adj. Flow (vph)	5	5	5	269	5	313	5	349	105	199	406	5
RTOR Reduction (vph)	0	4	0	0	0	195	0	12	0	0	1	0
Lane Group Flow (vph)	0	11	0	0	274	118	5	442	0	199	410	0
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	1%	2%	0%	1%	2%
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		
Protected Phases		8			4	1	5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		18.8			18.8	26.2	38.3	37.3		50.2	43.7	
Effective Green, g (s)		20.8			20.8	30.2	42.3	39.3		52.2	45.7	
Actuated g/C Ratio		0.26			0.26	0.38	0.53	0.49		0.65	0.57	
Clearance Time (s)		5.5			5.5	5.5	5.5	5.5		5.5	5.5	
Vehicle Extension (s)		1.2			1.2	1.2	1.2	2.3		1.2	2.3	
Lane Grp Cap (vph)		418			355	635	534	860		539	1970	
v/s Ratio Prot						0.02	0.00	c0.25		c0.04	0.12	
v/s Ratio Perm		0.01			c0.20	0.06	0.00			0.20		
v/c Ratio		0.03			0.77	0.19	0.01	0.51		0.37	0.21	
Uniform Delay, d1		22.1			27.4	16.7	8.9	13.9		7.0	8.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.20	0.20	
Incremental Delay, d2		0.0			9.1	0.1	0.0	2.2		0.1	0.2	
Delay (s)		22.1			36.5	16.7	8.9	16.0		1.6	1.9	
Level of Service		C			D	B	A	B		A	A	
Approach Delay (s)		22.1			26.0			16.0			1.8	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Appendix C – Holiday Season Intersection Details

Signal Optimization Study
Onondaga County, New York

INTERSECTION NAME: W. Genesee @ Knowell
INTERSECTION NUMBER: 91

INSTALLATION DATE:
PROGRAM DATE: COORDINATED OPTIMIZED TIMINGS HOLIDAY SEASON

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN		10		10		10		
PASSAGE		2.5		1.8		2.5		
YELLOW		3.5		3.5		3.5		
RED		1.5		1.5		1.5		
MAX I (PM)		78		22		78		
MAX II (Sat)		62		18		62		
WALK								
PED CLEAR								
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF		X		X		X		

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA								
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Kasson
INTERSECTION NUMBER: 53

INSTALLATION DATE: COORDINATED
PROGRAM DATE: OPTIMIZED TIMINGS
HOLIDAY SEASON

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	10		10	5	10		5
PASSAGE	1.6	2.5		1.2	1.6	2.5		1.2
YELLOW	3.5	3.5		3.5	3.5	3.5		3.5
RED	2	2		2	2	2		2
MAX I (PM)	24.5	34.5		23.5	5.5	53.5		5.5
MAX II (SAT)	11.5	27.5		23.5	5.5	33.5		5.5
WALK				5				
PED CLEAR				18				
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA				X				
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Sight Dr #4/Key Bank
INTERSECTION NUMBER: 93

INSTALLATION DATE:
PROGRAM DATE:

COORDINATED
OPTIMIZED TIMINGS
HOLIDAY SEASON

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2		4	5	6		8
MIN GREEN	5	10		7	5	10		7
PASSAGE	1.6	2.5		1.2	1.6	2.5		1.2
YELLOW	3.5	3.5		3.5	3.5	3.5		3.5
RED	2	2		2	2	2		2
MAX I (PM)	32.5	36.5		24.5	5.5	63.5		24.5
MAX II (SAT)	25.5	24.5		23.5	5.5	44.5		23.5
WALK		5						5
PED CLEAR		11						18
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA		X						X
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Sight Dr. #2/Vanida
INTERSECTION NUMBER: 92

INSTALLATION DATE:
PROGRAM DATE:

COORDINATED
OPTIMIZED TIMINGS
HOLIDAY SEASON

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	10		7	5	10		7
PASSAGE	1.6	2.5		1.2	1.6	2.5		1.2
YELLOW	3.5	3.5		3.5	3.5	3.5		3.5
RED	2	2		2	2	2		2
MAX I (PM)	5.5	64.5		23.5	5.5	64.5		23.5
MAX II (SAT)	7.5	42.5		23.5	5.5	44.5		23.5
WALK				5		5		
PED CLEAR				18		11		
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA				X		X		
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: W. Genesee @ Hinsdale
INTERSECTION NUMBER: 52

INSTALLATION DATE: COORDINATED
PROGRAM DATE: OPTIMIZED TIMINGS
HOLIDAY SEASON

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	10	7	7	5	10		
PASSAGE	1.3	2.5	1.7	0.6	1.3	2.5		
YELLOW	3.5	3.5	3.5	3.5	3.5	3.5		
RED	2	2	2	2	2	2		
MAX I (PM)	18.5	38.5	7.5	23.5	5.5	51.5		
MAX II (SAT)	10.5	26.5	7.5	23.5	5.5	31.2		
WALK				5		5		
PED CLEAR				18		11		
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

	PHASES USED							
	1	2	3	4	5	6	7	8
ON/OFF	X	X	X	X	X	X		

INHIBIT O/L	PED Overlaps							
	1	2	3	4	5	6	7	8
OLA				X		X		
OVERLAP B								
OVERLAP C								
OVERLAP D								

INTERSECTION NAME: Kasson Rd @ Camillus Mall/Plaza
INTERSECTION NUMBER: 92

INSTALLATION DATE:
PROGRAM DATE:

COORDINATED
OPTIMIZED TIMINGS
HOLIDAY SEASON

INTERVAL	PHASE (ON/OFF)							
	1	2	3	4	5	6	7	8
MEMORY		X				X		
EXT RECALL		X				X		
MAX RECALL								
CNA I								
CNA II								
FL WALK								
SOFT RECALL								
WALK REST								
COND PED								
FWTPCL								

INTERVAL	PHASE TIMINGS							
	1	2	3	4	5	6	7	8
MIN GREEN	5	7		7	5	7		7
PASSAGE	1.2	2.3		1.2	1.2	2.3		1.2
YELLOW	3	3		3	3	3		3
RED	2.5	2.5		2.5	2.5	2.5		2.5
MAX I (PM)	10.5	44.5		38.5	5.5	49.5		38.5
MAX II (SAT)	11.5	34.5		27.5	5.5	40.5		27.5
WALK		9		9				
PED CLEAR		11		11				
S/A								
TBR								
TTR								
MIN GAP								
MAX VI								
MAX EXT								
AUTO MAX								
AMR								

