# APPENDIX 2E. TRAFFIC IMPACT STUDY

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# TRAFFIC IMPACT STUDY

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# CORNWALL COMMONS

U.S. ROUTE 9W

CORNWALL, NEW YORK

JOB NO. 173 MARCH 13, 2007

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#### SECTION I

#### INTRODUCTION

This report has been prepared as an update to the original Traffic Impact Study prepared for the Cornwall Commons project dated February 26, 2002. This report has been prepared to evaluate the changes in the project components and to update the background traffic volumes and related analyses.

# A. PROJECT DESCRIPTION AND LOCATION (Figure No. 1)

Cornwall Commons is now proposed as a mixed used development which will be developed on properties located on the west side of U.S. Route 9W in the vicinity of the NYS Route 218 (Academy Avenue) Interchange (See Figure No. 1).

Access to the site will include the construction of a new roadway connecting with U.S. Route 9W north and south of the NYS Route 218 Interchange to provide two access points to U.S. Route 9W.

For the purposes of analysis, a design year of 2010 has been utilized for the development.

## B. SCOPE OF STUDY

This study has been prepared to evaluate traffic conditions associated with the proposed mixed use development on the surrounding roadway network and to make

recommendations for any improvements required to mitigate the traffic generated by the project. In the course of completing this study, traffic volumes on the roadways surrounding the site were counted and projected to the design year utilizing an appropriate growth factor. In addition, traffic for other planned developments in the area were also identified and added to the Projected Traffic Volumes to obtain the No-Build Traffic Volumes.

Estimates of traffic for the proposed land uses within the development were made based on information published by the Institute of Transportation Engineers. These site generated traffic volumes were then added to the design year No-Build Traffic Volumes to obtain the design year Build Traffic Volumes. The Existing, No-Build and Build Traffic Volumes were then analyzed to determine traffic operating conditions for each condition and where potential problem areas were identified, recommendations for improvements were made.

Since a Draft Generic Environmental Impact Statement (DGEIS) was previously prepared for this site, this study is formatted to address the Existing, No-Build and Build Conditions and is based on the Supplemental Scoping Document for the project dated January 9, 2007.

## SECTION II

# EXISTING ROADWAY AND TRAFFIC CONDITIONS

# A. DESCRIPTION OF EXISTING ROADWAY NETWORK

The site is located along the west side of U.S. Route 9W. A description of U.S. Route 9W and other area roadways is provided below.

#### 1. U.S. Route 9W

U.S. Route 9W is a major north/south roadway which traverses throughout Orange County. In the vicinity of the site, the roadway consists of two lanes per direction and has a grade separated interchange with NYS Route 218. North of the site, there is an intersection with Forge Hill Road and south of the site, U.S. Route 9W has an Interchange connection with Willow Avenue (C.R. 32). The posted speed limit on this section of roadway currently varies between 45 and 55mph.

The New York State Department of Transportation (NYSDOT) has plans for long term improvements to the U.S. Route 9W Corridor and will generally involve safety related improvements for this section of the Corridor. The NYSDOT in the interim has installed a traffic signal at the U.S. Route 9W/Forge Hill Road intersection and has incorporated striping changes on the northbound approach to provide a separate left turn lane.

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# 2. Forge Hill Road (County Route 74)

Forge Hill Road intersects with US Route 9W at a signalized intersection. The U.S. Route 9W approaches consist of two lanes while Forge Hill Road consists of one lane in each direction.

#### 3. NYS Route 218

New York State Route 218 (Academy Avenue) originates at a grade separated interchange with US Route 9W adjacent to the site. This section of roadway consists of one travel lane per direction and has a posted speed limit of 35 mph. The roadway continues in a southeasterly direction providing access to Cornwall. The roadway continues further to the south eventually connecting again with US Route 9W.

#### 4. Willow Avenue (County Route 32)

Willow Avenue (C.R. 32) intersects with U.S. Route 9W at a grade separated Interchange. In the vicinity of the interchange, Willow Avenue consists of one lane in each direction. The ramp connections are channelized and controlled by a series of "stop" and "yield" signs.

#### 5. Mailler Avenue

Mailler Avenue is a two lane local roadway which originates at an intersection with Willow Avenue, continues in a northeasterly direction intersecting with several other local roadways and terminates at a "T" intersection with NYS Route 218 (Academy Avenue).

