Appendix F

Traffic Data

Attachment 1

Photos

Photo 1: Bicycle Pavement Marking on Kiamesha Lake Road (CR 109) at NYS Route 42 Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



Photo 2: River Road at Heiden Road (CR 161) Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



Photo 3: Downs Road Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



Photo 4: Park House Road (Wildwood Drive) SLOW Sign Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



Photo 5: Park House Road (Wildwood Drive) Curve Warning Sign and Advisory 30 MPH Plaque Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Photo 6: Park House Road (Wildwood Drive) Curve Warning Sign and Advisory 15 MPH Plaque Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Photo 7: Fred Road to Park House Road (Wildwood Drive) Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Photo 8: Ranch Road W-Beam Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11

Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



Photo 9: Ranch Road Cracking Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11

Tim Miller Associates, Inc., 10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



Photo 10: Ranch Road Advisory Speed Plaque Without Warning Sign Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Photo 11: County Sign Dating Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11

Photo 12: Heiden Road (CR 161) Northbound at Kiamesha Lake Road (CR 109) Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11







Photo 14: Heiden Road (CR 161) looking toward La Vista Drive Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Photo 15: Looking North from Thompson Road along Heiden Road (CR 161) Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Photo 16: Heiden Road (CR 161) No Parking Sign Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11 Photo 17: Heiden Road (CR 161) Southbound Warning Sign Approaching River Road and Thompson Road Raleigh and Heiden Properties



Photo 18: Looking West across the River Road Bridge Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Photo 19: Old and New Grey Road Bridge Raleigh and Heiden Properties Town of Fallsburg Sullivan County, New York Source: TMA, 4/22/11



Attachment 2

Sight Distance

Table F-1 Projected Sight Distance Summary								
		Intersection Sight Distance (in feet)				Stopping Sight Distance (In Feet)		
		Right turn from minor street ¹	Left turn from Minor Street		Left Turn from Mainline	Northbound or Eastbound	Southbound or Westbound	
Intersection			Looking Left ¹	Looking Right ¹				
NYS Route 42 and La Vista Drive *	Available	400 <u>+</u>	<u>+</u>	400 <u>+</u>	<u>+</u>	<u>+</u>	400 <u>+</u>	
	Recommended ²	390 (45 mph)	450 (45 mph)	550 (55 mph)	445 (55 mph)	450 (55 mph)	325 (45 mph)	
NYS Route 42 and Heiden Road (CR 161)*	Available	700+	700+	**	700+	700+	**	
	Recommended ²	585 (55 mph)	675 (55 mph)	675 (55 mph)	445 (55 mph)	545 (55 mph)	545(55 mph)	
Heiden Road (CR 161) and Kiameshia Lake Road (CR 109)	Available	700 <u>+</u>	700 <u>+</u>	450 <u>+</u>	600 <u>+</u> **	450 <u>+</u>	700 <u>+</u>	
	Recommended ²	430 (45 mph)	500 (45 mph)	500 (45 mph)	365 (45 mph)	365 (45 mph)	360 (45 mph)	
Heiden Road (CR 161) and River Road and Thompson Road	Available	300 <u>+</u>	300 <u>+</u>	625 <u>+</u>	300 <u>+</u>	625 <u>+</u>	300 <u>+</u>	
	Recommended ²	430 (45 mph)	500 (45 mph)	500 (45 mph)	365 (45 mph)	360 (45 mph)	360 (45 mph)	

All intersections at or near 90 degrees with no skew adjustment. Stopping sight distance for a 2 foot object and 3.5 foot driver height Speeds shown at speed limit. Based on approach grades of +3 to -3 percent except as noted. ¹ Intersection sight distance as measured from 14.5 feet from travel way and 3.5 foot eye and object height. ²American Association of State Highway and Transportation Officials, <u>A Policy on Geometric Design of Highways</u> and Strate Machineter D.C. 2004 and <u>Streets</u>, Washington, D.C., 2004. * Sight distance adjusted for grade.

** Highly variable.

Attachment 3

Traffic Measures of Effectiveness

Traffic: Measures of Effectiveness

Introduction

The <u>Highway Capacity Manual</u>¹ and the *Highway Capacity Software*² procedures document the methodology used for modeling levels of service and average vehicle delay at both signalized and unsignalized intersections. Level of service is a measure of the operational quality of an intersection; level of service A is the highest, most efficient level, and level of service F is the lowest level. The operational quality of an intersection is based on the average amount of time a vehicle is delayed. Levels of service are examined by 'lane group', the set of lanes allowing common movement(s) on an approach. Approaches to intersections are assigned primary directions for clarity as depicted on the traffic volume figures.

Use of the *Highway Capacity Software* is consistent with the New York State Department of Transportation policy requiring use of capacity analysis software consistent with the most recent version of the <u>Highway Capacity Manual</u>.

The *Highway Capacity Software* modeled results are applied to peak hour periods only. During off peak periods, which is the majority of the time, drivers typically will find operations better than the modeled peak hour results. During peak periods the experience of individual drivers can vary, because the model calculates average delay.

The volume to capacity ratios and delays are theoretical and therefore as with very high delays or very high volume to capacity ratios may result in other changes to driving patterns such as spreading traffic more within the peak hour, outside the peak hour, geographically, and operationally. For example, the analyses are done based on peak hour factors or a ratios of 15 minute flow to the hourly flows. These ratios are assumed to be constant when in fact these ratios change especially as volumes, delays and volume to capacity ratios increase. The result is actual average delay and volume to capacity ratio are low than modeled. While the time shift of traffic can be inconvenient, the geographical and operational shifts can be more problematic. Thus the volume to capacity ratios in excess of 1.2 and delays in excess of 120 seconds should not be considered the actual expected delays but an indication of other issues.

¹<u>Highway Capacity Manual</u>, National Academy of Sciences, Transportation Research Board, National Research Council, Washington, DC, 2000.

²Highway Capacity Software, Computer software, Version 5.4, Mctrans, Gainsville, Florida, 2008.

Level of Service Criteria Signalized Intersections

When analyzing activity at signalized intersections, an understanding of the definition of level of service is essential:

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption and increased travel time.³

These levels of service are:

<u>Level of Service A</u> describes operations with low control delay, up to 10 seconds per vehicle. The level of service 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 values.

<u>Level of Service B</u> describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with Level of Service A, causing higher levels of delay.

<u>Level of Service C</u> describes operations with control delay greater than 20 and up to 35 seconds per vehicle. 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 [all its] queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

<u>Level of Service D</u> describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At level of service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high *volume to capacity* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

<u>Level of Service E</u> describes operations with control delay greater than 55 and up to 80 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent.

<u>Level of Service F</u> describes operations with control delay in excess of 80 seconds per vehicle. 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 *volume to capacity* ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.⁴ (Underlines added for emphasis, italic words unabbreviated for clarity, bracketed words added for clarity)

³<u>Highway Capacity Manual</u>, National Academy of Sciences, Transportation Research Board, National Research Council, Washington, DC, 2000, page 10-15.

⁴Ibid, page 10-16.

The table below summaries the levels of service criteria for signalized intersections.

Signalized Intersections Level of Service Criteria					
	Average Control Delay				
Level of Service	(Seconds Per Vehicle)				
A	less than or equal to 10				
В	greater than 10 and less than or equal to 20				
С	greater than 20 and less than or equal to 35				
D	greater than 35 and less than or equal to 55				
E	greater than 55 and less than or equal to 80				
F	greater than 80				
Source: Highway Capacity Manual, National Academy of Sciences, Transportation					
Research Board, National Research Council, Washington, DC, 2000.					

The New York State Department of Transportation (NYS DOT) generally seeks a minimum level of service D (delay of 55 seconds or less for a signalized intersection) for all lane groups however,

In some cases, it may be necessary to accept level of service E or F on individual lane groups due to unreasonable costs or impacts associated with improving the level of service. 5

⁵NYS DOT, <u>Highway Design Manual</u>, (page 5-92).

Level of Service Criteria Unsignalized Intersections

The table below presents the levels of service criteria for unsignalized intersections. Average control delays are different from signalized intersections. Major street lane groups that do not include left turning movements are considered free flowing (effectively operating at a level of service A) and are not analyzed.

Unsignalized Intersections Level of Service Criteria					
	Average Control Delay				
Level of Service	(Seconds Per Vehicle)				
A	less than or equal to 10				
В	greater than 10 and less than or equal to 15				
С	greater than 15 and less than or equal to 25				
D	greater than 25 and less than or equal to 35				
E	greater than 35 and less than or equal to 50				
F	greater than 50				
Source: <u>Highway Cap</u> Transportation Resea Washington, DC, 2000.	<u>acity Manual</u> , National Academy of Sciences, arch Board, National Research Council,				

Volume to Capacity Ratio

The volume to capacity ratio is an indication of the unused capacity or the ability a lane group to process more traffic. It is possible to have a movement with a level of service A, B, C, or D and be at capacity for the movement. It is also possible to have a movement with a level of service E or F with additional capacity available on the movement. The ability of an entire intersection to handle more traffic is a complex issue, as traffic can be added to under capacity movements without impacting over capacity movements. Capacity is an estimated value based on standard vehicle operation. A volume to capacity of one indicates the volume equals the capacity. Volume to capacity ratios greater than one are possible.
Attachment 4

Traffic Level of Service Calculations

	TW	O-WAY STOP	CONTR	OL SUM	MARY			
General Information	n		Site I	nformati	on			
Analyst	JAG		Interse	ection		CR 161 a	nd Thom	oson
Agency/Co.	TMA		Jurisdi	iction		Town of 1	Thompsor	1
Date Performed	3/27/2011	1	Analys	sis Year		Existing (Condition	
Analysis Time Period	Friday Pe	eak Hour						
Project Description								
East/West Street: Thon	npson and River	r Road	North/S	South Stree	et: CR 161	Heiden Ro	ad	
Intersection Orientation:	North-South		Study I	Period (hrs): 0.25			
Vehicle Volumes ar	nd Adjustme	nts						
Major Street		Northbound				Southbou	und	
Movement	1	2	3		4	5		6
	L	Т	R		L	Т		R
Volume (veh/h)	15	388	2		0	144		40
Peak-Hour Factor, PHF	0.90	0.90	0.90	, 	0.94	0.94		0.94
(veh/h)	16	431	2		0	153		42
Percent Heavy Vehicles	1				0			
Median Type				Undivide	d			
RT Channelized			0			ļ		0
Lanes	0	1	0		0	1		0
Configuration	LTR				LTR			
Upstream Signal		0				0		
Minor Street		Eastbound	-			Westbou	nd	
Movement	7	8	9		10	11		12
	L	T	R		L	Т		R
Volume (veh/h)	29	0	3	-	1	0		0
Peak-Hour Factor, PHF	0.57	0.57	0.57	, I	0.25	0.25		0.25
(veh/h)	50	0	5		4	0		0
Percent Heavy Vehicles	1	0	1		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	1	0		0	1		0
Configuration		LTR				LTR		
Delay, Queue Length, a	Ind Level of Se	rvice						
Approach	Northbound	Southbound		Westbound	d		Eastbound	ł
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	16	0		4		1	55	
C (m) (veh/h)	1384	1137		384	1	1	407	
v/c	0.01	0.00		0.01			0.14	
95% queue length	0.04	0.00		0.03		Í	0.46	
Control Delay (s/veh)	7.6	8.2		14.5	İ	i	15.2	1
LOS	A	A		В	İ –	1	С	
Approach Delav (s/veh)				14.5		1	15.2	R.
Approach LOS				В		1	С	

	тм	O-WAY STOP	CONTR	OL SI	UMI	MARY				
General Informatio	n		Site I	nform	natio	on				
Analyst	JAG		Interse	ection			CR 109 a	and CF	R 161	
Agency/Co.	TMA		Jurisdi	ction			Town of I	Fallsbi	urg	
Date Performed	3/27/201	1	Analys	sis Yea	r		Existing (Condit	ion	
Analysis Time Period	Friday Pe	eak Hour								
Project Description										
East/West Street: CR 1	09 Kiamesha L	ake Road	North/S	South S	Stree	t: Heiden	Road CR 1	161		
Intersection Orientation:	North-South		Study I	Period	(hrs)	: 0.25				
Vehicle Volumes ai	nd Adjustme	ents								
Major Street		Northbound					Southbou	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume (veh/h)	33	276				1.00	177			16
Peak-Hour Factor, PHF	0.87	0.87	1.00	<u> </u>		1.00	0.89		l).89
(veh/h)	37	317	0			0	198			17
Percent Heavy Vehicles	1					0				
Median Type				Undi	videc	1				
RT Channelized			0							0
Lanes	0	1	0			0	1			0
Configuration	LT						ļ			TR
Upstream Signal		0					0			
Minor Street		Eastbound	_				Westbou	nd		
Movement	7	8	9			10	11			12
	L L	Т	R	2		L	Т			R
Volume (veh/h)	19		48			(
Peak-Hour Factor, PHF	0.84	1.00	0.84			1.00	1.00		1	.00
(veh/h)	22	0	57			0	0			0
Percent Heavy Vehicles	1	0	1			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration		LR								
Delay, Queue Length, a	and Level of Se	ervice								
Approach	Northbound	Southbound	, v	Westbo	ound		E	Eastbo	ound	
Movement	1	4	7	8		9	10	1	1	12
Lane Configuration	LT							LF	۲	
v (veh/h)	37		[<u> </u>		79	9	
C (m) (veh/h)	1361	ĺ						67	8	
v/c	0.03	ĺ						0.1	2	
95% queue lenath	0.08		i i			Í	1	0.3	39	
Control Delav (s/veh)	7.7	i						11	.0	
LOS	A	i						B	-	
Approach Delay (s/veh)				<u> </u>		1		11	0	
Approach LOS							В			

	HCS+ [™] DETAILED REPORT																			
General Info	HCS+ [™] eneral Information nalyst JAG									Site I	nfo	rmati	ion							
Analyst	eneral Information nalyst JAG jency or Co. TMA								Tr	Inters	ecti	ion	Ri	t 42,	Fraser,	and	d CR	109		
Agency or Co	o. <i>TMA</i>								A	Area	Тур	е	Al	l oth	ier areas					
Date Perform	ned 3/27/2011								J	Jurisd	ictio	on	To	own	of Thom	psc	on			
Time Period	Friday Pea	ak Ho	ur						ľ	Analy	sis	Year	E	cistii	ng Condi	tior	ר			
	· * :::						_		<u> </u>	Projec	CT IL)								
volume and	Timing Input	[1		ER		—	1	—	\//R					NB			<u> </u>	SB	
			h _T			I RT	_		Т	ТН		RT	╉	т			г т		<u>зв</u> Гтн	RT
Number of La	anes. N1		0		1	0	_	0	┥	1	╈	0)	1		$\frac{1}{2}$	0	1	0
Lane Group			Ť		LTR	Ť	-		┪	LTR			┿	-	LTR	┢			LTR	ļ
Volume, V (v	rph)		24		464	22		18	Ť	463		43	12	20	27		24	67	40	20
% Heavy Vel	hicles, %HV		2		2	2		2		2		2	2	?	2		2	2	2	2
Peak-Hour F	actor, PHF		0.85		0.85	0.85		0.86		0.86	(0.86	0.:	55	0.55	0.	55	0.85	0.85	0.85
Pretimed (P)	or Actuated (A	4)	Α		Α	Α		Α	┛	Α	_	Α		1	Α		4	A	A	A
Start-up Lost	Time, I1			_	2.0				ᆜ	2.0			╇		2.0	╞		ļ	2.0	ļ
Extension of	Effective Gree	en, e	<u> </u>	_	2.0		_	<u> </u>	┛	2.0			╇		2.0	┢		ļ	2.0	ļ
Arrival Type,				-	3		_		┥	3	\rightarrow		╋		3	┢			3	
Eiltering/Met	oring I			-	3.0		_		┥	3.0	-		╋		3.0	┢			3.0	
Initial Unmet	Demand Q _b				0.0		_		┥	0.0			╋		0.0	┢			0.0	
Ped / Bike / F	RTOR Volume	s	0		0.0	0	-	0	┥	0.0		0	-)	0.0		2	0	0.0	0
Lane Width	ane Width				12.0	Ť	-	Ť	┪	12.0			╈		12.0	┢		l –	13.0	l – –
Parking / Gra	arking / Grade / Parking			Ť	0	N		N	┪	0	╡	Ν		J	0	7	V	N	0	N
Parking Man	euvers, Nm								Ť		┓					T				
Buses Stopp	ing, Nв		1		0				7	0					0	Γ		1	0	
Min. Time for	r Pedestrians,	Gp			3.2					3.2					3.2				3.2	
Phasing	EW Perm		02		C)3		04	4	4 NS Pe			erm 06					07	0	8
Timing	G = 36.0	G =			G =		┛	G =		G = 14		= 14	.0	G	=		G =		G =	
	Y = 5	Y =			Y =			Y =			Y :	= 5		<u> Y</u>	=		Y =		Y =	
Duration of A	$\frac{1}{2}$.25	<u> </u>			0.0.4	_		—					C	ycle Len	gth	, C =	60.0		
Lane Group	Capacity, Co	<u>ntroi</u>	Dela	<u>y, a</u>	nd LO	S Dete	<u>ern</u>	ninati	<u>on</u>	1 \//B					NB			. <u> </u>	SB	
			LT	Гт	нΤ	RT	╞╴	LT	ГÌ	TH	R	RT	LT		TH	R	т		ТН	RT
Adjusted Flov	w Rate, v			6	00				6	609					129				150	
Lane Group	Capacity, c			10	70				1(078					365				349	
v/c Ratio, X				0.5	56				0.{	56					0.35				0.43	
Total Green	Ratio, g/C			0.6	60				0.0	60					0.23				0.23	
Uniform Dela	ay, d ₁			7.:	2				7.	.3					19.2				19.6	
Progression	Factor, PF			1.0	000			ĺ	1.(000					1.000				1.000	
Delay Calibra	ation, k			0.1	16			Ĩ	0. '	16					0.11				0.11	
Incremental I	Delay, d ₂			0	.7				С	0.7					0.6				0.9	
Initial Queue	Delay, d ₃			0.	0				0.	.0					0.0				0.0	
Control Delay	у			7	.9				8	3.0					19.8				20.5	
Lane Group	LOS			A					1	4					В				С	
Approach De	elay		7.	9				8.	.0					19	.8				20.5	
Approach LC)S		A	ł			Γ	A	4					E	}				С	
Intersection I	Delay		10	.2			Γ	$X_{c} = 0$	0.53			Inte	rsec	tion LOS				В		