PHASES USED								
	1	2	3	4	5	6	7	8
ON/OFF	X	X		X	X	X		X

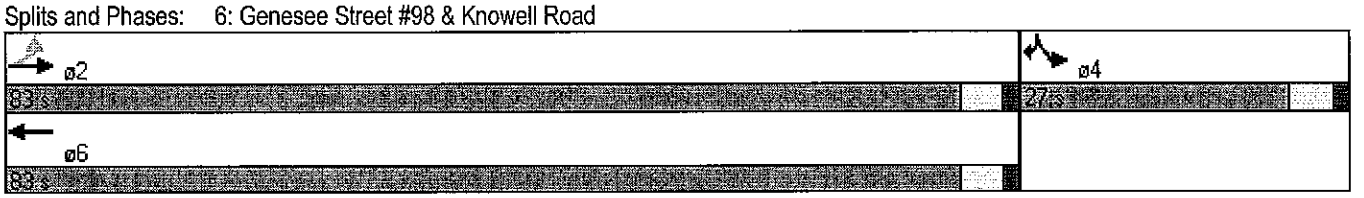
PED Overlaps								
INHIBIT O/L	1	2	3	4	5	6	7	8
OLA		X		X				
OVERLAP B								
OVERLAP C								
OVERLAP D								

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Volume (vph)	80	834	1179	104	111
Turn Type	Perm				Prot
Protected Phases		2	6	4	4
Permitted Phases	2				
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0
Total Split (s)	83.0	83.0	83.0	27.0	27.0
Total Split (%)	75.5%	75.5%	75.5%	24.5%	24.5%
Maximum Green (s)	78.0	78.0	78.0	22.0	22.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.5	2.5	2.5	1.8	1.8
Minimum Gap (s)	2.5	2.5	2.5	1.8	1.8
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Min	C-Min	C-Min	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 40 (36%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated

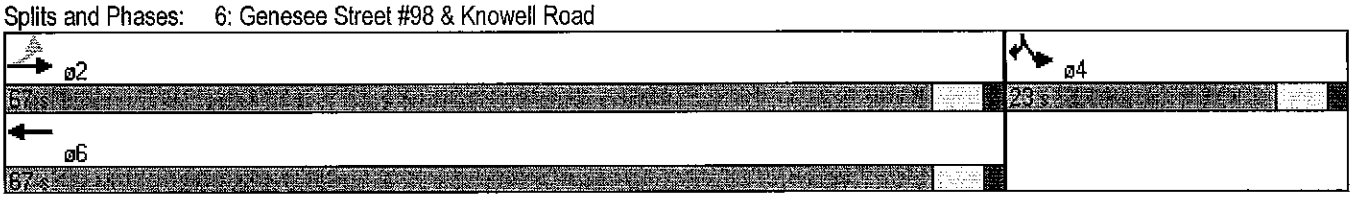
Splits and Phases: 6: Genesee Street #98 & Knowell Road



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Volume (vph)	77	853	821	142	68
Turn Type	Perm				Prot
Protected Phases		2	6	4	4
Permitted Phases	2				
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	15.0	15.0	15.0	15.0	15.0
Total Split (s)	67.0	67.0	67.0	23.0	23.0
Total Split (%)	74.4%	74.4%	74.4%	25.6%	25.6%
Maximum Green (s)	62.0	62.0	62.0	18.0	18.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	3.0	3.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	2.5	2.5	2.5	1.8	1.8
Minimum Gap (s)	2.5	2.5	2.5	1.8	1.8
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Min	C-Min	C-Min	None	None
Walk Time (s)					
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 39 (43%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 40
Control Type: Actuated-Coordinated

Splits and Phases: 6: Genesee Street #98 & Knowell Road



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	80	834	1179	140	104	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	10	11	11	11	11
Total Lost time (s)		3.0	3.0		5.0	5.0
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	0.98		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3294	3404		1745	1561
Flt Permitted		0.67	1.00		0.95	1.00
Satd. Flow (perm)		2232	3404		1745	1561
Peak-hour factor, PHF	0.98	0.98	0.90	0.90	0.70	0.70
Adj. Flow (vph)	82	851	1310	156	149	159
RTOR Reduction (vph)	0	0	6	0	0	87
Lane Group Flow (vph)	0	933	1460	0	149	72
Heavy Vehicles (%)	0%	2%	1%	0%	0%	0%
Turn Type	Perm					Prot
Protected Phases		2	6		4	4
Permitted Phases	2					
Actuated Green, G (s)		86.0	86.0		14.0	14.0
Effective Green, g (s)		88.0	88.0		14.0	14.0
Actuated g/C Ratio		0.80	0.80		0.13	0.13
Clearance Time (s)		5.0	5.0		5.0	5.0
Vehicle Extension (s)		2.5	2.5		1.8	1.8
Lane Grp Cap (vph)		1786	2723		222	199
v/s Ratio Prot			c0.43		c0.09	0.05
v/s Ratio Perm		0.42				
v/c Ratio		0.52	0.54		0.67	0.36
Uniform Delay, d1		3.8	3.9		45.8	43.9
Progression Factor		1.00	0.60		1.00	1.00
Incremental Delay, d2		1.1	0.6		6.1	0.4
Delay (s)		4.9	3.0		51.9	44.3
Level of Service		A	A		D	D
Approach Delay (s)		4.9	3.0		48.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	77	853	821	146	142	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	11	11	11
Total Lost time (s)		3.0	3.0		5.0	5.0
Lane Util. Factor		0.95	0.95		1.00	1.00
Frt		1.00	0.98		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3444	3344		1678	1561
Flt Permitted		0.74	1.00		0.95	1.00
Satd. Flow (perm)		2564	3344		1678	1561
Peak-hour factor, PHF	0.84	0.84	0.85	0.85	0.96	0.96
Adj. Flow (vph)	92	1015	966	172	148	71
RTOR Reduction (vph)	0	0	13	0	0	61
Lane Group Flow (vph)	0	1107	1125	0	148	10
Heavy Vehicles (%)	0%	1%	2%	2%	4%	0%
Turn Type	Perm					Prot
Protected Phases		2	6		4	4
Permitted Phases	2					
Actuated Green, G (s)		67.3	67.3		12.7	12.7
Effective Green, g (s)		69.3	69.3		12.7	12.7
Actuated g/C Ratio		0.77	0.77		0.14	0.14
Clearance Time (s)		5.0	5.0		5.0	5.0
Vehicle Extension (s)		2.5	2.5		1.8	1.8
Lane Grp Cap (vph)		1974	2575		237	220
v/s Ratio Prot			0.34		c0.09	0.01
v/s Ratio Perm		c0.43				
v/c Ratio		0.56	0.44		0.62	0.05
Uniform Delay, d1		4.2	3.6		36.4	33.4
Progression Factor		1.00	0.62		1.00	1.00
Incremental Delay, d2		1.2	0.5		3.7	0.0
Delay (s)		5.3	2.7		40.1	33.4
Level of Service		A	A		D	C
Approach Delay (s)		5.3	2.7		37.9	
Approach LOS		A	A		D	