# B. 2006 EXISTING TRAFFIC VOLUMES (Figures No. 2 and 3)

In order to establish the existing traffic volumes on the area roadways, all available traffic count data was collected from the NYSDOT. In addition, manual traffic counts were conducted by representatives of John Collins Engineers, P.C. at the various intersections which were identified as part of the Scoping Document. These intersections included the following:

- U.S. Route 9W and NYS 218 (Academy Avenue) Interchange
- Academy Avenue (NYS Route 218) and Main Street
- U.S. Route 9W and Caesar's Lane
- U.S. Route 9W and Forge Hill Road
- Willow Avenue (C.R. 32) and U.S. Route 9W Interchange
- Academy Avenue (NYS Route 218) and Mailler Avenue

The traffic counts at these intersections were conducted during various periods during 2005 and 2006. The counts were conducted on typical Weekdays and covered the morning and afternoon peak hours. Based on the results of the existing traffic volumes the following peak hours were determined to be critical with respect to analysis.

- o Weekday Peak AM Highway Hour -- 7:30 AM 8:30 AM
- o Weekday Peak PM Highway Hour -- 4:30 PM 5:30 PM

The resulting Year 2006 Existing Traffic Volumes for each of these intersections are shown on Figures No. 2 and 3.

.

#### **SECTION III**

#### **EVALUATION OF FUTURE TRAFFIC CONDITIONS**

# A. 2010 NO-BUILD TRAFFIC VOLUMES (Figures No. 4, 5, 6, 7, 8 and 9)

In order to develop the design year No-Build Traffic Volumes, the existing traffic volumes were projected to the future design year utilizing a background growth factor of 2% per year. This growth factor was developed based on a review of historical data compiled by NYSDOT. The resulting Year 2010 Projected Traffic Volumes are shown on Figures No. 4 and 5. In addition, as specified in the scoping document, the traffic for other planned developments in the area including Chestnut Woods, Winding Creek and Willow Woods were estimated and then added to the Projected Traffic Volumes to obtain the 2010 No-Build Traffic Volumes. The other development volumes are shown on Figures No. 6 and 7 and the resulting Year 2010 No-Build Traffic Volumes are shown on Figures No. 8 and 9 for each of the Peak Hours, respectively.

# B. <u>SITE GENERATED TRAFFIC VOLUMES</u> (Table No. 1)

The proposed development includes both residential and commercial development component. Information published by the Institute of Transportation Engineers (ITE) as contained in their report entitled Trip Generation, 7<sup>th</sup> Edition, 2003, was utilized to develop the Peak Hour traffic volumes. The Peak Hour trip generation rates and

corresponding site generated traffic volumes for the development are shown in Table No.

1. It should be noted that the peak traffic generation for the currently proposed project is significantly lower than that analyzed in the original GEIS.

## C. ARRIVAL AND DEPARTURE DISTRIBUTIONS (Figures 10, 10A, 11 and 11A)

Based on a review of existing traffic volumes and a review of population and employment centers in the area, the arrival and departure distributions were developed. Figures No. 10 and 11 show the distributions for the development. Note that these distributions reflect the utilization of the Route 9W/Route 218 (Academy Avenue) Interchange in order to accomplish left turn movements to and from the site and are herein referred to as Access Scenario No. 1. The second access scenario (Access Scenario No. 2), considers the creation of a full movement signalized intersection connection with US Route 9W at the southerly location. The expected traffic distributions for this access scenario are shown on Figures No. 10A and 11A.

#### D. 2010 BUILD TRAFFIC VOLUMES

(Figures No. 12, 12A, 13, 13A, 14, 14A, 15 and 15A)

The site generated traffic volumes were assigned to the roadway network utilizing the above referenced arrival and departure distributions. The resulting site generated traffic volumes for Scenario No. 1 are shown on Figures No. 12 and 13. These volumes were added to the Year 2010 No-Build Traffic Volumes to obtain the Year 2010 Build Traffic

Volumes. The resulting Year 2010 Build Traffic Volumes are shown Figures No. 14 and 15 for each of the peak Hours.