		TW	O-WAY STOP	CONTR	OL S	UMN	MARY				
General Informatio	n			Site I	nform	natio	on				
Analyst		JAG		Interse	ection			CR 161 8	Roi	ite 42	
Agency/Co.		TMA		Jurisd	iction			Town of I	Fallst	burg	
Date Performed		3/23/201	1	Analys	sis Yea	ır		Existing (Cond	ition	
Analysis Time Period		Friday Pe	eak Hour								
Project Description											
East/West Street: Heid	en Ro	ad CR 16	1	North/S	South S	Stree	t: NYS R	oute 42			
Intersection Orientation:	Eas	st-West		Study I	Period	(hrs)	: 0.25				
Vehicle Volumes a	nd A	djustme	ents								
Major Street			Eastbound					Westbou	nd		
Movement		1	2	3			4	5			6
		L	Т	R			L	Т			R
Volume (veh/h)			515	18			208	466			
Peak-Hour Factor, PHF		1.00	0.95	0.95	,		0.91	0.91			1.00
Hourly Flow Rate, HFR (veh/h)		0	542	18			228	512			0
Percent Heavy Vehicles		0					1				
Median Type					Undi	videa	1				
RT Channelized	Î			0							0
Lanes		0	1	0			1	1			0
Configuration				TR			L	Т			
Upstream Signal		0						0			
Minor Street			Northbound					Southbou	und		
Movement		7	8	9			10	11			12
		L	Т	R			L	Т			R
Volume (veh/h)		44		376				1		ĺ	
Peak-Hour Factor, PHF		0.83	1.00	0.83	}		1.00	1.00		í	1.00
Hourly Flow Rate, HFR (veh/h)		53	0	453		0		0			0
Percent Heavy Vehicles		1	0	1		0		0			0
Percent Grade (%)			5					0			
Flared Approach			N					N			
Storage			0					0		í — —	
RT Channelized				0				1		í – – –	0
Lanes		0	0	0			0	0			0
Configuration			LR	1				1			
Delay, Queue Length,	and L	evel of Se	ervice								
Approach	Eas	stbound	Westbound		Northb	ound		S	outh	bound	
Movement		1	4	7	8		9	10	·	11	12
Lane Configuration			L		LR	2			ĺ		
v (veh/h)			228	1	506	6			ĺ		ĺ
C (m) (veh/h)			1016		297	7			1		ĺ
v/c			0.22		1.7	0			1		
95% queue length			0.86		32.0)5					
Control Delay (s/veh)			9.6	1	360.	.8		İ			
LOS			A	1	F			i	[
Approach Delav (s/veh)	/veh)			360.8				1			A
Approach LOS			F								

		TW	O-WAY	STOP	CONTR	OL S	UMI	MARY				
General Informatio	n				Site I	nforn	natio	on				
Analyst		JAG			Interse	ection			Route 42	and?	La Vis	ta
Agency/Co.		TMA			Jurisd	iction			Toen of I	Fallsb	urg	
Date Performed		3/27/201	1		Analys	sis Yea	ar		Existing	Cond	ition	
Analysis Time Period		Friday Pe	eak Hour									
Project Description												
East/West Street: NYS	Route	ə 42			North/S	South S	Stree	t: <i>La Vista</i>	a Drive			
Intersection Orientation:	Eas	st-West			Study I	Period	(hrs)	: 0.25				
Vehicle Volumes a	nd A	djustme	ents									
Major Street			Eastb	bound					Westbou	und		
Movement		1		2	3			4	5			6
		L		T	R		<u> </u>	L	Т			R
Volume (veh/h)		124	/(57	1.00			1.00	602		1	143
Peak-Hour Factor, PHF		0.90	0.	90	1.00)	<u> </u>	1.00	0.93			.93
(veh/h)		137	85	52	0			0	647		1	153
Percent Heavy Vehicles		1	-	-				0				
Median Type						Undi	videc	1				
RT Channelized					0							0
Lanes		0		1	0			0	1			0
Configuration		LT										TR
Upstream Signal		0							0			
Minor Street		Northbound							Southbo	und		
Movement		7		8	9			10	11			12
		L		Т	R			L	Т			R
Volume (veh/h)					1.00			17				72
Peak-Hour Factor, PHF		1.00	1.0	00	1.00	1.00		0.67	1.00		0).67
Hourly Flow Rate, HFR (veh/h)		0	(0	0		25		0		1	107
Percent Heavy Vehicles		0	()	0			1	0			1
Percent Grade (%)				0					-6			
Flared Approach			/	V					N			
Storage			()					0			
RT Channelized					0				ĺ			0
Lanes		0	()	0			0	0			0
Configuration									LR			
Delay, Queue Length, a	and Le	evel of Se	ervice									
Approach	Eas	tbound	Westbo	ound		Northb	ound		5	South	bound	
Movement		1	4		7	8		9	10	· ·	11	12
Lane Configuration		LT								L	R	
v (veh/h)		137							ĺ	1:	32	
C (m) (veh/h)	8	827								3	15	
v/c	().17							ĺ	0.	42	
95% queue length	().59							ĺ	1.	99	
Control Delay (s/veh)	1	10.2								24	4.4	
LOS		В								(2	
Approach Delay (s/veh)					24.4					.4		
Approach LOS								С				

	TW	O-WAY STOP	CONTR	OL SUM	MARY				
General Information	n		Site I	nformati	on				
Analyst	JAG		Interse	ection		CR 161 a	and Thom	pson	
Agency/Co.	TMA		Jurisdi	ction		Town of	Thompso	n	
Date Performed	3/27/201	1	Analys	sis Year		Existing (Condition		
Analysis Time Period	Sunday F	Peak Hour							
Project Description									
East/West Street: Thon	npson and Rive	r Road	North/S	South Stre	et: CR 161	1 Heiden Ro	ad		
Intersection Orientation:	North-South		Study I	Period (hrs	s): 0.25				
Vehicle Volumes a	nd Adjustme	nts							
Major Street		Northbound				Southbou	und		
Movement	1	2	3		4	5		6	
		457	R			070		<u>R</u>	
Volume (ven/n)	0.72	157	0 72		1	270		23	
Hourly Flow Rate HFR	0.72	0.72	0.72		0.00	0.00		0.00	
(veh/h)	1	218	0		1	313		26	
Percent Heavy Vehicles	1				0				
Median Type				Undivide	d				
RT Channelized			0					0	
Lanes	0	1	0		0	1		0	
Configuration	LTR				LTR				
Upstream Signal		0				0			
Minor Street		Eastbound				Westbou	ind		
Movement	7	8	9		10	11		12	
	L L	Т	R		L	Т		R	
Volume (veh/h)	24	1	2		0	0		2	
Peak-Hour Factor, PHF	0.68	0.68	0.68		0.50	0.50		0.50	
Hourly Flow Rate, HFR (veh/h)	35	1	2		0	0		4	
Percent Heavy Vehicles	1	1	1		0	0		0	
Percent Grade (%)		0				0			
Flared Approach		N				N			
Storage		0				0			
RT Channelized			0					0	
Lanes	0	1	0		0	1		0	
Configuration		LTR				LTR			
Delay, Queue Length, a	and Level of Se	rvice							
Approach	Northbound	Southbound		Westboun	d		Eastboun	d	
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	LTR	LTR		LTR			LTR		
v (veh/h)	1	1		4			38		
C (m) (veh/h)	1226	1364		827		1	453		
v/c	0.00	0.00		0.00			0.08		
95% queue length	0.00	0.00		0.01	1	1	0.27	1	
Control Delay (s/veh)	7.9	7.6		9.4	1	İ	13.7	1	
LOS	A	A		A	1	İ	В		
Approach Delav (s/veh)	av (s/veh)			9.4		13.7			
Approach LOS				A			В		
		I		•		В			

		TW	0-W/	AY STOP	CONTR	OL S	UMN	MARY				
General Informatio	n				Site I	nforn	natio	on				
Analyst	J	IAG			Interse	ection			CR 109	and C	R 161	
Agency/Co.	7	ГМА			Jurisd	iction			Town of	Fallst	burg	
Date Performed	3	3/27/201	1		Analys	sis Yea	ar		Existing	Cond	ition	
Analysis Time Period	5	Sunday F	Peak H	lour								
Project Description					•							
East/West Street: CR 1	109 Kiai	mesha L	ake R	oad	North/S	South S	Stree	t: Heiden	Road CR	161		
Intersection Orientation:	North	h-South			Study	Period	(hrs)	: 0.25				
Vehicle Volumes a	nd Ad	justme	ents									
Major Street		-	N	orthbound					Southbo	und		
Movement		1		2	3			4	5			6
		L		Т	R			L	Т			R
Volume (veh/h)		75		227					228			15
Peak-Hour Factor, PHF	_	0.81		0.81	1.00)		1.00	0.80		0	0.80
Hourly Flow Rate, HFR (veh/h)		92		280	0			0	284			18
Percent Heavy Vehicles		1						0				
Median Type						Undi	videa	1				
RT Channelized					0							0
Lanes		0		1	0			0	1		í –	0
Configuration		LT									· ·	TR
Upstream Signal				0					0		ĺ	
Minor Street		Eastbound							Westbo	und		
Movement	1	7 8		9			10	11			12	
		L		Т	R	R		L	Т			R
Volume (veh/h)		22			63	63						
Peak-Hour Factor, PHF		0.89		1.00	0.89)		1.00	1.00		1	.00
Hourly Flow Rate, HFR (veh/h)		24		0	70			0	0			0
Percent Heavy Vehicles		1		0	1		0		0			0
Percent Grade (%)				0					0			
Flared Approach				Ν					N			
Storage				0					0			
RT Channelized					0							0
Lanes		0		0	0			0	0			0
Configuration				LR								
Delay, Queue Length, a	and Lev	vel of Se	rvice									
Approach	North	bound	Sou	Ithbound		Westb	ound			Eastb	ound	
Movement		1		4	7	8		9	10		11	12
Lane Configuration	L	Т								L	.R	
v (veh/h)	9	2								9	94	
C (m) (veh/h)	12	65								5	80	
v/c	0.	07							[0.	16	
95% queue length	0.	23				l l				0.	57	
Control Delay (s/veh)	8	.1							1	12	2.4	
LOS	/	4									В	
Approach Delay (s/veh)									12.4			
Approach LOS								В				

	HCS+ [™] DETAILED REPORT																			
General Info	General Information Site Information Analyst JAG Intersection Rt 42, Fraser, and CR109																			
Analyst	JAG								Τ	Inters	ect	tion	ŀ	Rt 42,	Fraser,	anc	d CR1	109		
Agency or Co	D. TMA								1	Area	Тур	be	/	All oth	er areas					
Date Perform	ned 3/27/2011								ŀ	Jurisd	licti	ion	1	Town	of Thom	DSC	on			
Time Period	Sunday Pe	eak He	our						1	Analy	Sis	Year	E	Existii	ng Condi	tior	ז			
Volumo and	Timing Input						_			Projec	ct II	D								
Volume and	Timing input		<u> </u>		FB		—	1		WB					NB				SB	
			hτ		TH	RT	_	I I T	7	Ттн	1	RT	╈	IT	Тн	T F	RT		Тн	RT
Number of La	anes. N1		0	-	1	0	_	0	-	1		0	╈	0	1		0	0	1	0
Lane Group			<u> </u>		LTR		_	<u> </u>	-	LTR				-	LTR	┢	-		LTR	
Volume, V (v	ph)		13		651	24	_	14		568		41		19	10		17	85	25	41
% Heavy Ver	nicles, %HV		2		2	2	_	2		2		2		2	2		2	2	2	2
Peak-Hour Fa	actor, PHF		0.83		0.83	0.83		0.88		0.88		0.88	C	0.68	0.68	0.	68	0.71	0.71	0.71
Pretimed (P)	or Actuated (A	4)	A		Α	Α		Α		Α		Α		Α	Α		4	A	A	A
Start-up Lost	Time, l1				2.0					2.0					2.0				2.0	
Extension of	Effective Gree	en, e			2.0					2.0					2.0				2.0	
Arrival Type,	AT				3					3					3	L			3	
Unit Extensio	Jnit Extension, UE iltering/Metering, I nitial Unmet Demand, Qb Ped / Bike / RTOR Volumes ane Width Parking / Grade / Parking		<u> </u>		3.0			<u> </u>		3.0					3.0			ļ	3.0	ļ
Filtering/Mete	retimed (P) or Actuated (A itart-up Lost Time, I itart-up Lost Time, I ixtension of Effective Gree rrival Type, AT Init Extension, UE illtering/Metering, I nitial Unmet Demand, Qb ed / Bike / RTOR Volumes ane Width Parking / Grade / Parking Parking Maneuvers, Nm suses Stopping, NB fin. Time for Pedestrians, O thasing EW Perm G = 36.0			_	1.000	<u> </u>		<u> </u>		1.000	2				1.000			ļ	1.000	ļ
Initial Unmet	ane Group Yolume, V (vph) 6 Heavy Vehicles, %HV 2 eak-Hour Factor, PHF Pretimed (P) or Actuated (A Attart-up Lost Time, I1 Extension of Effective Gree arrival Type, AT Init Extension, UE iltering/Metering, I initial Unmet Demand, Qb Yed / Bike / RTOR Volumes ane Width Parking Maneuvers, Nm Susses Stopping, NB Min. Time for Pedestrians, O Yhasing EW Perm G = 36.0 Y = 5 Ouration of Analysis, T = 0. ane Group Capacity, Conditional Conditiona Condition Conditional Conditiona Conditiona Condition			_	0.0				_	0.0			+		0.0				0.0	
Ped / Bike / F	iltering/Metering, I iital Unmet Demand, Qb ed / Bike / RTOR Volumes ane Width arking / Grade / Parking arking Maneuvers, Nm uses Stopping, NB fin. Time for Pedestrians, G		0	_	0	0		0	_	0		0	╇	0	0)	0	0	0
Lane Width	ane Width Parking / Grade / Parking			-	12.0			~	_	12.0	_	~	╋		12.0				13.0	
Parking / Gra	Parking / Grade / Parking			\rightarrow	0	N		N	_	0		N	╋	Ν	0	₽	V	N .	0	1
Parking Man	Parking Maneuvers, Nm			_	0				_				╋			┢				
Min Time for	Dodostriono	<u>C.</u>			22					22			_		22				22	
IVIIII. TIME IOI		Gp T	02		3.2	2	-		_	3.2					3.2		<u> </u>	07	3.2	0
Flasing		6 -	02		0. C -	5	╉	<u> </u>	+	G = 14					- 00		6 -	07	6-	0
Timing	Y = 5	Y =			Υ <u>-</u>		╋	Y =	_			= 5	.0				Y =		Y =	
Duration of A	nalvsis. T = 0.	25			· -						<u> </u>			Ċ	vcle Len	ath	. C =	60.0		
Lane Group	Capacity, Co	ntrol	Delay	/, al	nd LOS	S Dete	ern	ninati	ior	n					<u>, </u>		, -			
			-	Ē	ΞB				_	WB					NB				SB	
			LT	Т	Н	RT	\square	LT		TH	F	RT	Ľ	.Τ	TH	R	T	LT	TH	RT
Adjusted Flov	w Rate, v			82	29		L		7	708					68				213	
Lane Group (Capacity, c			10	96				1(084					351				341	
v/c Ratio, X				0.7	76		Γ		0.	.65	Γ				0.19				0.62	
Total Green I	Ratio, g/C			0.6	50		Γ		0.	.60					0.23				0.23	
Uniform Dela	y, d ₁			8.8	8				7	7.9					18.5				20.6	
Progression I	Factor, PF			1.0	000		Γ		1.	.000	Γ				1.000				1.000	İ
Delay Calibra	ation, k			0.3	31		Γ		0.	.23	Γ				0.11				0.21	
Incremental [Delay, d ₂			3.	.1		Γ		;	1.4					0.3				3.6	
Initial Queue	Delay, d ₃			0.0	0		Γ		0	0.0	Γ				0.0				0.0	
Control Delay	/			11	.9		Γ		Ş	9.3	Γ	Ĩ			18.7				24.2	
Lane Group I	LOS			В			Γ		「	A	Γ				В				С	1
Approach Delay 11.9				9	.3					18	.7				24.2	-				
Approach LO	Approach LOS B					ŀ	4				В						С			
Intersection [Delay		12	.6			Γ	$X_{_{C}} =$	0.7	72			Int	ersec	tion LOS				В	
P							<u> </u>													