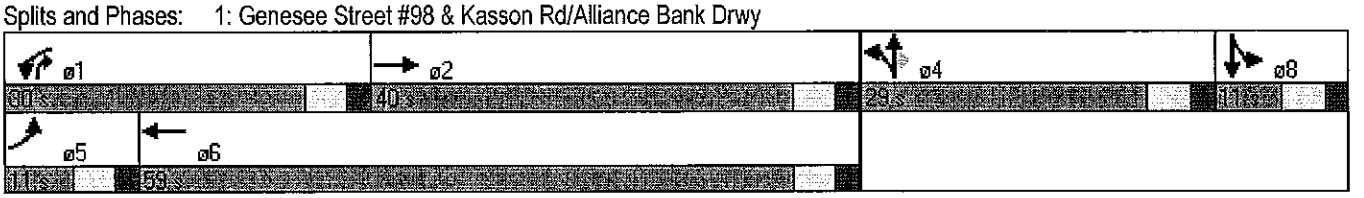
Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Volume (vph)	5	634	569	886	433	5	118	5
Turn Type	Prot		Prot		Split		pm+ov	
Protected Phases	5	2	1	6	4	4	1	8
Permitted Phases							4	
Detector Phase	5	2	1	6	4	4	1	8
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	10.5	15.5	10.5	15.5	28.5	28.5	10.5	10.5
Total Split (s)	11.0	40.0	30.0	59.0	29.0	29.0	30.0	11.0
Total Split (%)	10.0%	36.4%	27.3%	53.6%	26.4%	26.4%	27.3%	10.0%
Maximum Green (s)	5.5	34.5	24.5	53.5	23.5	23.5	24.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag			Lead	
Lead-Lag Optimize?								
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)					5.0	5.0		
Flash Dont Walk (s)					18.0	18.0		
Pedestrian Calls (#/hr)					0	0		

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 1: Genesee Street #98 & Kasson Rd/Alliance Bank Drwy

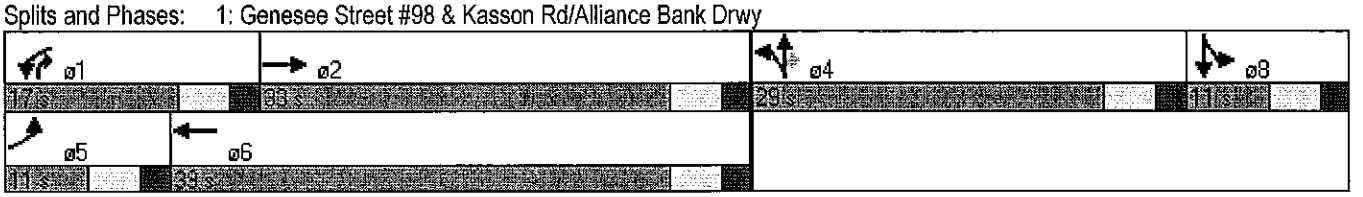


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Volume (vph)	6	736	423	575	392	6	300	6
Turn Type	Prot		Prot		Split		pm+ov	
Protected Phases	5	2	1	6	4	4	1	8
Permitted Phases							4	
Detector Phase	5	2	1	6	4	4	1	8
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	10.5	15.5	10.5	15.5	28.5	28.5	10.5	10.5
Total Split (s)	11.0	33.0	17.0	39.0	29.0	29.0	17.0	11.0
Total Split (%)	12.2%	36.7%	18.9%	43.3%	32.2%	32.2%	18.9%	12.2%
Maximum Green (s)	5.5	27.5	11.5	33.5	23.5	23.5	11.5	5.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag			Lead	
Lead-Lag Optimize?								
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Walk Time (s)					5.0	5.0		
Flash Dont Walk (s)					18.0	18.0		
Pedestrian Calls (#/hr)					0	0		

Intersection Summary

Cycle Length: 90
Actual Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Genesee Street #98 & Kasson Rd/Alliance Bank Drwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	634	305	569	886	5	433	5	118	5	5	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		0.97	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3367		3467	3572		1641	1703	1531		1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (perm)	1770	3367		3467	3572		1641	1703	1531		1750	
Peak-hour factor, PHF	0.92	0.89	0.89	0.79	0.79	0.92	0.81	0.92	0.81	0.92	0.92	0.92
Adj. Flow (vph)	5	712	343	720	1122	5	535	5	146	5	5	5
RTOR Reduction (vph)	0	48	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	5	1007	0	720	1127	0	267	273	146	0	10	0
Heavy Vehicles (%)	2%	2%	2%	1%	1%	2%	1%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		4	4	1	8	8	
Permitted Phases									4			
Actuated Green, G (s)	1.1	40.7		24.9	64.5		20.3	20.3	45.2		2.1	
Effective Green, g (s)	2.1	41.7		25.9	65.5		21.3	21.3	47.2		3.1	
Actuated g/C Ratio	0.02	0.38		0.24	0.60		0.19	0.19	0.43		0.03	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5		5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5		1.2	1.2	1.6		1.2	
Lane Grp Cap (vph)	34	1276		816	2127		318	330	657		49	
v/s Ratio Prot	0.00	c0.30		c0.21	0.32		c0.16	0.16	0.05		c0.01	
v/s Ratio Perm									0.04			
v/c Ratio	0.15	0.79		0.88	0.53		0.84	0.83	0.22		0.21	
Uniform Delay, d1	53.1	30.3		40.6	13.1		42.7	42.6	19.8		52.2	
Progression Factor	1.01	0.89		1.11	0.95		0.83	0.83	1.34		1.00	
Incremental Delay, d2	0.6	4.5		8.7	0.7		15.1	13.4	0.1		0.8	
Delay (s)	54.4	31.4		53.8	13.3		50.5	48.7	26.6		53.0	
Level of Service	D	C		D	B		D	D	C		D	
Approach Delay (s)		31.5			29.1			44.7			53.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	736	259	423	575	6	392	6	300	6	6	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		0.97	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3435		3467	3603		1625	1688	1561		1750	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (perm)	1770	3435		3467	3603		1625	1688	1561		1750	
Peak-hour factor, PHF	0.92	0.87	0.87	0.92	0.92	0.92	0.90	0.92	0.90	0.92	0.92	0.92
Adj. Flow (vph)	7	846	298	460	625	7	436	7	333	7	7	7
RTOR Reduction (vph)	0	35	0	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	7	1109	0	460	632	0	222	221	333	0	14	0
Heavy Vehicles (%)	2%	1%	1%	1%	0%	2%	2%	2%	0%	2%	2%	2%
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		4	4	1	8	8	
Permitted Phases									4			
Actuated Green, G (s)	1.1	34.5		15.1	48.5		16.1	16.1	31.2		2.3	
Effective Green, g (s)	2.1	35.5		16.1	49.5		17.1	17.1	33.2		3.3	
Actuated g/C Ratio	0.02	0.39		0.18	0.55		0.19	0.19	0.37		0.04	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5		5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5		1.2	1.2	1.6		1.2	
Lane Grp Cap (vph)	41	1355		620	1982		309	321	576		64	
v/s Ratio Prot	0.00	c0.32		c0.13	0.18		c0.14	0.13	0.10		c0.01	
v/s Ratio Perm									0.11			
v/c Ratio	0.17	0.82		0.74	0.32		0.72	0.69	0.58		0.22	
Uniform Delay, d1	43.1	24.4		35.0	11.0		34.2	34.0	22.8		42.1	
Progression Factor	0.93	1.02		1.22	0.48		0.84	0.83	0.80		1.00	
Incremental Delay, d2	0.6	4.8		3.9	0.4		5.3	4.0	0.7		0.6	
Delay (s)	40.6	29.6		46.5	5.7		33.9	32.3	19.0		42.7	
Level of Service	D	C		D	A		C	C	B		D	
Approach Delay (s)		29.6			22.9			27.1			42.7	
Approach LOS		C			C			C			D	