Similarly, the site generated traffic volumes for the Access Scenario No. 2 are shown on Figures No. 12A and 13A. These site generated traffic volumes were added to the Year 2010 No-Build Traffic Volumes to obtain the Year 2010 Build Traffic Volumes for Access Scenario No. 2. The resulting Year 2010 Build Traffic volumes for Access Scenario No. 2 are shown on Figures No. 14A and 15A.

#### E. DESCRIPTION OF ANALYSIS PROCEDURES

In order to determine existing and future traffic operating conditions at the study area intersections, it was necessary to perform capacity analyses. The following is a brief description of the analysis method utilized in this report:

## o Signalized Intersection Capacity Analysis

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the 2000 Highway Capacity Manual, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service "A" represents the best condition and a Level of Service "F" represents the worst condition. A Level of Service "C" is generally used as a design standard while a Level of Service "D" is acceptable during peak periods. A Level of Service "E" represents an operation near capacity. In order to identify an intersection's Level of Service, the average

amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

# o Unsignalized Intersection Capacity Analysis

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the 2000 Highway Capacity Manual. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "D" of this report.

# F. RESULTS OF TRAFFIC ANALYSIS (Table No. 2)

A capacity analysis was performed at each of the intersections utilizing the procedures described above in order to evaluate current and future operating conditions for the area roadways. A description of each of the intersections and the results of the analysis are provided below.

Copies of the capacity analysis are contained in Appendix "C" of this report. Table No. 2 provides a summary of the Levels of Service for the Year 2006 Existing, 2010 No-Build and 2010 Build Conditions.

# 1. U.S. Route 9W and Caesar's Lane

Caesar's Lane intersects at a "T" intersection with U.S. Route 9W southbound. Capacity analysis conducted at the intersection utilizing the existing traffic volumes indicates Levels of Service "C" for traffic entering and exiting Route 9W. The capacity analyses were re-computed for the future conditions. A review of future analysis indicates that Levels of Service "C" or better will be maintained in the future 2010 No-Build and Build conditions.

# 2. US Route 9W and Forge Hill Road

Forge Hill Road intersects with U.S. Route 9W at a signalized intersection. The U.S. Route 9W northbound approach consists of two lanes including a left and a through/right lane. The Route 9W southbound approach consists of a separate left, a through and a through/right turn lane. The Forge Hill Road eastbound approach is one lane and the westbound approach also has a short right turn lane. Capacity analysis conducted at the intersection indicates that under current conditions. Levels of services "D" are experienced during the PM Peak Hour.

Capacity analysis conducted at the intersection utilizing future traffic volumes indicates that under the future No-Build conditions, overall Levels of Services

"D" or better are expected for the intersection. However, during the PM Peak Hour, the northbound approach will experience a Level of Service "E" and "F".

To improve operations, modifications to the traffic signal timings could be implemented. Capacity analysis conducted at the intersection utilizing the future No-Build and Build traffic volumes with these changes indicates that overall Levels of Service "D" will be experienced.

The New York State Department of Transportation as part of their long term improvement project, is planning to provide additional lanes to improve the operation and safety of the intersection.

#### 3. U.S. Route 9W and North Site Access Road

In the vicinity of the north site access road, U.S. Route 9W consists of two lanes in each direction. When constructed, this roadway should consist of a right turn entry and right turn exit connection to Route 9W southbound.

Capacity analysis conducted at the intersection indicates that acceptable levels of service will be experienced at the intersection under future conditions. The final design of this intersection will be detailed with NYSDOT as part of the Highway Work Permit process.

#### 4. U.S. Route 9W and NYS 218 Interchange

NYS Route 218 (Academy Avenue) intersects with US Route 9W at a full movement interchange. The analysis conducted for existing conditions indicates that Levels of Service "B" or better are currently experienced during the weekday AM and PM peak hours.

The future conditions were evaluated for No-Build and Build conditions. A review of these analyses indicates that Levels of Service "D" or better will be obtained at the intersection under the future conditions. It is also recommended that additional signing be installed in advance of the interchange areas to direct traffic to and from the local area roadways including the new access road which will serve the site.