	T۱	NO-WAY STOP	CONTR	OL SUM	MARY			
General Informatio	n		Site I	nformati	on			
Analyst	JAG		Interse	ection		CR 161 8	& Route 4	12
Agency/Co.	TMA		Jurisd	iction		Town of I	Fallsburg	
Date Performed	3/23/20)11	Analys	sis Year		Existing	Condition	
Analysis Time Period	Sunday	/ Peak Hour						
Project Description								
East/West Street: Heid	en Road CR	161	North/S	South Stree	et: NYS I	Route 42		
Intersection Orientation:	East-West		Study	Period (hrs): 0.25			
Vehicle Volumes a	nd Adjustn	nents						
Major Street		Eastbound				Westbou	ınd	
Movement	1	2	3		4	5		6
	L	Т	R		L	Т		R
Volume (veh/h)		450	16		252	422		
Peak-Hour Factor, PHF	1.00	0.95	0.95	<u> </u>	0.90	0.90		1.00
Hourly Flow Rate, HFR	0	473	16		280	468		0
Percent Heavy Vehicles	0				1			
Median Type				Undivide	, d	l	I	
RT Channelized			0					0
Lanes	0	1	0		1	1		0
Configuration			TR		L	Т		
Upstream Signal		0				0		
Minor Street		Northbound				Southbou	und	
Movement	7	8	9		10	11		12
	L	Т	R		L	Т		R
Volume (veh/h)	20	1	221					
Peak-Hour Factor, PHF	0.83	1.00	0.83	}	1.00	1.00		1.00
Hourly Flow Rate, HFR (veh/h)	24	0	266		0	0		0
Percent Heavy Vehicles	1	0	1		0	0		0
Percent Grade (%)		5				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0	ĺ		ĺ		0
Lanes	0	0	0		0	0		0
Configuration		LR						
Delay, Queue Length, a	and Level of	Service						
Approach	Eastbound	Westbound		Northboun	d	S	Southbou	nd
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR	1			
v (veh/h)		280	1	290	1		ĺ	
C (m) (veh/h)		1079	1	340	1	Ĩ	1	
v/c		0.26		0.85			Í –	
95% aueue lenath		1.04		7.76	1			
Control Delav (s/veh)		9.5	1	54.3	1		i	1
LOS	L	A		F	1			1
Approach Delay (s/veh)			1	54.3		1		
Approach LOS	en)							
r pprodon EOO		L	I					

	тw	O-WAY STOP	CONTR	OL SU	JMMARY				
General Information	n		Site Ir	nform	ation				
Analyst	JAG		Interse	ection		Route 42	and La Vis	sta	
Agency/Co.	TMA		Jurisdi	ction		Toen of F	allsburg		
Date Performed	3/27/201	1	Analys	is Year	•	Existing (Condition		
Analysis Time Period	Sunday F	Peak Hour							
Project Description									
East/West Street: NYS	Route 42		North/S	South S	treet: La V	ista Drive			
Intersection Orientation:	East-West		Study F	Period (hrs): 0.25				
Vehicle Volumes ai	nd Adjustme	ents							
Major Street		Eastbound				Westbou	nd		
Movement	1	2	3		4	5		6	
		T	R		L	T		R	
Volume (veh/h)	104	567	1.00		4.00	608		22	
Peak-Hour Factor, PHF	0.94	0.94	1.00	——	1.00	0.93		0.93	
(veh/h)	110	603	0		0	653		23	
Percent Heavy Vehicles	1				0				
Median Type				Undiv	ided				
RT Channelized			0					0	
Lanes	0	1	0		0	1		0	
Configuration	LT							TR	
Upstream Signal		0				0			
Minor Street		Northbound				Southbou	und		
Movement	7	8	9		10	11		12	
	L	Т	R		L	Т		R	
Volume (veh/h)					13			66	
Peak-Hour Factor, PHF	1.00	1.00	1.00		0.62	1.00		0.62	
Houriy Flow Rate, HFR (veh/h)	0	0	0		20	0		106	
Percent Heavy Vehicles	0	0	0		1	0		1	
Percent Grade (%)		0				-6			
Flared Approach		N				N			
Storage		0				0			
RT Channelized			0					0	
Lanes	0	0	0		0	0		0	
Configuration						LR			
Delay, Queue Length, a	and Level of Se	ervice	9			-			
Approach	Eastbound	Westbound	1	Vorthbo	ound	S	outhbound		
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	LT						LR		
v (veh/h)	110						126	<u> </u>	
C (m) (veh/h)	920						412		
v/c	0.12						0.31		
95% queue length	0.41						1.28		
Control Delay (s/veh)	9.4						17.5		
LOS	А	Î					С	ĺ	
Approach Delay (s/veh)				•			17.5		
Approach LOS						Î	С		

	TW	O-WAY STOP	CONTR	OL SUN	IMA RY			
General Informatio	n		Site I	nformat	tion			
Analyst	JAG		Interse	ection		CR 161 a	nd Thomp	son
Agency/Co.	TMA		Jurisd	iction		Town of	Thompson	
Date Performed	3/27/201	1	Analys	sis Year		No Build	Condition	
Analysis Time Period	Friday Pe	eak Hour						
Project Description								
East/West Street: Thon	npson and Rive	r Road	North/S	South Stre	eet: CR 16	1 Heiden Ro	ad	
Intersection Orientation:	North-South		Study	Period (hi	rs): 0.25			
Vehicle Volumes ar	nd Adjustme	ents						
Major Street		Northbound				Southbou	und	
Movement	1	2	3		4	5		6
	L	T	R		L	Т		R
Volume (veh/h)	16	500	2		0	195		46
Peak-Hour Factor, PHF	0.90	0.90	0.90	, 	0.94	0.94		0.94
(veh/h)	17	555	2		0	207		48
Percent Heavy Vehicles	1				0			
Median Type				Undivid	ed			
RT Channelized			0					0
Lanes	0	1	0		0	1		0
Configuration	LTR				LTR			
Upstream Signal		0				0		
Minor Street		Eastbound				Westbou	nd	
Movement	7	8	9		10	11		12
	L	T	R		L	T		R
Volume (veh/h)	35	0	3	-	1	0		0
Peak-Hour Factor, PHF	0.57	0.57	0.57	<u> </u>	0.25	0.25		0.25
(veh/h)	61	0	5		4	0		0
Percent Heavy Vehicles	1	0	1		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	1	0		0	1		0
Configuration		LTR				LTR		
Delay, Queue Length, a	and Level of Se	rvice				_		
Approach	Northbound	Southbound		Westbour	nd		Eastbound	
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR		LTR			LTR	
v (veh/h)	17	0		4			66	
C (m) (veh/h)	1316	1024		288			306	
v/c	0.01	0.00		0.01			0.22	
95% queue length	0.04	0.00		0.04			0.80	
Control Delay (s/veh)	7.8	8.5		17.7			20.0	
LOS	A	A		С			С	1
Approach Delay (s/veh)				17.7			20.0	
Approach LOS				С			С	

	ТМ	O-WAY STOP	CONTR	OL SU	IMMARY				
General Informatio	n		Site I	nform	ation				
Analyst	JAG		Interse	ection		CR 109 a	nd CR 161		
Agency/Co.	TMA		Jurisdi	ction		Town of I	Fallsburg		
Date Performed	3/27/201	1	Analys	sis Year		No Build	Condition		
Analysis Time Period	Friday Pe	eak Hour							
Project Description									
East/West Street: CR 1	109 Kiamesha L	ake Road	North/S	South S	treet: <i>Heide</i>	n Road CR :	161		
Intersection Orientation:	North-South		Study I	Period (hrs): <i>0.25</i>				
Vehicle Volumes a	nd Adjustme	ents							
Major Street		Northbound				Southbou	Ind		
Movement	1	2	3		4	5		6	
	L L	Т	R		L	Т		R	
Volume (veh/h)	41	469				208		38	
Peak-Hour Factor, PHF	0.87	0.87	1.00	<u> </u>	1.00	0.89	().89	
(veh/h)	47	539	0		0	233		42	
Percent Heavy Vehicles	1				0				
Median Type				Undiv	ided	_			
RT Channelized			0					0	
Lanes	0	1	0		0	1		0	
Configuration	LT							TR	
Upstream Signal		0				0			
Minor Street		Eastbound				Westbou	nd		
Movement	7	8	9		10	11		12	
	L	T	R		L	Т		R	
Volume (veh/h)	34		60					4.00	
Peak-Hour Factor, PHF	0.84	1.00	0.84		1.00	1.00		1.00	
(veh/h)	40	0	71		0	0		0	
Percent Heavy Vehicles	1	0	1		0	0		0	
Percent Grade (%)		0				0			
Flared Approach		N				N			
Storage		0				0			
RT Channelized			0					0	
Lanes	0	0	0		0	0		0	
Configuration		LR							
Delay, Queue Length, a	and Level of Se	ervice							
Approach	Northbound	Southbound	· · ·	Westbo	und	I	Eastbound		
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	LT						LR		
v (veh/h)	47	ĺ				ĺ	111		
C (m) (veh/h)	1294	ĺ		İ da kara kara kara kara kara kara kara k			501		
v/c	0.04		ĺ	i i i i i i i i i i i i i i i i i i i			0.22	1	
95% queue length	0.11		1				0.84	1	
Control Delay (s/veh)	7.9	1	İ			1	14.2	i i	
LOS	A	A				1	В	i – – –	
Approach Delav (s/veh)		i	Л		14.2				
Approach LOS			i			В			

					Н	CS+™	DE.	ΤΑΙ	LED F	REPO	DRT	Г						
General Info	ormation								Site I	nforn	natio	on						
Analyst	JAG								Inters	ectior	۱	Rt 42	2, Fraser,	and	l CR	109		
Agency or Co	o. <i>TMA</i>								Area	Туре		All of	ther areas					
Date Perform	ned 3/27/2011								Jurisc	liction		Towi	n of Thom	pso	n			
Time Period	Friday Pea	k Ho	ur						Analy	sis Ye	ear	No B	uild Cond	itiol	n			
									Proje	ct ID								
Volume and	l Timing Input		-													ı		
					EB	I			WB				NB				SB	
				_	TH	RT		LT			<u>T</u>		TH		RT .		TH	RT
Number of La	anes, N1		0		1	0	_	0	1)	0	1	10)	0	1	0
Lane Group			00					10	LIR		10	05		┢	20	70	LIR	
	hiclos VUV		20		243	20	_	19	243	4	9	25	29		50	73	43	22
Poak Hour E			2		2	0.95		2	0.96		26	2	2		55	2	2	0.95
Pretimed (P)	or Actuated (A		0.85		Δ	0.05	0.	<u>δ0</u>	0.00	0.0	0	0.55	0.00	0.0	1	0.85	0.85	Δ
Start-up Lost		y		\dashv	20		ť	<u> </u>	20	+			20	ť	1		20	<u> </u>
Extension of	Effective Gree	n e		-	2.0				2.0				2.0	┼─			2.0	╂────
Arrival Type.	AT	iii, 0		\neg	3	<u> </u>			3				3	┼─			3	┼───
Unit Extensio	on. UE			3.0					3.0				3.0	┢─			3.0	┼───
Filtering/Met	ering, I				1.000				1.00	2			1.000	┢			1.000	<u> </u>
Initial Unmet	Demand, Qb			0.0				0.0				0.0				0.0	1	
Ped / Bike / F	RTOR Volume	S	0		0	0		0	0	0)	0	0	10)	0	0	0
Lane Width			Í		12.0	1			12.0			Í	12.0	Î		Í	13.0	1
Parking / Gra	Parking / Grade / Parking				0	N		N	0	Λ	Ι	N	0	1	V	N	0	N
Parking Man	Parking Maneuvers, Nm			Ĩ		1								T				1
Buses Stopp	Buses Stopping, NB			Ī	0	Í			0				0	1			0	1
Min. Time for	r Pedestrians,	Gp			3.2				3.2				3.2				3.2	<u></u>
Phasing	EW Perm		02		0	3		04	ļ	NS	Peri	m	06			07	0	8
Timing	G = 36.0	G =			G =		G	=		G =	14.	0 (G =		G =		G =	
Timing	Y = 5	Y =			Y =		Y	=		Y =	5	`	Y =		Y =		Y =	
Duration of A	Analysis, T = <i>0.</i>	25										(Cycle Len	gth,	, C =	60.0		
Lane Group	Capacity, Co	ntrol	Delay	y, al	nd LO	S Dete	ermin	natio	on							1		
			<u>. T</u>		<u>-B</u>	рт		·		БТ	+	1 T		D				Бт
Adjusted Flor	W Poto V				22	NI		\dashv	740		+		450		. I		100	
Aujusteu Fio				1	13			_	710	ļ			153			ļ	763	
Lane Group	Capacity, c			10	63				1076				362				342	
v/c Ratio, X				0.6	6			(0.66				0.42				0.48	
Total Green	Ratio, g/C			0.6	0			(0.60				0.23				0.23	
Uniform Dela	ay, d ₁			8.0	2				7.9				19.6				19.8	
Progression	Factor, PF			1.0	000				1.000				1.000				1.000	
Delay Calibra	ation, k	Т		0.2	4			6	0.23		Î		0.11				0.11	
Incremental	Delay, d ₂			1.	.5			Í	1.5				0.8				1.0	
Initial Queue	Delay, d ₃			0.0	2				0.0				0.0				0.0	
Control Dela	у			9.	.5				9.5				20.4				20.9	
Lane Group	LOS	╈		A					A				С				С	
Approach De	Approach Delay 9.5				9.3	5			2	0.4	<u> </u>		20.9					
Approach LC	Approach LOS A				A			╈		С			C					
Intersection I	Delay		11	.5			X	_ = (0.61			Interse	ction LOS	;			В	
ļ	-		$\Lambda_c = 0.07$ Intersection LOS B							_								

	тw	O-WAY STOP	CONTR	OL SI	JMN	IARY				
General Information Site Information										
Analyst	JAG		Interse	ection			CR 161 8	Rou	ite 42	
Agency/Co.	TMA		Jurisdi	ction			Town of I	Fallsb	burg	
Date Performed	3/23/201	1	Analys	is Yea	r		No Build	Cona	lition	
Analysis Time Period	Friday Pe	eak Hour								
Project Description										
East/West Street: Heid	en Road CR 16	51	North/S	South S	Stree	t: NYS R	oute 42			
Intersection Orientation:	East-West		Study I	Period	(hrs)	: 0.25				
Vehicle Volumes a	nd Adjustme	ents								
Major Street		Eastbound					Westbou	nd		
Movement	1	2	3			4	5		<u> </u>	6
	L	T	R (10)			L	T			R
Volume (ven/n)	1.00	597	19			252	546		<u> </u>	1.00
Hourly Flow Pate HER	1.00	0.95	0.95			0.91	0.91		<u> </u>	1.00
(veh/h)	0	628	20			276	599			0
Percent Heavy Vehicles	0					1				
Median Type				Undiv	/idea	1				
RT Channelized			0	0						0
Lanes	0	1	0			1	1			0
Configuration			TR			L	Т			
Upstream Signal		0					0			
Minor Street		Northbound					Southbou	und		
Movement	7	8	9			10	11 12			12
	L L	Т	R			L	Т			R
Volume (veh/h)	48		452						<u> </u>	
Peak-Hour Factor, PHF	0.83	1.00	0.83			1.00	1.00			1.00
rouny flow Rate, HFR	57	0	544		0		0			0
Percent Heavy Vehicles	1	0	1		0		0	0		0
Percent Grade (%)		5					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration		LR								
Delay, Queue Length, a	and Level of Se	ervice	1				-			
Approach	Eastbound	Westbound	1	Vorthbo	ound		S	outh	bound	
Movement	1	4	7	8		9	10	1	11	12
Lane Configuration		L		LR						
v (veh/h)		276	ļ	601	·					ļ
C (m) (veh/h)		943	ļ	222)		ļ			ļ
v/c		2.71	1							
95% queue length	% queue length 1.22			51.7	3					
Control Delay (s/veh)		10.4		814.	4					
LOS		В		F						
Approach Delay (s/veh)				814.	4					
Approach LOS		F				ĺ				