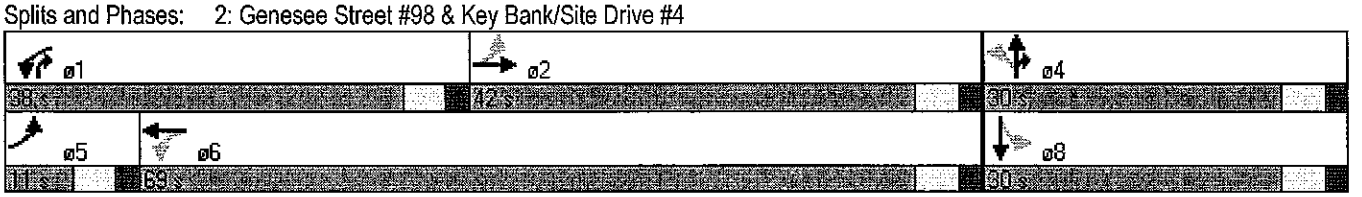
Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	5	659	333	1328	118	9	222	9	9
Turn Type	pm+pt		pm+pt		Perm		pt+ov	Perm	
Protected Phases	5	2	1	6		4	4 1		8
Permitted Phases	2		6		4			8	
Detector Phase	5	2	1	6	4	4	4 1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0		7.0	7.0
Minimum Split (s)	10.5	21.5	10.5	15.5	12.5	12.5		28.5	28.5
Total Split (s)	11.0	42.0	38.0	69.0	30.0	30.0	68.0	30.0	30.0
Total Split (%)	10.0%	38.2%	34.5%	62.7%	27.3%	27.3%	61.8%	27.3%	27.3%
Maximum Green (s)	5.5	36.5	32.5	63.5	24.5	24.5		24.5	24.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?									
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2		1.2	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2		1.2	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None		None	None
Walk Time (s)		5.0						5.0	5.0
Flash Dont Walk (s)		11.0						18.0	18.0
Pedestrian Calls (#/hr)		0						0	0

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 22 (20%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 2: Genesee Street #98 & Key Bank/Site Drive #4

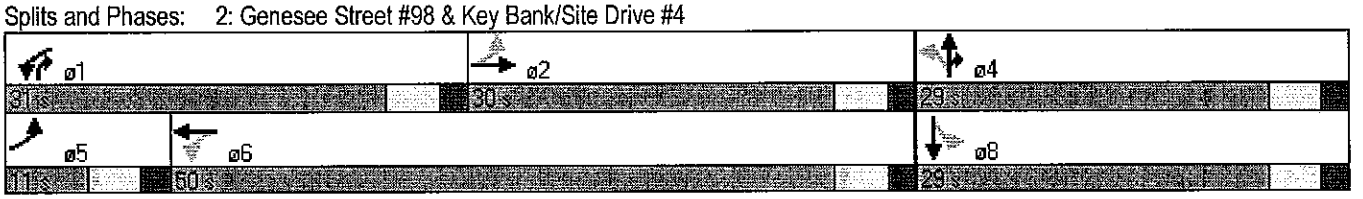


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	9	757	695	758	214	19	345	34	19
Turn Type	pm+pt		pm+pt		Perm		pt+ov	Perm	
Protected Phases	5	2	1	6		4	4 1		8
Permitted Phases	2		6		4			8	
Detector Phase	5	2	1	6	4	4	4 1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0		7.0	7.0
Minimum Split (s)	10.5	21.5	10.5	15.5	12.5	12.5		28.5	28.5
Total Split (s)	11.0	30.0	31.0	50.0	29.0	29.0	60.0	29.0	29.0
Total Split (%)	12.2%	33.3%	34.4%	55.6%	32.2%	32.2%	66.7%	32.2%	32.2%
Maximum Green (s)	5.5	24.5	25.5	44.5	23.5	23.5		23.5	23.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lag					
Lead-Lag Optimize?									
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2		1.2	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2		1.2	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None		None	None
Walk Time (s)		5.0						5.0	5.0
Flash Dont Walk (s)		11.0						18.0	18.0
Pedestrian Calls (#/hr)		0						0	0

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 16 (18%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 2: Genesee Street #98 & Key Bank/Site Drive #4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	659	38	333	1328	7	118	9	222	9	9	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11	12	13	13	12	16	12
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3514		1752	3572			1876	1605		2023	
Flt Permitted	0.13	1.00		0.27	1.00			0.77	1.00		0.86	
Satd. Flow (perm)	245	3514		490	3572			1506	1605		1775	
Peak-hour factor, PHF	0.92	0.92	0.92	0.80	0.80	0.80	0.67	0.67	0.67	0.60	0.60	0.60
Adj. Flow (vph)	5	716	41	416	1660	9	176	13	331	15	15	15
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	38	0	12	0
Lane Group Flow (vph)	5	754	0	416	1669	0	0	189	293	0	33	0
Heavy Vehicles (%)	0%	2%	0%	3%	1%	0%	0%	0%	4%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pt+ov	Perm		
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	54.1	53.1		81.3	74.8			17.7	45.9		17.7	
Effective Green, g (s)	56.1	54.1		82.3	75.8			18.7	46.9		18.7	
Actuated g/C Ratio	0.51	0.49		0.75	0.69			0.17	0.43		0.17	
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5			5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5			1.2			1.2	
Lane Grp Cap (vph)	153	1728		639	2461			256	684		302	
v/s Ratio Prot	0.00	0.21		c0.14	c0.47				c0.18			
v/s Ratio Perm	0.02			0.35				c0.13			0.02	
v/c Ratio	0.03	0.44		0.65	0.68			0.74	0.43		0.11	
Uniform Delay, d1	13.4	18.1		7.6	10.0			43.3	22.1		38.6	
Progression Factor	0.43	0.50		2.34	0.97			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.6		1.2	1.0			9.2	0.2		0.1	
Delay (s)	5.8	9.7		19.0	10.7			52.5	22.3		38.7	
Level of Service	A	A		B	B			D	C		D	
Approach Delay (s)		9.7			12.3			33.3			38.7	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	4.5
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	757	91	695	758	8	214	19	345	34	19	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	11	12	12	11	12	13	13	12	16	12
Total Lost time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3521		1805	3605			1877	1669		2012	
Flt Permitted	0.35	1.00		0.13	1.00			0.69	1.00		0.66	
Satd. Flow (perm)	660	3521		253	3605			1346	1669		1365	
Peak-hour factor, PHF	0.84	0.84	0.84	0.95	0.95	0.95	0.91	0.91	0.91	0.80	0.80	0.80
Adj. Flow (vph)	11	901	108	732	798	8	235	21	379	42	24	34
RTOR Reduction (vph)	0	10	0	0	1	0	0	0	5	0	22	0
Lane Group Flow (vph)	11	999	0	732	805	0	0	256	374	0	78	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pt+ov	Perm		
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	25.5	24.5		59.5	53.0			19.5	54.5		19.5	
Effective Green, g (s)	27.5	25.5		60.5	54.0			20.5	55.5		20.5	
Actuated g/C Ratio	0.31	0.28		0.67	0.60			0.23	0.62		0.23	
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5			5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5			1.2			1.2	
Lane Grp Cap (vph)	227	998		696	2163			307	1029		311	
v/s Ratio Prot	0.00	0.28		c0.36	0.22				0.22			
v/s Ratio Perm	0.01			c0.35				c0.19			0.06	
v/c Ratio	0.05	1.00		1.05	0.37			0.83	0.36		0.25	
Uniform Delay, d1	22.1	32.2		24.1	9.3			33.1	8.5		28.5	
Progression Factor	0.65	0.77		0.66	0.72			1.00	1.00		1.00	
Incremental Delay, d2	0.0	24.3		44.3	0.4			16.7	0.1		0.2	
Delay (s)	14.3	49.2		60.3	7.1			49.8	8.6		28.6	
Level of Service	B	D		E	A			D	A		C	
Approach Delay (s)		48.8			32.4			25.2			28.6	
Approach LOS		D			C			C			C	