#### 5. U.S. Route 9W and Southerly Site Access Road

The new southerly site access road will intersect with Route 9W south of the 218 Interchange. This intersection has been analyzed for two conditions including a full movement signalized intersection (Scenario No. 2). When constructed this intersection should consist of one entering and two exiting lanes and require the construction of separate left and right turn lanes on Route 9W. Capacity analysis conducted at this intersection utilizing future traffic volumes indicates that overall Levels of Service "B" will be experienced.

# 6. Academy Avenue and Mailler Avenue

Academy Avenue intersects with Mailler Avenue at a "stop" sign controlled intersection. Capacity analysis conducted at the intersection utilizing existing traffic volumes indicates a Level of Service "C" or better during peak periods. A review of the analysis indicates that for the future No-Build condition Levels of Service "C" or better will be maintained at the intersection.

The future Build conditions were re-analyzed utilizing the Build traffic volumes.

A review of these analyses indicates these Levels of Service "C" or better will be maintained at the intersection under future conditions.

# 7. Academy Avenue and Main Street/Faculty Road

Academy Avenue and Main Street/Faculty Road intersect at a stop sign controlled intersection. All approaches to the intersection consist of one lane. Capacity analysis conducted at the intersection utilizing the existing traffic volumes indicates that the northbound left turn movement currently operates at a Level of Service "F" during peak hours.

In order to improve operating conditions for this left turn movement, the installation of a traffic signal would be required. Therefore, it is recommended that this intersection be monitored in the future to determine if traffic signal warrants will be satisfied. If satisfied, a fair-share contribution towards the signalization should be made by the Applicant.

The intersection was re-evaluated assuming signalization utilizing the 2010 No-Build and 2010 No-Build traffic volumes. A review of these analyses indicates overall Levels of Service "B" will be obtained.

# 8. U.S. Route 9W and Willow Avenue

Willow Avenue intersects with US Route 9W at a grade separated interchange. The ramps are located in the northwest and southeast quadrants of the interchange. The ramp connections to Willow Avenue are both stop sign controlled and channelized. Capacity analysis, conducted at the intersections indicate that during peak periods traffic exiting the ramps is currently operating at Level Service "C" or better. A review of the 2010 No-Build and Build analysis indicates that similar levels of service will be maintained at the interchange signing and striping improvements should be considered at these intersections.

# G. SUMMARY OF FINDINGS AND RECOMMENDATIONS

Based on a review of the field conditions in the vicinity of the site, as well as a review of the results of the capacity analysis, the following is a summary of the findings and recommendations relative to the proposed development.

1. The construction of the new access road connection to Route 9W will have to be coordinated with the New York State Department of Transportation. Under the current development plan, the site can be served via a right turn entry and right turn exit at the northerly portion of the property. The southerly access (Scenario

No. 2) includes the provision of a full-movement signalized intersection. This improvement will include construction of separate turn lanes on Route 9W as well as the installation of a new traffic signal.

- 2. The New York State DOT has evaluated improvements to the 9W corridor which include safety and capacity type improvements. It is expected that the improvements will include extension of acceleration and deceleration lanes at the 218 interchange.
- 3. As a result of the capacity analysis, certain intersection improvements were identified as described in the previous section. These should be implemented with or without the development of the project. A fair-share contribution to these should be made by the proposed project.
- 4. At the existing intersection of the Route 9W northbound on/off ramp connection to Route 218, this intersection should be modified to allow exiting movements along Route 218 in both directions. Under existing conditions there is an unpaved area which is occasionally utilized by vehicles; however this should be modified to provide a standard intersection.
- 5. In addition to the above items, several of the intersections in the vicinity of the site should be improved by the addition of the new pavement markings including stop bars, painted stop bars, etc. Furthermore, the sight distance at some of the locations could be improved by the pruning of the existing vegetation located

within the right-of-way. These improvements should be implemented regardless of the proposed development.

#### H. SUMMARY AND CONCLUSIONS

Based on the results of the field inspections of the roadways in the vicinity of the site as well as the results of the analysis, certain improvements have been identified, many of which are required regardless of the proposed development. The development of the property will also require close coordination with NYSDOT as part of the Highway Work Permit Process to coordinate the access improvements in conjunction with the U.S. Route 9W corridor improvements.