General Information Site Information Analyst UAG Intersection Route 42 and La Vista Agency/Co. ITMA Jurisdiction Toen of Fallsburg Date Performed 3272011 Analysis Time No Build Condition Analysis Time Period Fiday Peak Hour No Build Condition Analysis Time Project Description East-West Study Period (trs): 0.25 Vehicle Volumes and Adjustments Wager Street Westbound Moresthull Mayer Street Eastbound Westbound North/South Street: La Vista Drive Vehicle Volumes and Adjustments Uager Street North/South Street: La Vista Drive Valuer Street 1 2 3 4 5 6 Valuer Street 0.90 0.90 1.00 1.03 0.93 0.93 Verich North Street: 1 - - 0 - - Verich North Street: 100 1.00 0.93 0.93 0.93 0.93 Verich Northourd		тм	O-WAY STOP	CONTR	OL SU	JMMARY						
Analyst IAG Intersection Route 42 and La Vista Agercy/Co. TMA Jurisdiction Toen of Fallsburg Analysis Time Period Fridary Peak Hour Toen of Fallsburg Project Description Analysis Year No Build Condition East/West Street: North/South Street: La Visita Drive Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Westbound Westbound Voorement 1 2 3 4 5 6 Voidume (veh/h) 135 914 7.18 155 7 Folk Aust Factor, PHF 0.90 1.00 1.00 0.93 0.93 Outry (biok Rate, HFR 150 1015 0 772 166 Parcent Heavy Vehicles 1 - - 0 - RT Channelized 0 1 0 1 1 Outry Flow Rate, HFR 150 10.0 1.00 1.00 1 1 <	General Informatio	n		Site I	nform	ation						
Agency/Co. TMA Unriscition Toer of Fallsburg Date Performed 327/2011 Analysis Time Period Fiday Peak Hour Project Description East/West Street No Build Condition Sativest Street North/South Street: La Vista Drive Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Magio Street Eastbound Westbound More Street Eastbound North/South Street: L T Alume (veh/h) 1.35 914 T R Jolume (veh/h) 1.35 914 718 155 Percent Heavy Vehicles 1 - - 0 - - Veh/h) 150 1015 0 0 772 166 Percent Heavy Vehicles 1 - - 0 - - Jpstream Signal 0 1 0 0 1 0 - Jouris Flow Rate, HFR 0.00 0 16	Analyst	JAG		Interse	ection		Route 42	and La Vis	sta			
Date Performed 327/2011 Analysis Year No Build Condition Project Description East/West Street: North/South Street: La Vista Drive Troresection Orientation: East/West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Westbound Westbound Movement 1 2 3 4 5 6 Volume (wh/h) 1355 914 T R Vestbound Movement 166 Volume (wh/h) 135 914 T R 166 93 0.93	Agency/Co.	TMA		Jurisdi	ction		Toen of F	allsburg				
Analysis Time Period [Friday Peak Hour	Date Performed	3/27/201	1	Analys	is Year	•	No Build	Condition				
Project Description East/West Street: //S Route 42 North/South Street: La Vista Drive Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street La Vista Drive Movement 1 2 3 4 5 6 Westbound Westbound Wovement 1 2 3 4 5 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Analysis Time Period	Friday Pe	eak Hour									
East/West Street: North/South Street: La Viste Drive Intersection Orientation: East/West Study Period (hrs): 0.25 Weyernet 1 2 3 4 5 6 Movement 1 2 3 4 5 6 Volume (velvh) 135 914 718 1555 - Vesk-Hour Factor, PHF 0.90 0.90 1.00 0.93 <td>Project Description</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Project Description											
Intersection Orientation: East-West Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Bayes Westbound Westbound Movement 1 2 3 4 5 6 Volume (veh/h) 135 914 718 155 Peak-Hour Factor, PHF 0.90 0.90 1.00 0.93 0.93 Veh/h) 135 914 718 155 Peak-Hour Factor, PHF 0.90 0.90 1.00 0 772 166 Veh/h) 161 0 0 0 Percent Heavy Vehicles 1 0 1 0 Annelized 0 1 0 1 0 Upsteam Signal 0 1 0 1 0	East/West Street: NYS	Route 42		North/S	South S	treet: La V	ista Drive					
Vehicle Volumes and Adjustments Eastbound Westbound Movement 1 2 3 4 5 6 Volume (veh/n) 135 914 T R L T R Peak-Hour Factor, PHF 0.90 0.90 1.00 1.00 0.93 0.93 Houry Flow Rate, HFR 150 1015 0 0 772 166 Peak-Hour Factor, PHF 150 1015 0 0 772 166 Percent Heavy Vehicles 1 0 Veldian Type - Undivided T 0 0 Veldian Type - - 0 1 0 0 Using Street 0 1 0 0 1 0 0	Intersection Orientation:	East-West		Study I	Period ((hrs): 0.25						
Major Street Eastbound Westbound Movement 1 2 3 4 5 6 Volume (veh/h) 135 914 T R L T R Peak-Hour Factor, PHF 0.90 0.90 1.00 1.00 0.93 0.93 Hourly Flow Rate, HFR 150 1015 0 0 772 166 Percent Heavy Vehicles 1 0 Agreent Heavy Vehicles 1 0 1 0 Sarteet 0 1 0 0 1 0 Sarteet 0 1 0 0 1 1 0 Winor Street Northbound Southbound Southbound Northbound 0 0 11 12 Verment 7 8 9 10 11 12 10 10 0 60 119 90 0	Vehicle Volumes a	nd Adjustme	ents									
Movement 1 2 3 4 5 6 Volume (veh/h) 1.35 914 T R L T R Volume (veh/h) 1.35 914 718 1.55 Peak-Hour Factor, PHF 0.90 0.90 1.00 1.00 0.93 0.93 Veh/h) 135 914 0 0 772 166 Veh/h) 160 0 772 166 0 Veh/h) 10 - - 0 Velcian Type Undivided 0 1 0 0 1 0 Stream Signal 0 1 0 0 1 0 0 11 12 Volume (veh/h) L T R L T R 80 20 10 11 12 22 Veh/h) L T R L T R 80 26	Major Street		Eastbound	_			Westbou	nd				
L T R L T R Volume (veh/h) 135 914 718 155 Peak-Hour Factor, PHF 0.90 0.90 1.00 1.00 0.93 0.93 Hourly Flow Rate, HFR 150 1015 0 0 772 166 Percent Heavy Vehicles 1 0 Median Type Undivided 1 0 0 1 0 anes 0 1 0 0 1 0 Jpstream Signal 0 0 0 11 12 Verset Northbound Southbound Southbound Southbound Verset Northbound 1.00 1.10 11 12 veh/h) 1 17 R L T R Outrestreet Northbound Southbound 11 12 80 Outrestreet Northbound Southbound 19	Movement	1	2	3		4	5		6			
Volume (veh/h) 135 914 718 155 Peak-Hour Factor, PHF 0.90 0.90 1.00 0.93 0.93 Hourly Flow Rate, HFR 150 1015 0 0 772 166 Percent Heavy Vehicles 1 0 Median Type Undivided 0 0 1 0 0 anes 0 1 0 0 1 0 Configuration LT 0 1 0 Winor Street Northbound Southbound Movement 7 8 9 10 11 12 Veh/h) 1.00 1.00 0.667 1.00 0.67 Veh/h 1.8 80 80 80 80 80 11 12 11 12 11 12 11 12 11 12 11 12 14 14 14		L	Т	R		L	T		R			
Peak-Hour Factor, PHF 0.90 0.90 1.00 1.00 0.93 0.93 Veh/h) 150 1015 0 0 772 166 Veh/h) 1 0 Veh/h) 1 0 0 Wedian Type Undivided 0 0 1 0 0 Configuration LT 0 0 1 0 0 Jpstream Signal 0 1 0 0 11 12 Volume (veh/h) L T R L T R Volume (veh/h) 1 1 12 80 80 80 Peak-Hour Factor, PHF 1.00 1.00 1.00 0.667 1.00 0.67 Veh/h) 0 0 0 266 0 119 9 Percent Heavy Vehicles 0 0 0 1 0 1 </td <td>Volume (veh/h)</td> <td>135</td> <td>914</td> <td></td> <td></td> <td>(0.0</td> <td>718</td> <td></td> <td>155</td>	Volume (veh/h)	135	914			(0.0	718		155			
Houry Plow Rate, HFR 150 1015 0 0 772 166 Percent Heavy Vehicles 1 0 Median Type Undivided 0 RT Channelized 0 1 0 0 1 0 Lanes 0 1 0 0 1 0 Jpstream Signal 0 0 0 1 0 Winor Street Northbound Southbound Movement 7 8 9 10 11 12 Clume (veh/h) - 18 80 - 80 - 80 - - - 19 - <td< td=""><td>Peak-Hour Factor, PHF</td><td>0.90</td><td>0.90</td><td>1.00</td><td></td><td>1.00</td><td>0.93</td><td></td><td>0.93</td></td<>	Peak-Hour Factor, PHF	0.90	0.90	1.00		1.00	0.93		0.93			
Percent Heavy Vehicles 1 0 Median Type Undivided 0 <td>(veh/h)</td> <td>150</td> <td>1015</td> <td>0</td> <td></td> <td>0</td> <td>772</td> <td></td> <td>166</td>	(veh/h)	150	1015	0		0	772		166			
Median Type Undivided RT Channelized 0 0 0 Lanes 0 1 0 0 Configuration LT TR TR Upstream Signal 0 0 1 0 Winor Street Northbound Southbound TR Volume (veh/h) L T R L T R Volume (veh/h) 18 80 10 10 12 12 1	Percent Heavy Vehicles	1				0						
RT Channelized 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 11 12 12 12 13 14 14 12 12 12 13 14 14 14 14 14 14 14 14 14 14 16 10 11 12 13 14 14 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 16 <td>Median Type</td> <td></td> <td></td> <td></td> <td>Undiv</td> <td>ided</td> <td></td> <td></td> <td></td>	Median Type				Undiv	ided						
Lanes 0 1 0 0 1 0 Configuration LT TR Upstream Signal 0 0 TR Upstream Signal 0 0 0 TR Winor Street Northbound Southbound Northbound Southbound Movement 7 8 9 10 11 12 L T R L T R 0 <td>RT Channelized</td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td colspan="3">0</td>	RT Channelized			0				0				
ConfigurationLT0TRUpstream Signal0000Winor StreetNorthboundSouthboundMovement7891011LTRLTRVolume (veh/h)1880Peak-Hour Factor, PHF1.001.000.671.000.67Houry Flow Rate, HFR000260119Percent Heavy Vehicles000101Percent Grade (%)00-6-61Storage0000000Storage0000000Configuration14789101112Lane ConfigurationLT14789101112Lane ConfigurationLT11121451112Lane ConfigurationLT14789101112Lane ConfigurationLT11145 <td>Lanes</td> <td>0</td> <td>1</td> <td>0</td> <td></td> <td>0</td> <td>1</td> <td></td> <td>0</td>	Lanes	0	1	0		0	1		0			
Upstream Signal 0 0 Winor Street Northbound Southbound Movement 7 8 9 10 11 12 L T R L T R 80 Volume (veh/h) 1 10 11 12 R Volume (veh/h) 1 18 80 Peak-Hour Factor, PHF 1.00 1.00 0.667 1.00 0.677 Houry Flow Rate, HFR 0 0 0 26 0 119 Percent Grade (%) 0 0 1 0 1 Percent Grade (%) 0 0 1 0 1 Storage 0 0 0 0 0 0 Storage 0 0 0 0 0 0 0 Storage 0 0 0 0 0 0 0 0 1 1 1 1 1 1 <td>Configuration</td> <td>LT</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>TR</td>	Configuration	LT							TR			
Minor StreetNorthboundSouthboundMovement789101112Volume (veh/h)LTRLTRVolume (veh/h)1.001.001.000.671.000.67Peak-Hour Factor, PHF1.001.001.000.6671.000.67Hourly Flow Rate, HFR veh/h)000260119Percent Grade (%)00101Percent Grade (%)00-6-6Tared ApproachNN000Storage000000Channelized000000Configuration00000Channelized000000ApproachEastboundWestboundNorthboundSouthboundMovement147891011ane ConfigurationLTILRI/2145C (m) (veh/h)150II/45145145C (m) (veh/h)735II39.339.3IOSBIII39.3100Approach LOSTII19.3100Approach LOSTII19.3100Approach LOSTII14.5100Approa	Upstream Signal		0				0					
Movement 7 8 9 10 11 12 L T R L T R 0 7 8 8 9 10 11 12 Volume (veh/h) L T R L T R 80 Peak-Hour Factor, PHF 1.00 1.00 1.00 0.67 1.00 0.67 Hourly Flow Rate, HFR veh/h) 0 0 0 26 0 119 Percent Grade (%) 0 0 1 0 1 1 Percent Grade (%) 0 - - - - - Storage 0 0 0 0 0 0 0 anes 0 0 0 0 0 0 0 0 Approach Eastbound Westbound Northbound Southbound Northbound Northbound 11 12 - ane Configuration LR 1 </td <td>Minor Street</td> <td></td> <td>Northbound</td> <td></td> <td></td> <td></td> <td>Southbou</td> <td>und</td> <td></td>	Minor Street		Northbound				Southbou	und				
L T R L T R Volume (veh/h) 18 80 Peak-Hour Factor, PHF 1.00 1.00 1.00 0.67 Hourly Flow Rate, HFR 0 0 0 26 0 119 Percent Heavy Vehicles 0 0 0 1 0 1 Percent Grade (%) 0 0 1 0 1 Percent Grade (%) 0 6 7 Parcent Grade (%) 0 6 7 Thanelized 0 0 6 Approach N N 6 Storage 0 0 0 7 Approach 0 0 0 0 Lenes 0 0 0 0 0 Configuration L 4 7 8 9 10 11 12 Lane Configuration LT Image: Configuration LR Image: Configura	Movement	7	8	9		10	11		12			
Volume (veh/h) 18 80 Peak-Hour Factor, PHF 1.00 1.00 0.67 1.00 0.67 Hourly Flow Rate, HFR 0 0 0 26 0 119 Percent Heavy Vehicles 0 0 0 1 0 1 Percent Grade (%) 0 0 1 0 1 1 Percent Grade (%) 0 0 1 0 1 1 Percent Grade (%) 0 -6 - - - - Percent Grade (%) 0 - - 0 1 1 - Percent Grade (%) 0 0 0 0 0 0 - - - - - 0 - - 0 - - - 0 - - - 0 - - - - - - - 0 - - - - - - <td></td> <td>L</td> <td>Т</td> <td colspan="2">R</td> <td>L</td> <td>Т</td> <td></td> <td>R</td>		L	Т	R		L	Т		R			
Peak-Hour Factor, PHF 1.00 1.00 1.00 0.67 1.00 0.67 Hourly Flow Rate, HFR (veh/h) 0 0 0 26 0 119 Percent Heavy Vehicles 0 0 0 1 0 1 Percent Grade (%) 0 0 1 0 1 Percent Grade (%) 0 -6 - - - Percent Grade (%) 0 0 0 1 0 1 Storage 0 0 0 0 0 - - - - - - - - 0 - - - 0 -	Volume (veh/h)					18			80			
Houry Flow Rate, HFR 0 0 0 26 0 119 Percent Heavy Vehicles 0 0 0 1 0 1 Percent Heavy Vehicles 0 0 0 1 0 1 Percent Grade (%) 0 -6 -6 -7	Peak-Hour Factor, PHF	1.00	1.00	1.00		0.67	1.00		0.67			
Percent Heavy Vehicles00101Percent Grade (%)00-6Flared ApproachNNStorage000RT Channelized000Lanes000Configuration000Delay, Queue Length, and Level of ServiceLRPercent figuration1478Movement1478911501451452 (m) (veh/h)73511452 (m) (veh/h)776139.3JossB159.3Approach Delay (s/veh)11.1139.3JossB159.3Approach Delay (s/veh)39.3	Hourly Flow Rate, HFR (veh/h)	0	0	0		26	0		119			
Percent Grade (%)0-6Flared ApproachNNStorage00RT Channelized00_anes00O00ConfigurationImage: Storage of the st	Percent Heavy Vehicles	0	0	0		1	0		1			
Flared ApproachNNNStorage0000RT Channelized0000anes00000ConfigurationImage: state	Percent Grade (%)		0				-6					
Storage 0 0 0 RT Channelized 0	Flared Approach		N				N					
RT Channelized 0 0 0 0 0 0 Lanes 0 0 0 0 0 0 0 0 Configuration LR LR LR LR Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Northbound Southbound Movement 1 4 7 8 9 10 11 12 _ane Configuration LT LR LR / (veh/h) 150 145 145 <td< td=""><td>Storage</td><td></td><td>0</td><td></td><td>Î</td><td></td><td>0</td><td></td><td></td></td<>	Storage		0		Î		0					
Lanes 0 <th0< th=""> 0 <th0< th=""> <th0< th=""></th0<></th0<></th0<>	RT Channelized			0			ĺ		0			
ConfigurationLRDelay, Queue Length, and Level of ServiceApproachEastboundWestboundNorthboundMovement14789101112_ane ConfigurationLTLRLR/ (veh/h)150145C (m) (veh/h)735244//c0.200.5935% queue length0.763.44Control Delay (s/veh)11.139.3	Lanes	0	0	0		0	0		0			
Delay, Queue Length, and Level of Service Approach Eastbound Westbound Northbound Southbound Movement 1 4 7 8 9 10 11 12 _ane Configuration LT	Configuration			1			LR					
Approach Eastbound Westbound Northbound Southbound Movement 1 4 7 8 9 10 11 12 _ane Configuration LT	Delay, Queue Length, a	and Level of Se	ervice									
Movement 1 4 7 8 9 10 11 12 _ane Configuration LT LR LR LR LR	Approach	Eastbound	Westbound	1	Vorthbo	ound	S	outhbound				
Lane Configuration LT LR v (veh/h) 150 145 C (m) (veh/h) 735 244 //c 0.20 0.59 95% queue length 0.76 3.44 Control Delay (s/veh) 11.1 39.3 -OS B E Approach Delay (s/veh) Approach LOS	Movement	1	4	7	8	9	10	11	12			
v (veh/h) 150 145 C (m) (veh/h) 735 244 /c 0.20 0.59 95% queue length 0.76 3.44 Control Delay (s/veh) 11.1 39.3 -OS B E Approach Delay (s/veh) Approach LOS	Lane Configuration	LT						LR				
C (m) (veh/h) 735 244 //c 0.20 0.59 95% queue length 0.76 3.44 Control Delay (s/veh) 11.1 39.3 -OS B E Approach Delay (s/veh) Approach LOS	v (veh/h)	150						145				
v/c 0.20 0.59 95% queue length 0.76 3.44 Control Delay (s/veh) 11.1 39.3 -OS B E Approach Delay (s/veh) Approach LOS	C (m) (veh/h)	735						244				
95% queue length 0.76 3.44 Control Delay (s/veh) 11.1 39.3 _OS B E Approach Delay (s/veh) Approach LOS Approach LOS	v/c	0.20						0.59	1			
Control Delay (s/veh) 11.1 39.3 _OS B E Approach Delay (s/veh) Approach LOS	95% queue lenath	0.76						3.44	1			
OS B E Approach Delay (s/veh) Approach LOS	Control Delav (s/veh)	11.1	 					39.3	i			
Approach Delay (s/veh) 39.3	LOS	B						F	<u> </u>			
Approach LOS F	Approach Delay (s/veh)				L			39.3	1			
	Approach LOS							59.5 F				