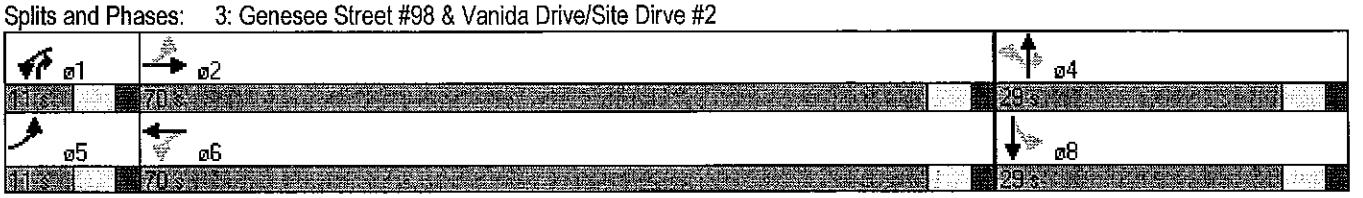
Intersection Summary			
HCM Average Control Delay	36.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	19	846	89	1596	44	14	151	23	8
Turn Type	pm+pt		pm+pt		Perm		pm+ov	Perm	
Protected Phases	5	2	1	6		4	1		8
Permitted Phases	2		6		4		4	8	
Detector Phase	5	2	1	6	4	4	1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	10.5	15.5	10.5	21.5	28.5	28.5	10.5	12.5	12.5
Total Split (s)	11.0	70.0	11.0	70.0	29.0	29.0	11.0	29.0	29.0
Total Split (%)	10.0%	63.6%	10.0%	63.6%	26.4%	26.4%	10.0%	26.4%	26.4%
Maximum Green (s)	5.5	64.5	5.5	64.5	23.5	23.5	5.5	23.5	23.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?									
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)				5.0	5.0	5.0			
Flash Dont Walk (s)				11.0	18.0	18.0			
Pedestrian Calls (#/hr)				0	20	20			

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 3: Genesee Street #98 & Vanida Drive/Site Dirve #2