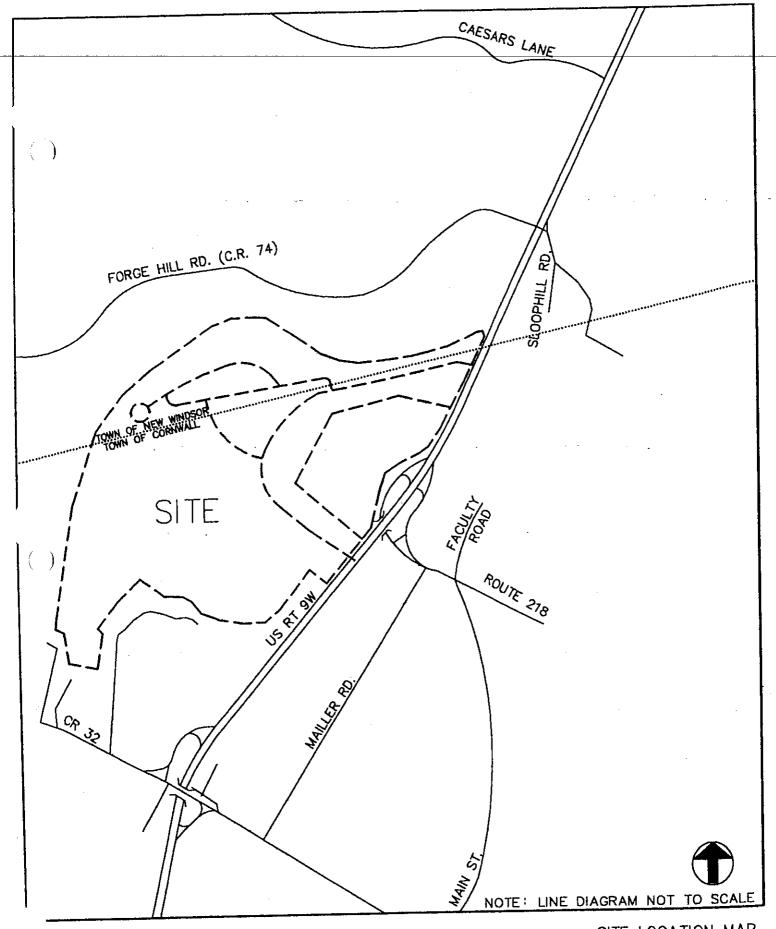
Respectfully submitted,

JOHN COLLINS ENGINEERS, P.C.

Philip J. Grealy, Ph.D., P.E.

APPENDIX "A"