	TW	O-WAY STOP	CONTR	OL SUM	MARY							
Seneral Information Site Information Analyst JAG Intersection CR 161 and Thompson												
Analyst	JAG		Interse	ection		CR 161 a	nd Thom	oson				
Agency/Co.	TMA		Jurisd	iction		Town of 1	Thompson)				
Date Performed	3/27/201	1	Analys	sis Year		No Build	Condition					
Analysis Time Period	Sunday F	Peak Hour										
Project Description												
East/West Street: Thon	npson and Rive	r Road	North/S	South Stree	et: CR 161	l Heiden Ro	ad					
Intersection Orientation:	North-South		Study	Period (hrs): 0.25							
Vehicle Volumes ar	nd Adjustme	nts										
Major Street		Northbound	_			Southbou	und					
Movement	1	2	3		4	5		6				
		T	R			T		R				
Volume (ven/n)	1	220	0.73	<u> </u>	1	349		28				
Hourly Flow Rate HFR	0.72	0.72	0.72		0.00	0.00		0.00				
(veh/h)	1	313	0		1	405		32				
Percent Heavy Vehicles	1				0							
Median Type				Undivide	d							
RT Channelized			0					0				
Lanes	0	1	0		0	1		0				
Configuration	LTR				LTR							
Upstream Signal		0				0						
Minor Street		Eastbound	1		10	Westbou	nd	10				
Movement	/	8	9		10			12				
) (aluma (uah/h)	L		R R		L			R				
Volume (ven/n) Roak Hour Factor, PHF	29	1	2	, 	0.50	0.50		2				
Hourly Flow Rate HFR	0.00	0.00	0.00	<u> </u>	0.00	0.00		0.00				
(veh/h)	42	1	2		0	0		4				
Percent Heavy Vehicles	1	1	1		0	0		0				
Percent Grade (%)		0				0						
Flared Approach		N				N						
Storage		0				0						
RT Channelized		_	0					0				
Lanes	0	1	0		0	1		0				
Configuration		LTR				LTR						
Delay, Queue Length, a	and Level of Se	rvice										
Approach	Northbound	Southbound		Westbound	<u>t</u>		Eastbound	<u> </u>				
Movement	1	4	7	8	9	10	11	12				
Lane Configuration	LTR	LTR		LTR			LTR					
v (veh/h)	1	1		4			45					
C (m) (veh/h)	1128	1259		732			340					
v/c	0.00	0.00		0.01			0.13					
95% queue length	0.00	0.00	L	0.02		ļ	0.45					
Control Delay (s/veh)	8.2	7.9		9.9			17.2					
LOS	A	A		A		ļ	С					
Approach Delay (s/veh)			9.9			ļ	17.2					
Approach LOS				Α		С						

	TW	O-WAY STOP	CONTR	OL SI	JMMA	RY				
General Informatio	n		Site I	nform	ation					
Analyst	JAG		Interse	ection			CR 109 a	nd CR 16	1	
Agency/Co.	TMA		Jurisdi	ction			Town of H	allsburg		
Date Performed	3/27/201	1	Analys	sis Yea	r		No Build	Condition		
Analysis Time Period	Sunday F	Peak Hour								
Project Description										
East/West Street: CR 1	109 Kiamesha L	ake Road	North/S	South S	Street: I	Heiden	Road CR 1	61		
Intersection Orientation:	North-South		Study I	Period	(hrs): <i>C</i>	.25				
Vehicle Volumes a	nd Adjustme	ents								
Major Street		Northbound					Southbou	Ind		
Movement	1	2	3		4		5		6	
	L L	Т	R		L		Т		R	
Volume (veh/h)	87	288					266		51	
Peak-Hour Factor, PHF	0.81	0.81	1.00	<u> </u>	1.0	0	0.80		0.80	
Hourly Flow Rate, HFR (veh/h)	107	355	0		0		332		63	
Percent Heavy Vehicles	1				0					
Median Type				Undivided						
RT Channelized			0						0	
Lanes	0	1	0		0		1		0	
Configuration	LT								TR	
Upstream Signal		0					0			
Minor Street		Eastbound					Westbou	nd		
Movement	7	8	9		10)	11		12	
	L L	Т	R		L		Т		R	
Volume (veh/h)	32		75						4.00	
Peak-Hour Factor, PHF	0.89	1.00	0.89	<u> </u>	1.0	0	1.00		1.00	
(veh/h)	35	0	84		0		0		0	
Percent Heavy Vehicles	1	0	1		0		0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0						0	
Lanes	0	0	0		0		0		0	
Configuration		LR		Ĩ						
Delay, Queue Length, a	and Level of Se	ervice								
Approach	Northbound	Southbound	, I	Westbo	ound		E	Eastbound		
Movement	1	4	7	8		9	10	11	12	
Lane Configuration	LT							LR		
v (veh/h)	107							119	ĺ	
C (m) (veh/h)	1169	[İ	ĺ				471		
v/c							1			
95% queue length	0.30	i	1					0.99		
Control Delay (s/veh)	8.4	ĺ	i	Í				15.2		
LOS	A	ĺ	ĺ	ĺ				С		
Approach Delay (s/veh)			ĺ		•		15.2			
Approach LOS		1				С				

					HC	S+™ [DETA	IL	ED R	RE	POR	Т								
General Info	rmation								Site Ir	nfo	ormati	on								
Analyst	lyst JAG ncy or Co. TMA										tion	F	Rt 42	2, Fr	aser, a	and	CR1	09		
Agency or Co	o. TMA								Area T	У	be	A	ll ot	ther	areas					
Date Perform	ed 3/27/2011								Jurisd	ict	ion	Т	owr	n of	Thom	oso	n			
Time Period	Sundav Pe	ak H	our						Analvs	sis	Year	٨	lo B	uild	Condi	itiol	n			
									Projec	t I	D									
Volume and	Timina Input																			
relatio and	ining input		1	FF	3				WB			Т			NB				SB	
			h TT		, I I	RT			Гтн		RT	╈	IТ	Т	TH	F	т		Тн	RT
Number of La	anes, N1		0	1		0	0		1		0	╈	0		1)	0	1	0
Lane Group	,			LTR	2	-			LTR			┢	-	L	TR	F			LTR	
Volume, V (v	ph)		14	74	9	29	15		668		47	╧	24		11	2	1	92	27	44
% Heavy Veh	nicles, %HV		2	2		2	2		2		2		2		2	2		2	2	2
Peak-Hour Fa	actor, PHF		0.83	0.83	3	0.83	0.88		0.88		0.88	0.	.68	0	.68	0.0	68	0.71	0.71	0.71
Pretimed (P)	or Actuated (A	۹)	A	A		Α	A		A		A	T	A		A			A	A	A
Start-up Lost	Time, I1		Î	2.0					2.0			Ť		2	2.0	Γ		i – – – – – – – – – – – – – – – – – – –	2.0	
Extension of	Effective Gree	n, e	Í	2.0					2.0			Ť		2	2.0	Î		i – – – – – – – – – – – – – – – – – – –	2.0	
Arrival Type,	AT		Í	3					3			Ť		Ĩ	3	Í			3	
Unit Extensio	n, UE		Í	3.0					3.0			Ť		3	3.0	ſ			3.0	
Filtering/Mete	ering, I		1	1.00	00				1.000)		Ť		1.000					1.000	
Initial Unmet	nitial Unmet Demand, Qb			0.0	Ĩ		1		0.0			Ť		(0.0	Í			0.0	
Ped / Bike / RTOR Volumes			0	0		0	0		0		0	T	0		0	10)	0	0	0
Lane Width			ĺ	12.0)				12.0			Ť		1.	2.0	Ĺ		i	13.0	
Parking / Gra	de / Parking		N	0		Ν	N		0		Ν		Ν		0	Λ	1	N	0	N
Parking Mane	euvers, Nm		ĺ		Í		1					Ť		T		ſ				
Buses Stoppi	ng, NB			0					0						0				0	
Min. Time for	Pedestrians,	Gp		3.2	2				3.2	.2		╧			3.2		·		3.2	
Phasing	EW Perm	T.	02		03		04				NS Per	m	06)6			07	0	8
	G = 36.0	G =	-	G	=		G =			G	= 14	.0		G =			G =	-	G =	
Timing	Y = 5	Y =		Y :	=		Y =			Ŷ	= 5		1	- (=			Y =		Y =	
Duration of A	nalvsis. T = 0.	25					<u>I</u>		I		-			Cvcl	e Lenc	ath.	C =	60.0		
Lane Group	Capacity, Co	ntrol	Delav	. and I	os	Deter	minat	ion	<u>ז</u>					<u> </u>		<u>, ,</u>				
			2010.9	EB				1	WB					Ν	IB				SB	
			LT	TH	R	RT	LT		TH	F	रा	L1	Γ	Т	Η	R	Т	LT	TH	RT
Adjusted Flow	v Rate, v			954				8	329					8	2				230	
Lane Group (Capacity, c			1093				10	082					34	14				337	
v/c Ratio, X				0.87				0.	77		ĺ			0.2	24				0.68	
Total Green F	Ratio, g/C			0.60				0.	60		Í			0.2	3				0.23	
Uniform Dela	y, d ₁			10.1				8	.9					18.	.7				21.0	
Progression F	Factor, PF	Ì		1.000				1.	000		ĺ			1.0	000				1.000	
Delay Calibra	ition, k			0.40				0.	32		Î			0.1	1				0.25	
Incremental E	Delay, d ₂			8.0	1			3	3.4					0.	.4				5.6	
Initial Queue	nitial Queue Delay, d ₃			0.0				0.	.0		Í			0.	0				0.0	

Control Delay

Lane Group LOS

Approach Delay

Approach LOS

Intersection Delay

HCS+TM Version 5.4

19.0

В

19.0

В

Intersection LOS

12.2

В

12.2

В

 $X_{c} = 0.82$

18.0

В

18.0

В

16.7

26.6

С

26.6

С

В

	тм	O-WAY STOP	CONTR		IMARY			
General Information	n		Site I	nformat	ion			
Analyst	JAG		Interse	ection		CR 161 8	Route 4	2
Agency/Co.	TMA		Jurisdi	ction		Town of I	Fallsburg	
Date Performed	3/23/201	1	Analys	sis Year		No Build	Condition	
Analysis Time Period	Sunday F	Peak Hour						
Project Description								
East/West Street: Heid	en Road CR 16	1	North/S	South Stre	et: NYS F	Route 42		
Intersection Orientation:	East-West		Study I	Period (hr	s): 0.25			
Vehicle Volumes ar	nd Adjustme	ents						
Major Street		Eastbound				Westbou	nd	
Movement	1	2	3		4	5		6
	L L	Т	R		L	Т		R
Volume (veh/h)		530	17		307	508		
Peak-Hour Factor, PHF	1.00	0.95	0.95		0.90	0.90		1.00
Hourly Flow Rate, HFR (veh/h)	0	557	17		341	564		0
Percent Heavy Vehicles	0				1			
Median Type				Undivide	əd			
RT Channelized			0					0
Lanes	0	1	0		1	1		0
Configuration			TR		L	Т		
Upstream Signal		0				0		
Minor Street		Northbound				Southbou	Ind	
Movement	7	8	9	9 10				12
	L	Т	R		L	Т		R
Volume (veh/h)	22		274					
Peak-Hour Factor, PHF	0.83	1.00	0.83	<u>'</u>	1.00	1.00		1.00
Hourly Flow Rate, HFR (veh/h)	26	0	330		0	0		0
Percent Heavy Vehicles	1	0	1		0	0		0
Percent Grade (%)		5				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	0	0		0	0		0
Configuration		LR						
Delay, Queue Length, a	nd Level of Se	ervice						
Approach	Eastbound	Westbound		Northbour	nd	S	outhboun	d
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (veh/h)		341		356				
C (m) (veh/h)		1004		247				
//c 0.34		0.34		1.44				1
95% queue length		1.52		20.23		1		
Control Delay (s/veh)		10.4	1	257.8		Í		1 i i i i i i i i i i i i i i i i i i i
LOS		В	İ	F	1	1	ĺ	1
Approach Delav (s/veh)			1	257.8	1	1		
Approach LOS			1	F				

	тw	O-WAY STOP	CONTR	OL SI	UMN	IARY					
General Informatio	n		Site I	nform	natio	on					
Analyst	JAG		Interse	ection			Route 42	and La \	/ista		
Agency/Co.	TMA		Jurisdi	ction			Toen of F	allsburg			
Date Performed	3/27/201	1	Analys	is Yea	r		No Build	Conditior	ו		
Analysis Time Period	Sunday F	Peak Hour									
Project Description											
East/West Street: NYS	Route 42		North/S	South S	Stree	t: <i>La Vist</i> a	a Drive				
Intersection Orientation:	East-West		Study I	Period	(hrs)	: 0.25					
Vehicle Volumes a	nd Adjustme	ents									
Major Street		Eastbound					Westbou	nd			
Movement	1	2	3			4	5		6		
	L	Т	R			L	Т		R		
Volume (veh/h)	115	690					742		24		
Peak-Hour Factor, PHF	0.94	0.94	1.00			1.00	0.93		0.93		
Hourly Flow Rate, HFR (veh/h)	122	734	0			0	797		25		
Percent Heavy Vehicles	1					0					
Median Type				Undi	videa	1					
RT Channelized			0					0			
Lanes	0	1	0			0	1		0		
Configuration	LT								TR		
Upstream Signal		0					0				
Minor Street		Northbound					Southbou	Ind			
Movement	7	8	9			10	11		12		
	L	Т	R			L	Т		R		
Volume (veh/h)						14			72		
Peak-Hour Factor, PHF	1.00	1.00	1.00			0.62	1.00		0.62		
Hourly Flow Rate, HFR (veh/h)	0	0	0		22		0		116		
Percent Heavy Vehicles	0	0	0			1	0		1		
Percent Grade (%)		0					-6				
Flared Approach		N					N				
Storage		0					0				
RT Channelized			0	Ĩ					0		
Lanes	0	0	0			0	0		0		
Configuration				Ĩ			LR				
Delay, Queue Length, a	and Level of Se	ervice									
Approach	Eastbound	Westbound	1	Vorthbo	ound		S	outhbour	nd		
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	LT							LR			
v (veh/h)	122							138			
C (m) (veh/h)	812							326			
v/c	0.15						0.42				
95% queue length	0.53						1	2.03			
Control Delay (s/veh)	10.2						1	23.9			
LOS	В						1	С			
Approach Delav (s/veh)							23.9				
Approach LOS							C				