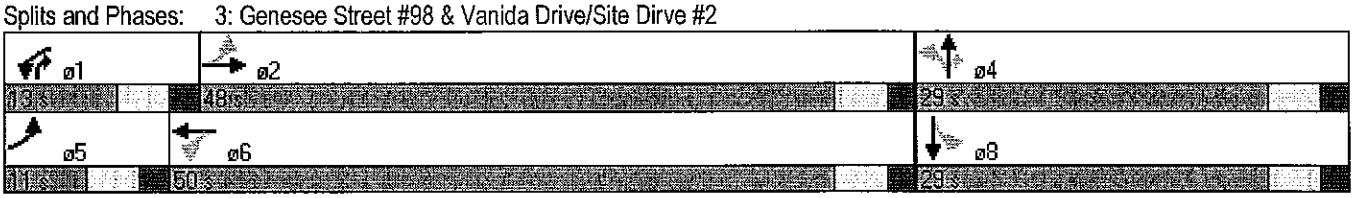


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	85	1004	166	1365	46	15	219	25	20
Turn Type	pm+pt		pm+pt		Perm		pm+ov	Perm	
Protected Phases	5	2	1	6		4	1		8
Permitted Phases	2		6		4		4	8	
Detector Phase	5	2	1	6	4	4	1	8	8
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0	5.0	7.0	7.0
Minimum Split (s)	10.5	15.5	10.5	21.5	28.5	28.5	10.5	12.5	12.5
Total Split (s)	11.0	48.0	13.0	50.0	29.0	29.0	13.0	29.0	29.0
Total Split (%)	12.2%	53.3%	14.4%	55.6%	32.2%	32.2%	14.4%	32.2%	32.2%
Maximum Green (s)	5.5	42.5	7.5	44.5	23.5	23.5	7.5	23.5	23.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag			Lead		
Lead-Lag Optimize?									
Vehicle Extension (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2	1.2
Minimum Gap (s)	1.6	2.5	1.6	2.5	1.2	1.2	1.6	1.2	1.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None
Walk Time (s)				5.0	5.0	5.0			
Flash Dont Walk (s)				11.0	18.0	18.0			
Pedestrian Calls (#/hr)				20	20	20			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 52 (58%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: Genesee Street #98 & Vanida Drive/Site Dirve #2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	846	25	89	1596	24	44	14	151	23	8	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	13	11	11	12	12	15	12	13	12
Total Lost time (s)	3.5	3.5		3.5	3.5			3.5	3.5		3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	
Satd. Flow (prot)	1805	3408		1865	3448			1831	1776		1801	
Flt Permitted	0.05	1.00		0.26	1.00			0.74	1.00		0.87	
Satd. Flow (perm)	100	3408		516	3448			1398	1776		1591	
Peak-hour factor, PHF	0.94	0.94	0.94	0.79	0.79	0.79	0.83	0.83	0.83	0.85	0.85	0.85
Adj. Flow (vph)	20	900	27	113	2020	30	53	17	182	27	9	33
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	123	0	29	0
Lane Group Flow (vph)	20	926	0	113	2049	0	0	70	59	0	40	0
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		
Protected Phases	5	2		1	6			4	1		8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	77.7	75.7		84.5	79.1			12.4	17.8		12.4	
Effective Green, g (s)	81.7	77.7		88.5	81.1			14.4	21.8		14.4	
Actuated g/C Ratio	0.74	0.71		0.80	0.74			0.13	0.20		0.13	
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5	5.5		5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5			1.2	1.6		1.2	
Lane Grp Cap (vph)	136	2407		506	2542			183	408		208	
v/s Ratio Prot	0.01	0.27		c0.02	c0.59				0.01			
v/s Ratio Perm	0.10			0.16				c0.05	0.02		0.03	
v/c Ratio	0.15	0.38		0.22	0.81			0.38	0.14		0.19	
Uniform Delay, d1	10.4	6.5		3.0	9.4			43.7	36.4		42.6	
Progression Factor	1.41	0.67		1.18	0.84			1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.4		0.0	1.5			0.5	0.1		0.2	
Delay (s)	14.8	4.8		3.6	9.3			44.2	36.5		42.8	
Level of Service	B	A		A	A			D	D		D	
Approach Delay (s)		5.0			9.0			38.6			42.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	1004	47	166	1365	85	46	15	219	25	20	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	13	11	11	12	12	15	12	13	12
Total Lost time (s)	3.5	3.5		3.5	3.5			3.5	3.5		3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1805	3433		1865	3459			1831	1776		1799	
Flt Permitted	0.10	1.00		0.15	1.00			0.71	1.00		0.91	
Satd. Flow (perm)	184	3433		304	3459			1355	1776		1657	
Peak-hour factor, PHF	0.86	0.86	0.86	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Adj. Flow (vph)	99	1167	55	184	1517	94	52	17	246	27	21	54
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	34	0	45	0
Lane Group Flow (vph)	99	1219	0	184	1608	0	0	69	212	0	57	0
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		
Protected Phases	5	2		1	6			4	1		8	
Permitted Phases	2			6			4		4	8		
Actuated Green, G (s)	57.8	53.4		64.8	56.9			12.2	20.1		12.2	
Effective Green, g (s)	61.8	55.4		68.8	58.9			14.2	24.1		14.2	
Actuated g/C Ratio	0.69	0.62		0.76	0.65			0.16	0.27		0.16	
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5	5.5		5.5	
Vehicle Extension (s)	1.6	2.5		1.6	2.5			1.2	1.6		1.2	
Lane Grp Cap (vph)	242	2113		404	2264			214	545		261	
v/s Ratio Prot	0.03	0.36		c0.05	c0.46				c0.04			
v/s Ratio Perm	0.25			0.30				0.05	0.08		0.03	
v/c Ratio	0.41	0.58		0.46	0.71			0.32	0.39		0.22	
Uniform Delay, d1	8.3	10.3		6.2	10.0			33.6	26.9		33.0	
Progression Factor	0.87	0.90		1.83	0.55			1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.7		0.1	0.9			0.3	0.2		0.2	
Delay (s)	7.4	9.9		11.6	6.5			34.0	27.1		33.2	
Level of Service	A	A		B	A			C	C		C	
Approach Delay (s)		9.7			7.0			28.6			33.2	
Approach LOS		A			A			C			C	

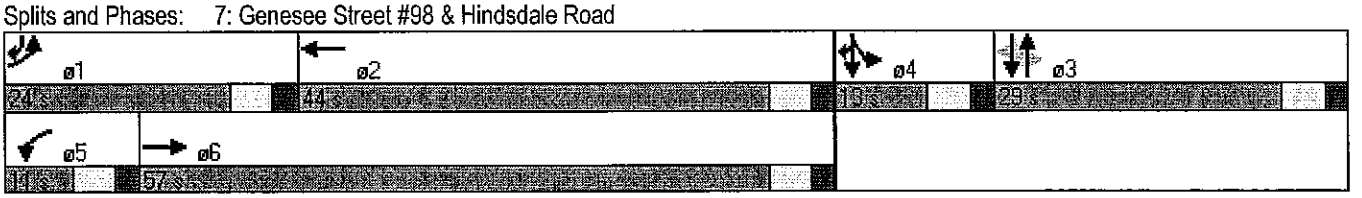
Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	3.5
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	306	710	2	985	4	7	136	1	720
Turn Type	Prot		Prot		Perm		pm+pt		custom
Protected Phases	1	6	5	2		3	4	4 3	1 4
Permitted Phases					3		4 3		
Detector Phase	1	6	5	2	3	3	4	4 3	1 4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0	7.0		
Minimum Split (s)	10.5	21.5	10.5	15.5	28.5	28.5	12.5		
Total Split (s)	24.0	57.0	11.0	44.0	29.0	29.0	13.0	42.0	37.0
Total Split (%)	21.8%	51.8%	10.0%	40.0%	26.4%	26.4%	11.8%	38.2%	33.6%
Maximum Green (s)	18.5	51.5	5.5	38.5	23.5	23.5	7.5		
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes		
Vehicle Extension (s)	1.3	2.5	1.3	2.5	1.7	1.7	0.6		
Minimum Gap (s)	1.3	2.5	1.3	2.5	1.7	1.7	0.6		
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recall Mode	None	C-Min	None	C-Min	None	None	None		
Walk Time (s)		5.0			8.0	8.0			
Flash Dont Walk (s)		11.0			15.0	15.0			
Pedestrian Calls (#/hr)		20			0	0			

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 19 (17%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 7: Genesee Street #98 & Hindsdale Road

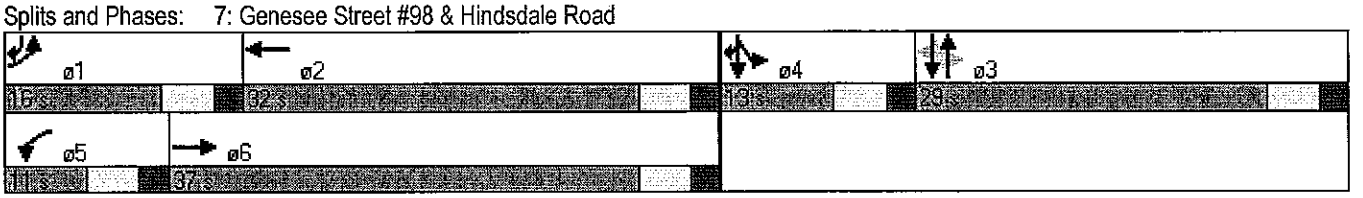


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	469	780	3	1053	1	3	138	3	560
Turn Type	Prot		Prot		Perm		pm+pt		custom
Protected Phases	1	6	5	2		3	4	4 3	1 4
Permitted Phases					3		4 3		
Detector Phase	1	6	5	2	3	3	4	4 3	1 4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	7.0	7.0	7.0		
Minimum Split (s)	10.5	21.5	10.5	21.5	28.5	28.5	12.5		
Total Split (s)	16.0	37.0	11.0	32.0	29.0	29.0	13.0	42.0	29.0
Total Split (%)	17.8%	41.1%	12.2%	35.6%	32.2%	32.2%	14.4%	46.7%	32.2%
Maximum Green (s)	10.5	31.5	5.5	26.5	23.5	23.5	7.5		
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5		
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?					Yes	Yes	Yes		
Vehicle Extension (s)	1.3	2.5	1.3	2.5	1.7	1.7	0.6		
Minimum Gap (s)	1.3	2.5	1.3	2.5	1.7	1.7	0.6		
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Recall Mode	None	C-Min	None	C-Min	None	None	None		
Walk Time (s)				5.0	5.0	5.0			
Flash Dont Walk (s)				11.0	18.0	18.0			
Pedestrian Calls (#/hr)				20	0	0			