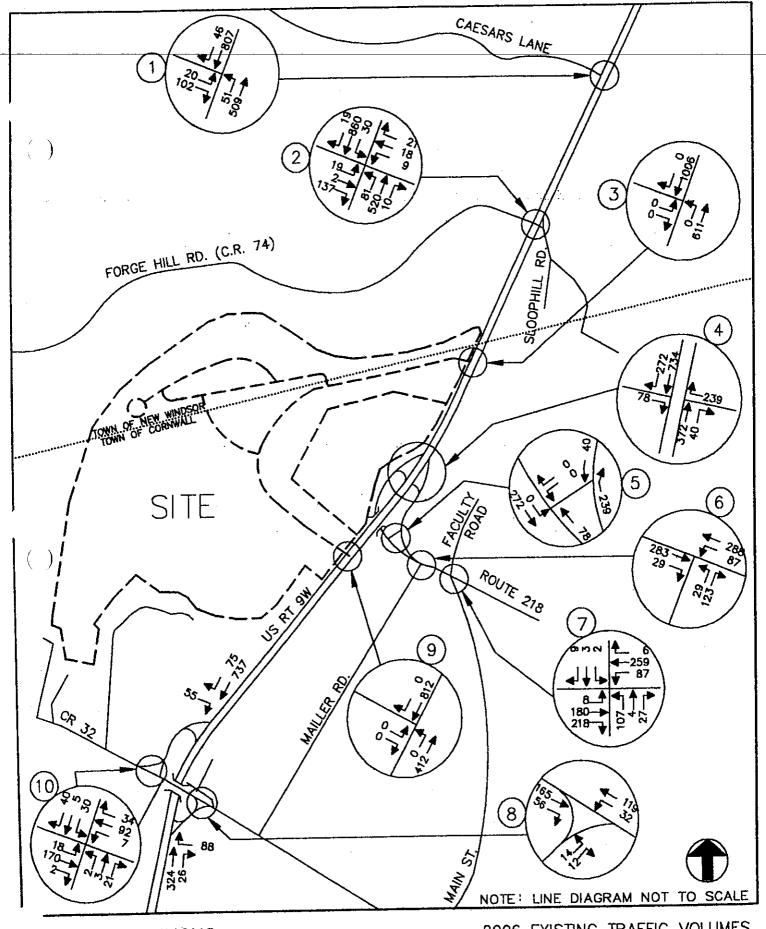
FIGURES



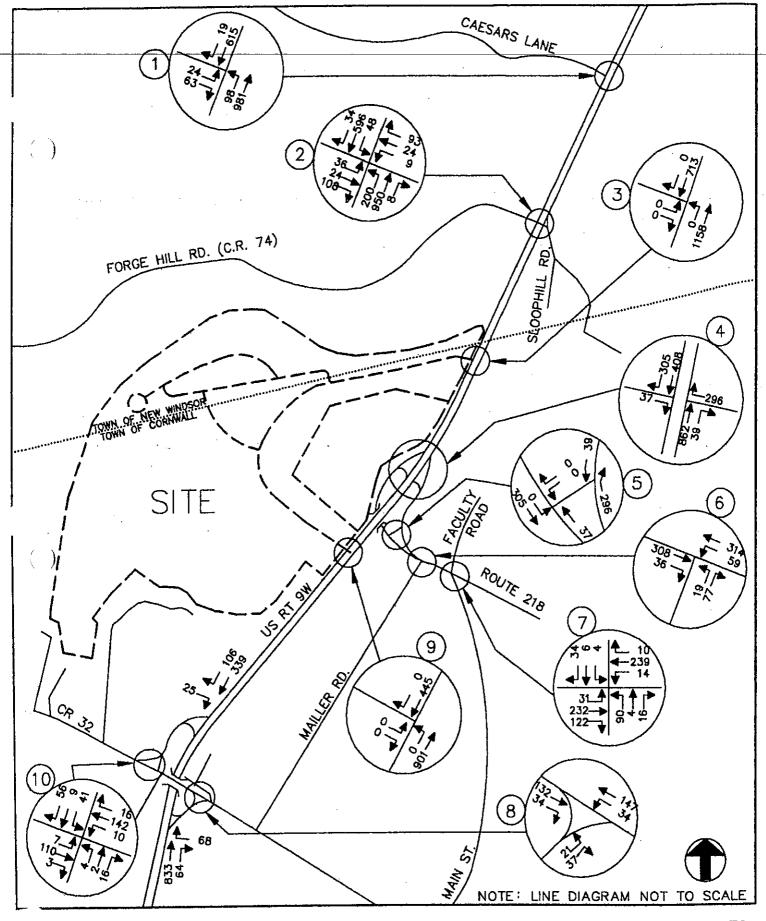
DRNWALL COMMONS
NWALL / NEW WINDSOR, NY

JOHN COLLINS ENGINEERS, P.C. HAWTHORNE, NEW YORK

SITE LOCATION MAP

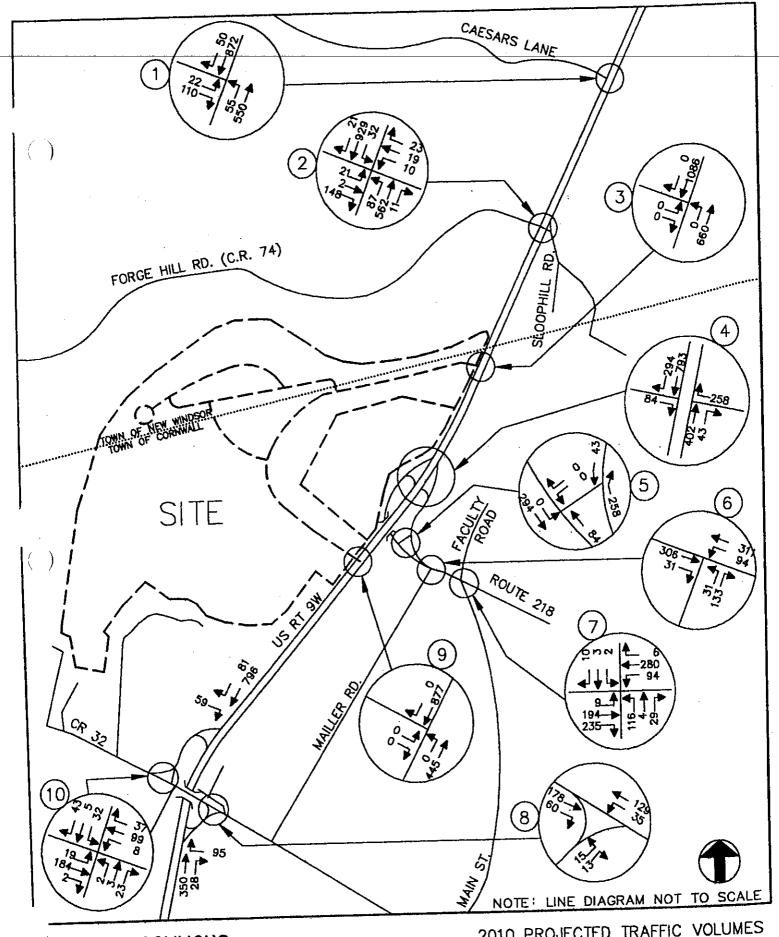


JRNWALL COMMONS CONWALL / NEW WINDSOR, NY JOHN COLLINS ENGINEERS, P.C. HAWTHORNE NEW YORK 2006 EXISTING TRAFFIC VOLUMES