	TW	O-WAY STOP	CONTR	OL SUM	MARY					
General Informatio	n		Site I	nformati	on					
Analyst	JAG		Interse	ection		CR 161 a	nd Thomp	oson		
Agency/Co.	TMA		Jurisd	iction		Town of 1	Thompson			
Date Performed	3/27/201	1	Analys	sis Year		Build Cor	ndition			
Analysis Time Period	Friday Pe	eak Hour								
Project Description										
East/West Street: Thon	npson and Rive	r Road	North/S	South Stree	et: CR 161	Heiden Ro	ad			
Intersection Orientation:	North-South		Study I	Period (hrs	s): 0.25					
Vehicle Volumes a	nd Adjustme	ents								
Major Street		Northbound	-			Southbou	und			
Movement	1	2	3		4	5		6		
		T	R			T 000		<u>R</u>		
Volume (ven/n)	16	544	2	<u> </u>	0.04	222		48		
Hourly Flow Rate HFR	0.90	0.90	0.90	, 	0.94	0.94		0.94		
(veh/h)	17	604	2		0	236		51		
Percent Heavy Vehicles	1		ĺ		0					
Median Type				Undivide						
RT Channelized			0			ļ		0		
Lanes	0	1	0		0	1		0		
Configuration	LTR				LTR					
Upstream Signal		0				0				
Minor Street		Eastbound	1			Westbou	nd			
Movement	7	8	9		10	11		12		
		T	R		L	T		R		
Volume (veh/h)	39	0	3	,	1	0		0		
Hourly Flow Pate HER	0.57	0.57	0.57		0.25	0.25		0.25		
(veh/h)	68	0	5		4	0		0		
Percent Heavy Vehicles	1	0	1		0	0		0		
Percent Grade (%)		0				0				
Flared Approach		N				N				
Storage		0				0				
RT Channelized			0					0		
Lanes	0	1	0		0	1		0		
Configuration		LTR				LTR				
Delay, Queue Length, a	and Level of Se	rvice								
Approach	Northbound	Southbound		Westboun	d	ļ <u>'</u>	Eastbound			
Movement	1	4	7	8	9	10	11	12		
Lane Configuration	LTR	LTR		LTR			LTR	<u> </u>		
v (veh/h)	17	0		4			73			
C (m) (veh/h)	1281	982		254		ļ	268			
v/c	0.01	0.00		0.02		<u> </u>	0.27			
95% queue length	0.04	0.00		0.05			1.08	<u> </u>		
Control Delay (s/veh)	7.8	8.7		19.4			23.4			
LOS	A	A		С			С			
Approach Delay (s/veh)				19.4			23.4			
Approach LOS		С			С					

	тм	O-WAY STOP	CONTR	OL S	UMI	MARY						
Seneral Information Site Information Analyst JAG Intersection CR 109 and CR 161												
Analyst	JAG		Inters	ection			CR 109 a	and Cl	R 161			
Agency/Co.	TMA		Jurisd	iction			Town of I	Fallsb	urg			
Date Performed	3/27/201	1	Analys	sis Yea	r		Build Cor	nditior	ו			
Analysis Time Period	Friday Pe	eak Hour										
Project Description												
East/West Street: CR 1	09 Kiamesha L	ake Road	North/	South S	Stree	et: Heider	Road CR 1	161				
Intersection Orientation:	North-South		Study	Period	(hrs)): 0.25						
Vehicle Volumes a	n <mark>d Adjustm</mark> e	ents										
Major Street		Northbound					Southbou	und				
Movement	1	2	3			4	5			6		
		T	R			L	T			R		
Volume (ven/n)	74	488	1.00			1.00	218			50		
Hourly Flow Rate HFR	0.87	0.87	1.00	,		1.00	0.89		L	1.89		
(veh/h)	85	560	0			0	244			56		
Percent Heavy Vehicles	1					0						
Median Type			Undividea				-					
RT Channelized			0							0		
Lanes	0	1	0		0		1			0		
Configuration	LT		ļ							TR		
Upstream Signal		0					0					
Minor Street		Eastbound					Westbou	nd				
Movement	7	8	9			10	11			12		
			R			L				R		
Volume (ven/n)	12	1.00	97	97		1.00	1.00					
Hourly Flow Rate HER	0.64	1.00	0.04			1.00	1.00			.00		
(veh/h)	85	0	115	115		0	0			0		
Percent Heavy Vehicles	1	0	1	1		0	0)		0		
Percent Grade (%)		0					0					
Flared Approach		N					N					
Storage		0					0					
RT Channelized			0							0		
Lanes	0	0	0			0	0			0		
Configuration		LR										
Delay, Queue Length, a	and Level of Se	ervice										
Approach	Northbound	Southbound		Westbo	ound	1	E	Eastbo	ound			
Movement	1	4	7	8		9	10	1	1	12		
Lane Configuration	LT					ļ		LI	R			
v (veh/h)	85	ļ		ļ				20	00			
C (m) (veh/h)	1267							41	1			
v/c	0.07							0.4	49			
95% queue length	0.22							2.5	59			
Control Delay (s/veh)	8.0							21	.8			
LOS	A							0	>			
Approach Delay (s/veh)							21.8					
Approach LOS							C					

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n	
Rt 42, Fraser, and CR 109	
All other areas	
Town of Thompson	

Date Perform	Date Performed 3/27/2011							Jurisdiction		on	Town of Thompson							
Time Period	Friday Pea	ak Ho	ur					Analysis Yea Project ID				Build	Conditior	1				
								F	Projec	t ID)							
Volume and	Timing Input	-	1				-					î.				i		
					EB	1		_	WB				NB	-		ļ	SB	
				\rightarrow	TH	RT		_	TH	_	RT				RT		TH	
Number of La	anes, N1		0		1	0	0	_	1	_	0	0	1		9	0	1	0
Lane Group	n h)		26	<u>/</u> _	.IR 542	62	10	_	LIR 542	_	40	46	20	┢	20	72	LIR	- 22
	pri) nicles %HV		20		2	2	2	-	2	-	49 2	40	29		20	2	43	22
Peak-Hour E	actor PHF		0.85	0	2	0.85	0.86	_	 0.86		2	0.55	0.55	0	55	2 0.85	0.85	0.85
Pretimed (P)	or Actuated (A	4)	0.00 A	Ť	A	0.00 A	0.00 A		U.00		A.	0.00 A	0.00 A	1	4	0.00 A	0.00 A	0.00 A
Start-up Lost	Time, I1	.,			2.0				2.0	Ť			2.0	†			2.0	
Extension of	Effective Gree	en, e			2.0	1			2.0				2.0	T			2.0	1
Arrival Type,	AT		ĺ –		3	1			3	Ĩ			3	Î		1	3	1
Unit Extension	on, UE			(3.0				3.0				3.0				3.0]
Filtering/Mete	ering, I			1	.000				1.000)			1.000			ļ	1.000	
Initial Unmet	Demand, Qb			(0.0				0.0				0.0			ļ	0.0	
Ped / Bike / F	RTOR Volume	S	0		0	0	0		0	_	0	0	0	()	0	0	0
Lane Width				1	2.0			_	12.0			12.0				13.0	<u> </u>	
Parking / Gra	ide / Parking		N		0	N	N	_	0		Ν	N	0		V	N	0	N
Parking Man	Parking Maneuvers, Nm		<u> </u>			ļ		_										<u> </u>
Buses Stopp	Buses Stopping, NB				0		_		0				0				0	
Min. Time for	Pedestrians,	Gp		<u> </u>	3.2				3.2				3.2	_	<u> </u>		3.2	
Phasing	EW Perm		02		0	3	0)4			S Perr	n o c	06			07	0	8
Timing	G = 30.0	G =			G =		G =			G: V	= 14.0 - 5) = 		G =		<u> </u>	
Duration of A	T = 0	25			1 =		11=			<u> </u>	= 0			ath	$\frac{1}{0} = \frac{1}{0}$	60.0		
	$\frac{11219313}{1200}$	ntrol	Dolar	/ 20		S Doto	rminat	ion	,					gui,	, 0 -	00.0		
	oupucity, oo		Delay	<u>, ал</u> Е	B		minat	1011	WB				NB				SB	
			LT	TH	-	RT	LT	Π	ΤΗ	R	т	LT			Т	LT	TH	RT
Adjusted Flov	w Rate, v			74	4			7	710				192				163	
Lane Group	Capacity, c			105	58			10	074				337				327	
v/c Ratio, X				0.70	0			0.0	66				0.57				0.50	
Total Green I	Ratio, g/C			0.6	0			0.0	60				0.23				0.23	
Uniform Dela	ıy, d ₁			8.3	2			8.	.0				20.3				20.0	
Progression	Factor, PF			1.0	00	Ĩ		1.0	000				1.000				1.000	
Delay Calibra	ation, k			0.2	7			0.2	24				0.16				0.11	
Incremental I	Delay, d ₂			2.	1			1	1.5				2.3				1.2	
Initial Queue	Delay, d ₃			0.0)			0.	.0				0.0				0.0	
Control Delay	y			10.	.4			g	9.5				22.6				21.2	
Lane Group I	LOS			В				7	4				С				С	
Approach De	Approach Delay		10	.4			g	9.5				22	.6				21.2	
Approach LC	Approach LOS		E	}				A				()			С		
Intersection [ntersection Delay		12.3 X _c =				0.6	67		I	Intersection LOS B							

HCS+[™] DETAILED REPORT

Site Information

Intersection

Area Type

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General Information

Agency or Co. TMA

JAG

Analyst

 $HCS+^{TM}$ Version 5.4

	ТМ	O-WAY STOP	CONTR	ol su	M	MARY					
General Informatio	n		Site I	nforma	atio	on					
Analyst	JAG		Interse	Intersection				CR 161 & Route 42			
Agency/Co.	TMA		Jurisdi	Jurisdiction				Town of Fallsburg			
Date Performed	3/23/201	1	Analys	sis Year			Build Cor	Build Condition			
Analysis Time Period	Friday Pe	eak Hour									
Project Description											
East/West Street: Heid	en Road CR 16	1	North/S	South St	tree	t: NYS R	oute 42				
Intersection Orientation:	East-West		Study I	Period (I	hrs)	: 0.25					
Vehicle Volumes a	nd Adjustme	ents									
Major Street		Eastbound					Westbou	nd			
Movement	1	2	3			4	5		6		
	L	Т	R			L	Т			R	
Volume (veh/h)		597	19			263	546				
Peak-Hour Factor, PHF	1.00	0.95	0.95	<u> </u>		0.91	0.91		1	.00	
(veh/h)	0	628	20			289	599			0	
Percent Heavy Vehicles	0					1					
Median Type		•	•	Undivi	idea	1			n		
RT Channelized			0							0	
Lanes	0	1	0	ĺ		1	1			0	
Configuration			TR			L	Т				
Upstream Signal		0					0				
Minor Street		Northbound	orthbound Southbound								
Movement	7	8	9			10	11			12	
	L	Т	R			L	Т			R	
Volume (veh/h)	48		459								
Peak-Hour Factor, PHF	0.83	1.00	0.83	<u> </u>		1.00	1.00		1	.00	
Hourly Flow Rate, HFR (veh/h)	57	0	553			0	0		0		
Percent Heavy Vehicles	1	0	1			0	0			0	
Percent Grade (%)		5					0				
Flared Approach		N					N				
Storage		0					0				
RT Channelized			0							0	
Lanes	0	0	0			0	0			0	
Configuration		LR									
Delay, Queue Length, a	and Level of Se	ervice									
Approach	Eastbound	Westbound	I	Northbo	und		S	outh	bound		
Movement	1	4	7	8		9	10		11	12	
Lane Configuration		L		LR							
v (veh/h)		289		610							
C (m) (veh/h)		943		214							
v/c		0.31		2.85							
95% queue length		1.30		53.76	5						
Control Delay (s/veh)		10.5		879.7	7		1				
LOS		В		F							
Approach Delay (s/veh)				879.7	7		1				
Approach LOS				F							

	TW	O-WAY STOP	CONTR	OL SI	JMN	IARY					
General Informatio	n		Site I	nform	natio	on					
Analyst	JAG		Interse	ection			Route 42	and La V	'ista		
Agency/Co.	TMA		Jurisdi	ction			Toen of F	allsburg			
Date Performed	3/27/201	1	Analys	sis Yea	r		Build Cor	ndition			
Analysis Time Period	Friday Pe	eak Hour									
Project Description											
East/West Street: NYS	Route 42		North/S	South S	Stree	t: <i>La Vist</i>	a Drive				
Intersection Orientation:	East-West		Study I	Period	(hrs)	: 0.25					
Vehicle Volumes a	nd Adjustme	ents									
Major Street		Eastbound					Westbou	nd			
Movement	1	2	3			4	5		6		
		T	R			L	T		R		
Volume (ven/n)	135	914	1.00			1.00	729		155		
Peak-Hour Factor, PHF	0.90	0.90	1.00	<u> </u>		1.00	0.93		0.93		
(veh/h)	150	1015	0			0	783		166		
Percent Heavy Vehicles	1					0					
Median Type				Undi	/idea	1					
RT Channelized			0						0		
Lanes	0	1	0			0	1		0		
Configuration	LT						ļ		TR		
Upstream Signal		0					0	0			
Minor Street		Northbound	-				Southbou	Ind			
Movement	7	8	9			10	11		12		
	L L	T	R			L	Т		R		
Volume (veh/h)		1.00				18			80		
Peak-Hour Factor, PHF	1.00	1.00	1.00	<u> </u>		0.67	1.00	1.00 0.			
(veh/h)	0	0	0			26	0		119		
Percent Heavy Vehicles	0	0	0			1	0		1		
Percent Grade (%)		0					-6				
Flared Approach		N					N				
Storage		0					0				
RT Channelized			0						0		
Lanes	0	0	0			0	0		0		
Configuration							LR				
Delay, Queue Length, a	and Level of Se	ervice									
Approach	Eastbound	Westbound	1	Northbo	ound		S	outhboun	d		
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	LT							LR			
v (veh/h)	150						ļ	145			
C (m) (veh/h)	728							240			
v/c	0.21							0.60			
95% queue length	0.77							3.53			
Control Delay (s/veh)	11.2							40.5			
LOS	В							E			
Approach Delay (s/veh)								40.5			
Approach LOS								Е			

	тw	O-WAY STOP	CONTR		IMARY					
General Informatio	n		Site I	nformat	ion					
Analyst	JAG		Interse	ection		CR 161 a	CR 161 and Thompson			
Agency/Co.	TMA		Jurisdi	iction		Town of T	Thompson			
Date Performed	3/27/2011	1	Analys	sis Year		Build Cor	ndition			
Analysis Time Period	Sunday F	Peak Hour								
Project Description										
East/West Street: Thon	npson and River	r Road	North/S	N/South Street: CR 161 Heiden Road						
Intersection Orientation:	North-South		Study I	Period (hr	s): <i>0.</i> 25					
Vehicle Volumes a	nd Adjustme	nts								
Major Street		Northbound				Southbou	und			
Movement	1	2	3		4	5		6		
	L	T	R		L	T		R		
Volume (veh/h)	1	261	0	. 	1	382		31		
Hourly Flow Pate HER	0.72	0.72	0.72		0.80	0.80		0.80		
(veh/h)	1	362	0		1	444		36		
Percent Heavy Vehicles	1				0					
Median Type			-	Undivide	əd	•				
RT Channelized			0					0		
Lanes	0	1	0		0	1		0		
Configuration	LTR				LTR					
Upstream Signal		0				0				
Minor Street		Eastbound				Westbou	nd			
Movement	7	8	9		10	11		12		
	L	Т	R		L	Т		R		
Volume (veh/h)	32	1	2		0	0		2		
Peak-Hour Factor, PHF	0.68	0.68	0.68	3	0.50	0.50	50 0.50			
Hourly Flow Rate, HFR (veh/h)	47	1	2		0	0		4		
Percent Heavy Vehicles	1	1	1		0	0		0		
Percent Grade (%)		0				0				
Flared Approach		N				N				
Storage		0				0				
RT Channelized			0					0		
Lanes	0	1	0		0	1		0		
Configuration		LTR				LTR				
Delay, Queue Length, a	and Level of Se	rvice								
Approach	Northbound	Southbound		Westbour	nd	1	Eastbound			
Movement	1	4	7	8	9	10	11	12		
Lane Configuration	LTR	LTR		LTR			LTR			
v (veh/h)	1	1		4			50			
C (m) (veh/h)	1088	1208		687			295			
v/c	0.00	0.00		0.01			0.17			
95% queue length	0.00	0.00		0.02			0.60	1		
Control Delay (s/veh)	8.3	8.0		10.3		1	19.7	İ		
LOS	A	A		В	1	1	С	1		
Approach Delav (s/veh)				10.3		1	19.7			
Approach LOS				B			С			
		1	I							