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 42 (47%), Referenced to phase 2:WBT and 6:EBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 7: Genesee Street #98 & Hindsdale Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	306	710	3	2	985	60	4	7	1	136	1	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5			3.5			3.5	3.5
Lane Util. Factor	0.97	0.95		1.00	0.95			0.95			1.00	0.88
Frt	1.00	1.00		1.00	0.99			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.95	1.00
Satd. Flow (prot)	3467	3572		1203	3541			3246			1792	2814
Flt Permitted	0.95	1.00		0.95	1.00			0.84			0.71	1.00
Satd. Flow (perm)	3467	3572		1203	3541			2772			1327	2814
Peak-hour factor, PHF	0.91	0.91	0.91	0.77	0.77	0.77	0.42	0.42	0.42	0.89	0.89	0.89
Adj. Flow (vph)	336	780	3	3	1279	78	10	17	2	153	1	809
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	336	783	0	3	1357	0	0	29	0	0	154	809
Heavy Vehicles (%)	1%	1%	0%	50%	1%	2%	0%	14%	0%	1%	0%	1%
Turn Type	Prot			Prot			Perm			pm+pt		custom
Protected Phases	1	6		5	2			3		4	4 3	1 4
Permitted Phases							3			4 3		
Actuated Green, G (s)	30.5	71.5		1.0	42.0			8.0			15.5	38.0
Effective Green, g (s)	32.5	73.5		3.0	44.0			10.0			19.5	42.0
Actuated g/C Ratio	0.30	0.67		0.03	0.40			0.09			0.18	0.38
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5				
Vehicle Extension (s)	1.3	2.5		1.3	2.5			1.7				
Lane Grp Cap (vph)	1024	2387		33	1416			252			275	1074
v/s Ratio Prot	0.10	0.22		0.00	c0.38						0.05	c0.29
v/s Ratio Perm								0.01			c0.05	
v/c Ratio	0.33	0.33		0.09	0.96			0.12			0.56	0.75
Uniform Delay, d1	30.2	7.8		52.2	32.1			45.9			41.3	29.5
Progression Factor	1.26	1.15		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.1	0.3		0.4	15.8			0.1			1.6	2.7
Delay (s)	38.1	9.3		52.6	48.0			46.0			42.9	32.2
Level of Service	D	A		D	D			D			D	C
Approach Delay (s)		17.9			48.0			46.0			33.9	
Approach LOS		B			D			D			C	

Intersection Summary				
HCM Average Control Delay	34.4	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	70.2%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	469	780	0	3	1053	117	1	3	5	138	3	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5		3.5	3.5			3.5			3.5	3.5
Lane Util. Factor	0.97	0.95		1.00	0.95			0.95			1.00	0.88
Frt	1.00	1.00		1.00	0.99			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.95	1.00
Satd. Flow (prot)	3400	3539		1805	3456			3260			1811	2842
Flt Permitted	0.95	1.00		0.95	1.00			0.92			0.72	1.00
Satd. Flow (perm)	3400	3539		1805	3456			3015			1360	2842
Peak-hour factor, PHF	0.91	0.91	0.91	0.95	0.95	0.95	0.44	0.44	0.44	0.79	0.79	0.79
Adj. Flow (vph)	515	857	0	3	1108	123	2	7	11	175	4	709
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	515	857	0	3	1231	0	0	20	0	0	179	709
Heavy Vehicles (%)	3%	2%	0%	0%	3%	2%	0%	0%	2%	0%	0%	0%
Turn Type	Prot			Prot			Perm			pm+pt		custom
Protected Phases	1	6		5	2			3		4	4 3	1 4
Permitted Phases							3			4 3		
Actuated Green, G (s)	21.7	51.7		1.0	31.0			7.8			15.3	29.2
Effective Green, g (s)	23.7	53.7		3.0	33.0			9.8			19.3	33.2
Actuated g/C Ratio	0.26	0.60		0.03	0.37			0.11			0.21	0.37
Clearance Time (s)	5.5	5.5		5.5	5.5			5.5				
Vehicle Extension (s)	1.3	2.5		1.3	2.5			1.7				
Lane Grp Cap (vph)	895	2112		60	1267			328			339	1048
v/s Ratio Prot	0.15	0.24		0.00	c0.36						0.06	c0.25
v/s Ratio Perm								0.01			c0.06	
v/c Ratio	0.58	0.41		0.05	0.97			0.06			0.53	0.68
Uniform Delay, d1	28.8	9.7		42.1	28.0			36.0			31.3	23.9
Progression Factor	1.01	1.63		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.5	0.5		0.1	19.3			0.0			0.7	1.4
Delay (s)	29.4	16.2		42.2	47.4			36.0			32.0	25.3
Level of Service	C	B		D	D			D			C	C
Approach Delay (s)		21.2			47.4			36.0			26.6	
Approach LOS		C			D			D			C	

Intersection Summary				
HCM Average Control Delay	31.8	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0	
Intersection Capacity Utilization	70.7%	ICU Level of Service	C	
Analysis Period (min)	15			

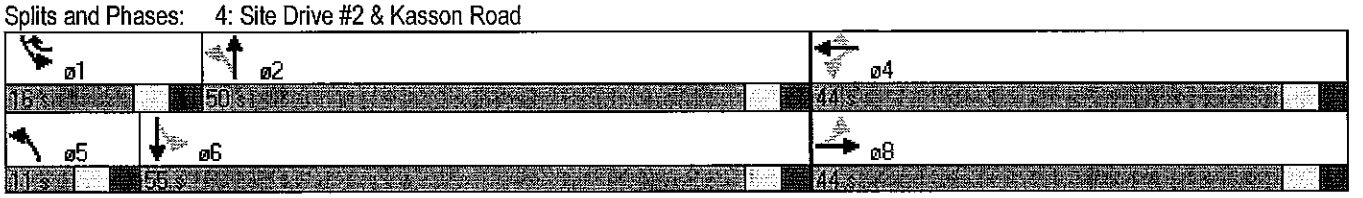
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	5	5	251	5	235	5	349	113	761
Turn Type	Perm		Perm		pm+ov	pm+pt		pm+pt	
Protected Phases		8		4	1	5	2	1	6
Permitted Phases	8		4		4	2		6	
Detector Phase	8	8	4	4	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	7.0	5.0	7.0
Minimum Split (s)	12.5	12.5	25.5	25.5	10.5	10.5	25.5	10.5	12.5
Total Split (s)	44.0	44.0	44.0	44.0	16.0	11.0	50.0	16.0	55.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	14.5%	10.0%	45.5%	14.5%	50.0%
Maximum Green (s)	38.5	38.5	38.5	38.5	10.5	5.5	44.5	10.5	49.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	2.3
Minimum Gap (s)	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	2.3
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)			9.0	9.0			9.0		
Flash Dont Walk (s)			11.0	11.0			11.0		
Pedestrian Calls (#/hr)			0	0			0		

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 8 (7%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated

Splits and Phases: 4: Site Drive #2 & Kasson Road

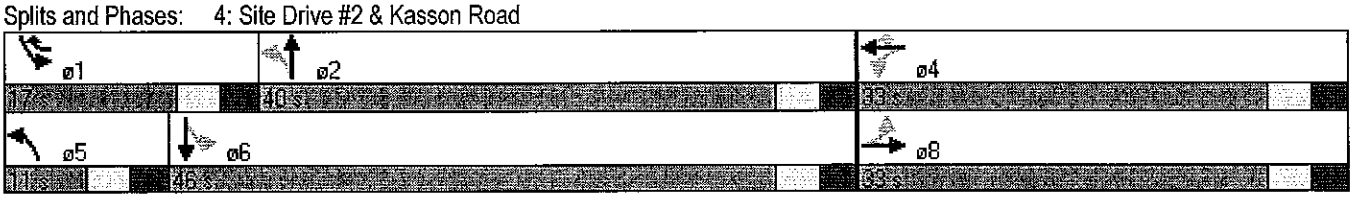


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Volume (vph)	6	6	293	6	330	6	416	224	458
Turn Type	Perm		Perm		pm+ov	pm+pt		pm+pt	
Protected Phases		8		4	1	5	2	1	6
Permitted Phases	8		4		4	2		6	
Detector Phase	8	8	4	4	1	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	5.0	5.0	7.0	5.0	7.0
Minimum Split (s)	12.5	12.5	25.5	25.5	10.5	10.5	25.5	10.5	12.5
Total Split (s)	33.0	33.0	33.0	33.0	17.0	11.0	40.0	17.0	46.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	18.9%	12.2%	44.4%	18.9%	51.1%
Maximum Green (s)	27.5	27.5	27.5	27.5	11.5	5.5	34.5	11.5	40.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lead/Lag					Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Vehicle Extension (s)	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	2.3
Minimum Gap (s)	1.2	1.2	1.2	1.2	1.2	1.2	2.3	1.2	2.3
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Walk Time (s)			9.0	9.0			9.0		
Flash Dont Walk (s)			11.0	11.0			11.0		
Pedestrian Calls (#/hr)			0	0			0		

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 11 (12%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 4: Site Drive #2 & Kasson Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	5	5	251	5	235	5	349	58	113	761	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	12	10	12	11	11	11	11	12
Total Lost time (s)		3.5			3.5	3.5	3.5	3.5		3.5	3.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	0.95	
Frt		0.95			1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1793	1492	1770	1782		1745	3452	
Flt Permitted		0.91			0.72	1.00	0.30	1.00		0.30	1.00	
Satd. Flow (perm)		1615			1352	1492	560	1782		552	3452	
Peak-hour factor, PHF	0.92	0.92	0.92	0.78	0.92	0.78	0.92	0.76	0.76	0.90	0.90	0.92
Adj. Flow (vph)	5	5	5	322	5	301	5	459	76	126	846	5
RTOR Reduction (vph)	0	4	0	0	0	166	0	4	0	0	0	0
Lane Group Flow (vph)	0	11	0	0	327	135	5	531	0	126	851	0
Heavy Vehicles (%)	2%	2%	2%	1%	2%	1%	2%	1%	0%	0%	1%	2%
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		
Protected Phases		8			4	1	5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		30.1			30.1	37.2	57.3	56.3		68.9	62.4	
Effective Green, g (s)		32.1			32.1	41.2	61.3	58.3		70.9	64.4	
Actuated g/C Ratio		0.29			0.29	0.37	0.56	0.53		0.64	0.59	
Clearance Time (s)		5.5			5.5	5.5	5.5	5.5		5.5	5.5	
Vehicle Extension (s)		1.2			1.2	1.2	1.2	2.3		1.2	2.3	
Lane Grp Cap (vph)		471			395	606	345	944		454	2021	
v/s Ratio Prot						c0.02	0.00	c0.30		0.02	c0.25	
v/s Ratio Perm		0.01			c0.24	0.07	0.01			0.16		
v/c Ratio		0.02			0.83	0.22	0.01	0.56		0.28	0.42	
Uniform Delay, d1		27.8			36.4	23.5	10.9	17.3		10.0	12.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.19	0.37	
Incremental Delay, d2		0.0			12.7	0.1	0.0	2.4		0.1	0.4	
Delay (s)		27.8			49.1	23.5	11.0	19.7		2.0	5.0	
Level of Service		C			D	C	B	B		A	A	
Approach Delay (s)		27.8			36.8			19.6			4.6	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	6	6	293	6	330	6	416	125	224	458	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	12	10	12	11	11	11	11	12
Total Lost time (s)		3.5			3.5	3.5	3.5	3.5		3.5	3.5	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	0.95	
Frt		0.95			1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1811	1507	1770	1751		1745	3448	
Flt Permitted		0.89			0.72	1.00	0.46	1.00		0.22	1.00	
Satd. Flow (perm)		1588			1358	1507	854	1751		400	3448	
Peak-hour factor, PHF	0.92	0.92	0.92	0.86	0.92	0.83	0.92	0.94	0.94	0.89	0.89	0.92
Adj. Flow (vph)	7	7	7	341	7	398	7	443	133	252	515	7
RTOR Reduction (vph)	0	5	0	0	0	151	0	11	0	0	1	0
Lane Group Flow (vph)	0	16	0	0	348	247	7	565	0	252	521	0
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	1%	2%	0%	1%	2%
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		
Protected Phases		8			4	1	5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)		24.7			24.7	34.3	40.2	39.2		54.3	47.8	
Effective Green, g (s)		26.7			26.7	38.3	44.2	41.2		56.3	49.8	
Actuated g/C Ratio		0.30			0.30	0.43	0.49	0.46		0.63	0.55	
Clearance Time (s)		5.5			5.5	5.5	5.5	5.5		5.5	5.5	
Vehicle Extension (s)		1.2			1.2	1.2	1.2	2.3		1.2	2.3	
Lane Grp Cap (vph)		471			403	700	450	802		424	1908	
v/s Ratio Prot						0.05	0.00	c0.32		c0.08	0.15	
v/s Ratio Perm		0.01			c0.26	0.12	0.01			0.30		
v/c Ratio		0.03			0.86	0.35	0.02	0.70		0.59	0.27	
Uniform Delay, d1		22.5			29.9	17.5	11.7	19.5		11.6	10.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		0.32	0.29	
Incremental Delay, d2		0.0			16.6	0.1	0.0	5.2		1.0	0.2	
Delay (s)		22.5			46.6	17.6	11.7	24.7		4.7	3.3	
Level of Service		C			D	B	B	C		A	A	
Approach Delay (s)		22.5			31.1			24.5			3.8	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			