General Information Site Information Analyst JAG Intersection CR 109 and CR 161 Agency/Co. TMA Jurisdiction Town of Fallsburg Date Performed 3/27/2011 Analysis Year Build Condition Analysis Time Period Sunday Peak Hour Project Description Project Description East/West Street: CR 109 Kiamesha Lake Road North/South Street: Heiden Road CR 161 Vehicle Volumes and Adjustments Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Southbound More Southbound Verement 1 2 3 4 5 6 Yehicle Volumes and Adjustments Worement 1 2 3 4 5 6 Yehicle Volumes and Adjustments North/South Street: Vehicle Southbound 0.80 0.80 0.80 Yehicle Volumes and Adjustments 0.81 1.00 1.00 1.00 0.80 0.80 Yehicle Volumes and Adjustments Undivided T R C T R		ТМ	O-WAY STOP	CONTR	OL SI	JMM	IARY					
Analyst JAG Intersection CR 109 and CR 161 Agency/Co. TNA Urisdiction Town of Fallsburg Date Performed 327.2011 Analysis Year Build Condition Analysis Time Period Sunday Peak Hour Project Description EastWest Street: CR 109 Kiamesha Lake Road North/South Street: Heiden Road CR 161 Theresection Orientation: North-South Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Wajor Street Northbound Southbound Volume (veh/h) L T R L T Volume (veh/h) L2 3 4 5 6 Volume (veh/h) L1 T R L T R Volume (veh/h) L2 3 4 5 6 Vehicle Volumes and Adjustments Vehicle States 0 0 346 83 Vehicle Volume (veh/h) 128 303 - - - - Velcian Type Undivided Velcian Type	General Informatio	n		Site I	nform	natio	n					
Agency/Co. TMA Jurisdiction Town of Fallsburg Date Performed 32772011 Analysis Time Period Sunday Peak Hour Build Condition Project Description Imarysis Time Period Sunday Peak Hour Sunday Peak Hour Imarysis Year Build Condition Tresection Orientation: North/South Study Period (hrs): 0.25 Sunday Peak Hour Wajer Street North/South Sunday Peak Hour Southbound Morenal Volume (velvh) 128 303 C 277 67 Veak-Hour Factor, PHF 0.81 0.01 1.00 0.80 0.80 Percent Heavy Vehicles 1 0 Vertext 1 0 0 346 83 9 0 0 346 83 Percent Heavy Vehicles 1 - 0 - - - - - - - - - - - - -	Analyst	JAG		Interse	ection			CR 109 a	CR 109 and CR 161			
Date Performed 327.2011 Analysis Time Period Build Condition Analysis Time Period Sunday Peak Hour Image: Street Rescription East/West Street: R 109 Kiamesha Lake Road North/South Street: Heiden Road CR 161 Intersection Orientation: North-South Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Southbound Movement 1 2 3 4 5 6 Vehicle Volumes and Adjustments T R L T R 67 Vehicle Volume Street: 0.81 0.00 1.00 0.80 0.80 Vehicle Volume Rate, HFR 158 374 0 0 346 83 0	Agency/Co.	TMA		Jurisdi	ction			Town of I	allsburg			
Analysis Time Period Sunday Peak Hour Image: Sunday Peak Hour Project Description EastWest Street: CR 109 Kiamesha Lake Road North/South Street: Heiden Road CR 161 Intersection Orientation: North South Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Northbound Southbound Movement 1 2 3 4 5 6 Colume (veh/h) 128 303 277 67 7 7 68 Outry Flow Rate, HFR 0.81 0.81 1.00 1.00 0.80 0.80 Analysis 1 - - 0 - - - Outry Flow Rate, HFR 0.81 0.81 1.00 1.00 0.80 0.80 Areadin Type 1 - - 0 -	Date Performed	3/27/201	1	Analys	is Yea	r		Build Cor	ndition			
Project Description EastWest Street: CR 109 Kiamesha Lake Road North/South Street: Heiden Road CR 161 Terresection Orientation: North-South Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Major Street Northbound Novement 1 2 3 4 5 6 Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Vehicle Volumes and Adjustments Velice Vehicles 1 2 7 6 7 Peak-Hour Factor, PHF 158 374 0 0 346 83 Percent Heavy Vehicles 1 Vedian Type Vinor Street Vehicle Volume Venich C Volume Vehicle Velic	Analysis Time Period	Sunday F	Peak Hour									
EastWest Street: CR 109 Kiamesha Lake Road North/South Street: Heiden Road CR 161 Intersection Orientation: North-South Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Southbound Southbound Movement 1 2 3 4 5 6 Volume (veh/h) 128 303 277 67 Peak-Hour Factor, PHF 0.81 0.081 1.00 0.80 0.80 Veh/h) 158 374 0 0 346 83 Veh/h) 158 374 0 0 1 0 Charles 0 1 0 1 0 0 36 Storage 0 1 0 0 1 0 </td <td>Project Description</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Project Description											
Intersection Orientation: North-South Study Period (hrs): 0.25 Vehicle Volumes and Adjustments Mody Street Southbound Southbound Major Street Northbound Southbound Southbound Image: Southbound Vehicle Volume (veh/h) 128 303 Image: Southbound Southbound R Volume (veh/h) 128 303 Image: Southbound 0.80 0.80 Outry Flow Rate, HFR 0.81 0.81 1.00 1.00 0.80 0.80 Orientation: 1 Image: Southbound Image: Southbound 0 Image: Southbound 0 Image: Southbound 0.80 0.80 Outry Flow Rate, HFR 158 374 0 0 Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image: Southbound Image	East/West Street: CR	109 Kiamesha L	ake Road	North/S	South S	Street	: Heiden	n Road CR 161				
Vehicle Volumes and Adjustments Major Street Northbound Southbound Movement 1 2 3 4 5 6 Volume (veh/h) 128 303 277 67 Peak-Hour Factor, PHF 0.81 0.81 1.00 0.80 0.80 Yen/h) 128 374 0 0 346 83 Percent Heavy Vehicles 1 0 Ven/h) 200 0 1 0 0 Percent Heavy Vehicles 1 0 Vendam Type Undivided 0 0 1 0 0 Sanses 0 1 0 0 1 1 2 Quing Cythice Eastbound Westbound Westbound - Volume Cythip Flow Rate, HFR 69 0 1117 0 0 <t< td=""><td>Intersection Orientation:</td><td>North-South</td><td></td><td>Study F</td><td>Period</td><td>(hrs):</td><td>0.25</td><td></td><td></td><td></td></t<>	Intersection Orientation:	North-South		Study F	Period	(hrs):	0.25					
Major Street Northbound Southbound Movement 1 2 3 4 5 6 Volume (veh/h) 128 303 277 67 Peak-Hour Factor, PHF 0.81 0.00 1.00 0.80 0.80 Veh/h) 158 374 0 0 346 83 Percent Heavy Vehicles 1 - 0 Wedian Type 0 1 0 0 346 83 Percent Heavy Vehicles 1 - 0 - <t< td=""><td>Vehicle Volumes a</td><td>nd Adjustme</td><td>ents</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Vehicle Volumes a	nd Adjustme	ents									
Movement 1 2 3 4 5 6 L T R L T R Volume (veh/h) 128 303 277 67 Peak-Hour Factor, PHF 0.81 0.81 1.00 1.00 0.80 0.80 Hourly Flow Rate, HFR 158 374 0 0 346 83 Peak-Hour Factor, PHF 158 374 0 0 346 83 Peak-Hour Factor, PHF 158 374 0 0 346 83 Peak-Hour Factor, PHF 158 374 0 0 Weh/h) 2 1 - 0 Annes 0 1 0 0 1 0 0 Jpstream Signal 0 1 0 0 - - - R Volume (veh/h) 62 105 - - -<	Major Street		Northbound					Southbou	Ind			
L T R L T R Volume (veh/h) 128 303 277 67 Peak-Hour Factor, PHF 0.81 0.81 1.00 1.00 0.80 0.80 Hourly Flow Rate, HFR 158 374 0 0 346 83 Percent Heavy Vehicles 1 0 Median Type Undivided 0 0 1 0 R Channelized 0 1 0 0 1 0 Jpstream Signal 0 1 0 0 1 1 2 Volume (veh/h) 62 105 - - - R - <td>Movement</td> <td>1</td> <td>2</td> <td>3</td> <td></td> <td></td> <td>4</td> <td>5</td> <td></td> <td colspan="2">6</td>	Movement	1	2	3			4	5		6		
Volume (veh/h) 128 303 277 67 Peak-Hour Factor, PHF 0.81 0.81 1.00 1.00 0.80 0.80 Hourly Flow Rate, HFR 158 374 0 0 346 83 Percent Heavy Vehicles 1 0 RT Channelized 0 1 0 0 1 0 anes 0 1 0 0 1 0 Oligoration LT 0 1 0 Winor Street Eastbound Westbound 0 110 128 Volume (veh/h) 62 1005 - - - Peack-Hour Factor, PHF 0.89 1.00 0.89 1.00 0 0 Percent Heavy Vehicles 1 0 1 0 0 0 Peack-Hour Factor, PHF 0.89 1.00 0.89 1.00 1.00 0 Peach-Hour Factor, P		L	Т	R			L	Т		R		
Peak-Hour Factor, PHF 0.81 0.81 1.00 1.00 0.80 0.80 Hourly Flow Rate, HFR 158 374 0 0 346 83 Percent Heavy Vehicles 1 0 Median Type Undivided 0 Median Type Undivided 0 0 0 Annelized 0 0 0 1 0 0 Jpstream Signal 0 1 0 0 TR	Volume (veh/h)	128	303					277		67		
Houry Prov Rate, HFR 158 374 0 0 346 83 Percent Heavy Vehicles 1 0 Median Type Undivided 0 0 RT Channelized 0 1 0 0 1 0 anes 0 1 0 0 1 0 Jpstream Signal 0 0 1 10 0 Mior Street Eastbound Westbound Westbound Movement 7 8 9 10 11 12 Volume (veh/h) 62 105	Peak-Hour Factor, PHF	0.81	0.81	1.00			1.00	0.80		0.80		
Percent Heavy Vehicles10Median TypeUndividedRT Channelized01001Lanes010010ConfigurationLT07R7RJpstream Signal00110Vorment789101112LTRLTRVolume (veh/h)62105Peak-Hour Factor, PHF0.891.000.891.001.00Aury Flow Rate, HFR veh/h)69011700Percent Grade (%)00000Percent Grade (%)00000Canes000000Storage000000Canes000000ConfigurationLR	(veh/h)	158	374	0			0	346		83		
Median Type Undivided RT Channelized 0 0 1 0 0 1 0 Lanes 0 1 0 0 1 0 0 1 0 Configuration LT 0 0 1 0 0 1 0 Using Signal 0 1 0 0 1 0 0 1 0 Winor Street Eastbound Westbound 0 111 12 7 8 9 10 11 12 Worment 7 8 9 10 11 12 7 8 9 100 111 12 Value (veh/h) 62 100 0.089 1.00 1.00 1.00 1.00 Value (veh/h) 639 0 117 0 <	Percent Heavy Vehicles	1					0					
RT Channelized000Lanes0100ConfigurationLT00Upstream Signal00Winor StreetEastboundWestboundMovement78910LTRLTRVolume (veh/h)62105	Median Type				Undi	/ided						
Lanes010010ConfigurationLTTRUpstream Signal000Minor StreetEastboundWestboundMovement789101112LTRLTRVolume (veh/h)62105Beak-Hour Factor, PHF0.891.000.891.001.001.00Pacet Heavy Vehicles101000Percent Heavy Vehicles101000Percent Grade (%)000000Pared ApproachNN0000Storage0000000Canes0000000Canes0000000Canes0000000Canes0000000Canes0000111212AproachNorthboundSouthboundWestboundEastboundImage: Caneshow of the state of the sta	RT Channelized			0						0		
Configuration LT TR Upstream Signal 0 0 Minor StreetEastboundWestboundMovement T 8 9 10 11 12 L T R L T R Volume (veh/h) 62 105 $-$ Peak-Hour Factor, PHF 0.89 1.00 0.89 1.00 1.00 Hourly Flow Rate, HFR (veh/h) 69 0 117 0 0 Percent Heavy Vehicles 1 0 1 0 0 Percent Grade (%) 0 0 0 0 Percent Grade (%) 0 0 0 0 Storage 0 0 0 0 Channelized 0 0 0 Configuration LR 0 0 0 Delay, Queue Length, and Level of Service X $Suthbound$ WestboundEastboundMovement 1 4 7 8 9 10 11 12 ane Configuration LT LR LR LR LR (veh/h) 1136 LR LR LR LR	Lanes	0	1	0			0	1		0		
Upstream Signal 0 0 Minor Street Eastbound Westbound Movement 7 8 9 10 11 12 L T R L T R Value T R Volume (veh/h) 62 105	Configuration	LT						ļ		TR		
Minor Street Eastbound Westbound Movement 7 8 9 10 11 12 L T R L T R Volume (veh/h) 62 105	Upstream Signal		0					0				
Movement 7 8 9 10 11 12 L T R L T R X T R Volume (veh/h) 62 105 T R X T R Peak-Hour Factor, PHF 0.89 1.00 0.89 1.00 1.00 1.00 1.00 Hourly Flow Rate, HFR 69 0 117 0 0 0 0 Percent Heavy Vehicles 1 0 1 0	Minor Street		Eastbound					Westbou	nd			
L T R L T R Volume (veh/h) 62 105	Movement	7	8	9			10	11		12		
Volume (veh/h) 62 105 Image: constraint of the second seco		L	Т	R			L	Т		R		
Peak-Hour Factor, PHF 0.89 1.00 0.89 1.00	Volume (veh/h)	62		105								
Houry Flow Rate, HFR 69 0 117 0 0 0 Percent Heavy Vehicles 1 0 1 0 0 Percent Grade (%) 0 0 0 Percent Grade (%) 0 0 0 Flared Approach N N Storage 0 0 RT Channelized 0 0 _anes 0 0 0 LR Delay, Queue Length, and Level of ServiceApproach LT 1 4 7 8 9 10 11 12 _ane Configuration LT LT LR (veh/h) 158 2 (m) (veh/h) 1136	Peak-Hour Factor, PHF	0.89	1.00	0.89			1.00	1.00		1.00		
Percent Heavy Vehicles 1 0 1 0 0 0 Percent Grade (%) 0	Houriy Flow Rate, HFR (veh/h)	69	0	117			0	0		0		
Percent Grade (%) 0 0 Flared Approach N N N Storage 0 0 0 0 Storage 0 0 0 0 0 RT Channelized 0 0 0 0 0 0 _anes 0 0 0 0 0 0 0 Configuration LR	Percent Heavy Vehicles	1	0	1			0	0		0		
Flared ApproachNNStorage000RT Channelized000anes0000ConfigurationLR00Delay, Queue Length, and Level of Service $Vestbound$ EastboundApproachNorthboundSouthboundWestboundEastboundVovement147891011ane ConfigurationLTLR(veh/h)158186367	Percent Grade (%)		0					0				
Storage 0 0 0 RT Channelized 0	Flared Approach		N					N				
RT Channelized 0 0 0 0 _anes 0 0 0 0 0 0 0 Configuration LR Image: constraint of the second s	Storage		0					0				
Lanes 0 <td>RT Channelized</td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td>	RT Channelized			0						0		
ConfigurationLR	Lanes	0	0	0			0	0		0		
Delay, Queue Length, and Level of Service Approach Northbound Southbound Westbound Eastbound Movement 1 4 7 8 9 10 11 12 _ane Configuration LT	Configuration		LR									
Approach Northbound Southbound Westbound Eastbound Movement 1 4 7 8 9 10 11 12 _ane Configuration LT LR \ (veh/h) 158 186 367	Delay, Queue Length,	and Level of Se	ervice									
Movement 1 4 7 8 9 10 11 12 _ane Configuration LT LR / (veh/h) 158 186 367	Approach	Northbound	Southbound	· ۱	Westbo	ound		E	Eastbound	t		
Lane Configuration LT LR / (veh/h) 158 186 2 (m) (veh/h) 1136 367	Movement	1	4	7	8		9	10	11	12		
/ (veh/h) 158 186 186 C (m) (veh/h) 1136 367	Lane Configuration	LT						ĺ	LR			
C (m) (veh/h) 1136	v (veh/h)	158		1		ĺ			186	1		
	C (m) (veh/h)	1136	ĺ			†		Î	367	1		
//c 0.14 0.51	v/c	0.14		1				1	0.51	1		
95% gueue length 0.48 2.75	95% queue lenath	0.48		1				1	2.75	1		
Control Delay (s/yeh) 8.7 24.5	Control Delav (s/veh)	8.7	i			-+			24.5			
	LOS	A		1					 C	1		
Approach Delay (s/yeh) 24.5	Approach Delay (s/veh)			1		1			24.5			
Approach LOS C	Approach LOS			<u> </u>				1	<u> </u>			

HCS+ [™] DETAILED REPORT																			
General Info	General Information									Site Information									
Analyst	JAG								Inte	erse	ction	F	Rt 42,	Fraser,	and	dCR	109		
Agency or Co	р. <i>ТМА</i>								Are	ea T	уре	A	ll oth	ner areas					
Date Perform	ned 3/27/2011								Jur	urisdiction Town of Thompson									
Time Period	Sunday Pe	eak H	our						Ana	Analysis Year Build Condition									
									Pro	oject	t ID								
Volume and	Timing Input																<u> </u>	0.0	
			$\left \right $			БТ	╋	1 T			БТ		<u>іт</u>						БЪТ
Number of La	anes NI				1		╋	0		1		+		1	╞	0			
Lane Group							╋	0	17				0	I TR	┢	5			
Volume, V (v	rph)		14	Ť	749	57	┢	15	6	68	47		51	11	\mathbf{T}	21	92	27	44
% Heavy Ver	hicles, %HV		2		2	2		2	2	2 2			2	2		2	2	2	2
Peak-Hour F	actor, PHF		0.83		0.83	0.83	0	.88	0.8	88	0.88	0.	.68	0.68	0.	68	0.71	0.71	0.71
Pretimed (P)	or Actuated (A	۹)	A	Ī	Α	Α		Α	Ā	4	A		A	Α	7	4	A	A	A
Start-up Lost	: Time, Iı				2.0				2.	.0				2.0				2.0	
Extension of	Effective Gree	en, e			2.0				2.	.0				2.0				2.0	
Arrival Type,	AT				3				3	3				3				3	
Unit Extension	on, UE				3.0				3.	0				3.0				3.0	
Filtering/Mete	ering, I				1.000				1.0	000				1.000			ļ	1.000	ļ
Initial Unmet	Demand, Qb			_	0.0				0.	.0				0.0			ļ	0.0	ļ
Ped / Bike / F	RTOR Volume	s	0		0	0	_	0	0)	0		0	0)	0	0	0
Lane Width			<u> </u>	_	12.0		╇		12	2.0	<u> </u>	+		12.0				13.0	
Parking / Grade / Parking		N	_	0	N		N	0)	N		N	0	₽	V	N	0	N	
Parking Maneuvers, Nm			_						_					┢		ļ		ļ	
Buses Stopping, NB				0					0				0	ļ		 	0		
Min. Time for	Min. Time for Pedestrians, Gp				3.2		┿	0.1	ۍ ا	3.2							07	3.2	
Phasing			02			3	┢	04							0/ 		0	8	
Timing	G = 30.0	V _			G = V -) = 	<u> </u>		4.0		_		<u> </u>		G = V -		
Duration of A	nalysis $T = 0$	25			<u> </u>		Cvcle Length, C = 60.0												
Lane Group	Capacity. Co	ntrol	Dela	v. a	nd LO	S Dete	ermi	inatic	on					<u>jele _ell</u>	9	, •	0010		
			2010.]	,	EB				WE	3				NB				SB	
			LT	Т	Ή	RT	LT	Г	TH		RT	Ĺ		TH	R	:T	LT	TH	RT
Adjusted Flov	w Rate, v			98	88				829	,				122				230	
Lane Group	Capacity, c			10	89				1081	1				298				338	
v/c Ratio, X				0.9	91			(0.77					0.41				0.68	
Total Green I	Ratio, g/C			0.6	50				0.60					0.23				0.23	
Uniform Dela	ıy, d₁			10	.5				8.9					19.5			i	21.0	
Progression	Factor, PF			1.0	000				1.00	0				1.000				1.000	
Delay Calibra	ation, k	╈		0.4	13				0.32	┪				0.11	┝			0.25	
Incremental I	Delay, d ₂			11	1.0				3.4					0.9				5.5	
Initial Queue	Delay d			0	0		<u> </u>		0.0	╈		┢──		0.0				0.0	
Control Delay	v			21	1.5				12.3	3				20.4				26.4	
Lane Group I	, LOS	+			2			\rightarrow	B			┢──		<u> </u>				<u> </u>	
Approach De	lav		21	5			<u> </u>	12	3			-	20	4				26.4	
Approach)S	\rightarrow	21					ı∠. ₽	2			┝	20	· ·			⁻	SB TH RT 1 0 LTR 2 2 27 44 2 27 44 2 27 44 2 27 44 2 2 2 1 0.71 0.71 A A 2.0 2 3 3 3.0 1 1.000 0 0.0 0 13.0 0 0 0 3.2 08 G 1 0 0 3.2 08 G 1 230 1 338 0 0.68 0 0.23 1 21.0 1 0.25 5.5 0.0 2 26.4 1 C 1 26.4 1	
Intersection) Delav			,				в ((י <u>א</u> א רא			 		tion LOC					
I IIII CISECUUII L	Jelay		18	.4			I ^	c = c	.04			Inte	ersec	uon LOS)			ы	

	•	ΓWC	D-WAY STOP	CONTR	OL S	UMI	MARY						
General Informatio	n			Site I	nforn	natio	on						
Analyst	JAG			Interse	ection			CR 161 & Route 42					
Agency/Co.	TMA			Jurisdi	Jurisdiction				Town of Fallsburg				
Date Performed	3/23/	2011		Analys	sis Yea	ar		Build Cor	nditio	n			
Analysis Time Period	Sund	ay Pe	eak Hour										
Project Description				, ,									
East/West Street: Heid	en Road Cl	R 161		North/South Street: NYS Route 42									
Intersection Orientation:	East-Wes	st		Study I	Period	(hrs)	: 0.25						
Vehicle Volumes a	nd Adjus	mer	nts										
Major Street			Eastbound					Westbou	nd				
Movement	1		2	3			4	5			6		
	L		Т	R			L	Т			R		
Volume (veh/h)			530	17			315	508					
Peak-Hour Factor, PHF	1.00)	0.95	0.95)		0.90	0.90		1	.00		
Hourly Flow Rate, HFR	0		557	17			350	564			0		
Percent Heavy Vehicles	0						1						
Median Type					Undi	videc	1						
RT Channelized				0			-				0		
Lanes	0		1	0			1	1			0		
Configuration				TR			L	T			-		
Upstream Signal			0					0	0				
Minor Street			Northbound					Southbound					
Movement	7		8	9		10		11			12		
	L		Т	R			L	Т			R		
Volume (veh/h)	22		Í	282									
Peak-Hour Factor, PHF	0.83	}	1.00	0.83	}		1.00	1.00		1	1.00		
Hourly Flow Rate, HFR (veh/h)	26		0	339			0	0		0			
Percent Heavy Vehicles	1		0	1			0	0			0		
Percent Grade (%)			5	-				0					
Flared Approach			N					N					
Storage			0					0					
RT Channelized				0							0		
Lanes	0		0	0			0	0			0		
Configuration			LR										
Delay, Queue Length, a	and Level o	f Ser	vice										
Approach	Eastboun	d	Westbound		Northb	ound		S	outh	hbound			
Movement	1		4	7	8		9	10	1	11	12		
Lane Configuration			L		LF	2							
v (veh/h)			350		36	5			i –				
C (m) (veh/h)			1004		24	6				 			
v/c			0.35		14	8			├ <u></u>				
95% queue length			1.58		213	30							
Control Delay (s/yeb)			10.5		275	5							
			,0.0 P			.0							
LUO Approach Dolou (akush)		<u> </u>	<u>P</u>			5							
Approach Delay (s/ven)		<u> </u>			275	.5		ļ					
Approach LOS					F								

	тw	O-WAY STOP	CONTR	OL SU	JMMAF	۲Y					
General Informatio	n		Site I	nform	ation						
Analyst	JAG		Interse	ection			Route 42	and La V	ïsta		
Agency/Co.	TMA		Jurisdi	ction			Toen of F	allsburg			
Date Performed	3/27/201	1	Analys	is Year	ſ		Build Cor	ndition			
Analysis Time Period	Sunday F	Peak Hour									
Project Description											
East/West Street: NYS	Route 42		North/S	South S	street: L	a Vista	′ista Drive				
Intersection Orientation:	East-West		Study F	Period ((hrs): 0.	25					
Vehicle Volumes a	nd Adjustme	ents									
Major Street		Eastbound					Westbou	nd			
Movement	1	2	3		4		5		6		
	L	Т	R		L		Т		R		
Volume (veh/h)	115	698					750		24		
Peak-Hour Factor, PHF	0.94	0.94	1.00		1.00)	0.93		0.93		
Hourly Flow Rate, HFR (veh/h)	122	742	0		0		806		25		
Percent Heavy Vehicles	1				0						
Median Type				Undiv	rided						
RT Channelized			0						0		
Lanes	0	1	0		0		1		0		
Configuration	LT								TR		
Upstream Signal		0					0				
Minor Street		Northbound					Southbou	Southbound			
Movement	7	8	9		10		11		12		
	L	Т	R		L		Т		R		
Volume (veh/h)					14		<u> </u>		72		
Peak-Hour Factor, PHF	1.00	1.00	1.00		0.62	2	1.00		0.62		
Hourly Flow Rate, HFR (veh/h)	0	0	0		22		0		116		
Percent Heavy Vehicles	0	0	0		1		0		1		
Percent Grade (%)		0					-6				
Flared Approach		N	1				N				
Storage	Î	0					0				
RT Channelized			0				ĺ		0		
Lanes	0	0	0		0		0		0		
Configuration							LR				
Delay, Queue Length, a	and Level of Se	ervice									
Approach	Eastbound	Westbound	1	Vorthbo	ound		S	outhboun	d		
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	LT							LR			
v (veh/h)	122							138	1		
C (m) (veh/h)	806							321	1		
v/c	0.15	i i						0.43			
95% queue length	0.53							2.07			
Control Delay (s/veh)	10.3				1			24.4			
LOS	В	ii		<u> </u>				С	1		
Approach Delav (s/veh)		i i						24.4			
Approach LOS								<u> </u>			

Attachment 5

Traffic Growth Validation

APPENDIX F ATTACHMENT 5 Validation of Traffic Counts

County Road 53 is a key east west route in the Town of Fallsburg. It is one of only a few roads in the Town of Fallsburg with a bridge over the Neversink River. The New York State Department of Transportation maintains a continuous count station on CR 53 east of the Neversink River. Continuous count stations provide volume data for every hour of the year. However this validation review concentrates on July and August only. Figure 1 shows 2007 data to correspond to year of actual counts. The latest available continuous count data (2010) is also shown. Finally an early year 2005 is indicated as further background into area growth.

Figure 1 indicates the general road use over the summer weeks. On Monday through Thursday traffic starts very low and climbs during standard morning commuter times (6 a.m. to 9 a.m.). As more stores open overall traffic continues to grow starting at 9 a.m. and into the afternoon peak commuter time. Traffic begins declining at about 5 p.m.

On Fridays the early morning hours mirror the rest of the weekdays. Starting at about 9 a.m. however traffic grows at a steeper rate. This reflects the arrival of weekenders and high use for shopping and other uses prior to Saturday. The highest traffic of the week occurs in the 1 p.m. to 6 p.m. period. After 6 p.m. traffic drops fast in anticipation of the coming sunset reaching the lowest point for any day between 8 p.m. and 12 p.m. Saturday traffic remains comparably low throughout the day and only begins to rise after sunset, generally sometime after 9 p.m. From 10 p.m. to midnight Saturday traffic is higher than any other day for those hours, leading into Sunday when traffic is higher from midnight to 5 a.m. than other days of the week for these hours. Sunday does not show a standard weekday commuter peak. After 9 a.m. the volumes begin to climb and from 10 a.m. to 9 p.m. remains higher than Monday to Thursday volumes. After 9 p.m. the Sunday traffic begins to reflect the weekday traffic.

Figure 2 shows only the Friday to Sunday traffic for 2005, 2007, and 2010. The data indicates several trends:

- 1) A slight decline in traffic from 2005 through 2010 in traffic from sunset Friday to sunset on Saturday.
- 2) The Sunday peak traffic remains relatively constant.
- 3) The Sunday peak traffic is generally lower than the Friday peak traffic.
- 4) The highest 2007 Friday peak hour traffic increased by one percent per year for three years is a close indicator of the highest Friday volume in 2010.

The traffic study used a one percent growth for projecting future volumes from 2007. Based on the continuous count data the one percent growth is be a reasonable estimate of growth through 2010.

A traffic count was taken on Friday August 26, 2011 at the intersection of CR 161 and CR 109. The total entering volume of 722 is eight percent higher than the 2007 total entering volume (669) for Friday at the intersection. Effectively this is approximately an two and a half percent per year growth. This growth represents a single comparison and thus a variation could be expected to be greater than at the continuous count station reflecting nine summer volumes in each year for each hour. This variation further underscores the need to understand the accuracy of the volume to capacity ratios and delay are not absolute but intended to provide an accurate representation of projected typical level of service experienced by drivers. No further adjust has been made to 2015 volumes regarding expected growth.

Figure 1 Summer County Road 53 Hourly Traffic




Figure 1 Summer County Road 53 Hourly Traffic





Attachment 6

Sign and Parking Tables

Attachment 6 Table 1 Preliminary Sign Review					
Photo Number ⁵	Sign	Sign Issue ^{1, 2}	Probable Action (Town of Fallsburg or other)		
2	DEAD END	Legibility	Replace in kind (Town of Thompson)		
4	SLOW	legibility, nonconforming, determination of need, posted on telephone pole	Remove sign, review what if any new conforming sign is needed, and if re-posted place on a standard sign post.		
4	Wildwood Drive street sign	Street name does not conform to Official County Map ³	In order to permit fast emergency response time street names should correspond to official maps. The street sign or official maps should be brought into correspondence.		
5	30 MPH Advisory speed Plaque	Legibility	Replace in kind.		
6	Road turning left warning sign and 15 MPH advisory speed plaque	Legibility, the sign indicates vehicles can continue through the curve at 15 miles per hour when the location is STOP sign controlled	Remove sign and advisory speed plaque.		
10	35 MPH Advisory speed plaque	Advisory speed plaques are to be used with warning signs	Add appropriate warning sign.		
13	NO RIGHT- ON -RED	Sight distance to left from NYS Route 42 northbound	Add regulatory sign. (NYS DOT)		
14	55 and 45 mile per hour speed limit signs	For safety the speed limit should be 45 miles per hour through the CR 161 and NYS Route 42 intersection ⁴	Move speed signs southwest of CR 161 and NYS Route 42 intersection (NYS DOT).		
16, 17	NO PARKING sign	Legibility and missing signs intersections	Review no parking areas. No parking areas should be reviewed regarding prohibiting standing and stopping and new signs located. Recommend laws be rewritten to identify distances from intersections (Town of Thompson).		
¹ United State for Streets and	¹ United States Department of Transportation Federal Highway Administration, <u>Manual on Uniform Traffic Controls</u> for Streets and Highways, Washington, D.C., 2009 edition				
² State of New York, 17 NYCRR Chapter V, New York Supplement (to the Manual on Uniform Traffic Controls for Streets and Highways). 2010 Edition effective March 16, 2011					
³ Sullivan County Department of Public Works, "Official Highway Map Town of Fallsburg, County of Sullivan, New York" Monticello, NY, December 9, 2010					
⁴ See discussi	⁴ See discussion of Network Issues section 3.8.6.				
[×] Appendix F Attachment 1 Photos.					

Attachment 6 Table 2				
Parking Regulations (Town of Thompson)				
Road	Side	Location		
County Road	Both	From the New York State Electric and Gas Corporation		
No. 161		Pole No. 74 and New York Telephone Company Pole No.		
(Heiden		2 at Jack's Corners, running in a northerly direction to the		
Road)		New York State Electric and Gas Corporation Pole No.		
		63-100 and New York Telephone Company Pole No. 5R		
Ranch Road	Both	From the east end of the Old Mill Bridge in an easterly		
		direction to the New York State Electric and Gas		
		Corporation Pole No. 4-100 and New York Telephone		
		Company Pole No. 5R		
County Road	South	From the intersection of New York State Highway No. 42,		
No. 109		running in an easterly direction to the Town line of the		
(Kiamesha		Town of Thompson		
Lake Road)				
Fraser Road	Both	From New York Telephone Company Pole No. 1 at the		
		intersection of Concord Road and New York State		
		Highway Route 42 in a westerly direction to New York		
		Telephone Company Pole No. 3.		
Source: Town Board of the Town of Thompson, Town Code, Chapter 235 Part 2 Article V section 235-46 Schedule K No Parking at any time				