PEAK AM HOUR



CORNWALL COMMONS
CORNWALL / NEW WINDSOR, NY
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HAWTHORNE, NEW YORK

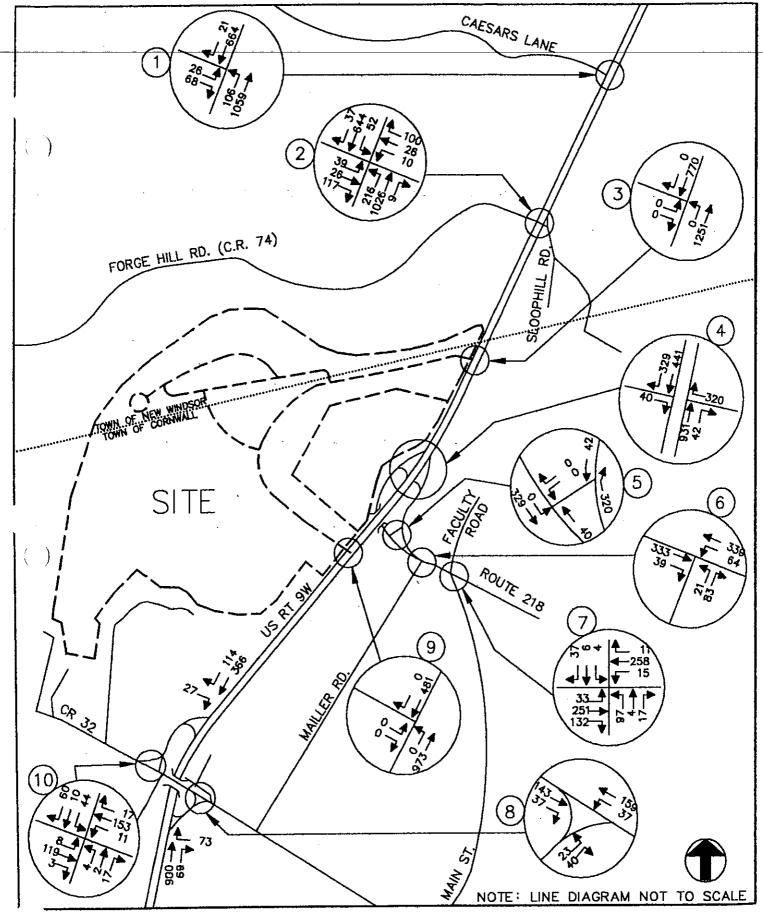
2006 EXISTING TRAFFIC VOLUMES PEAK PM HOUR



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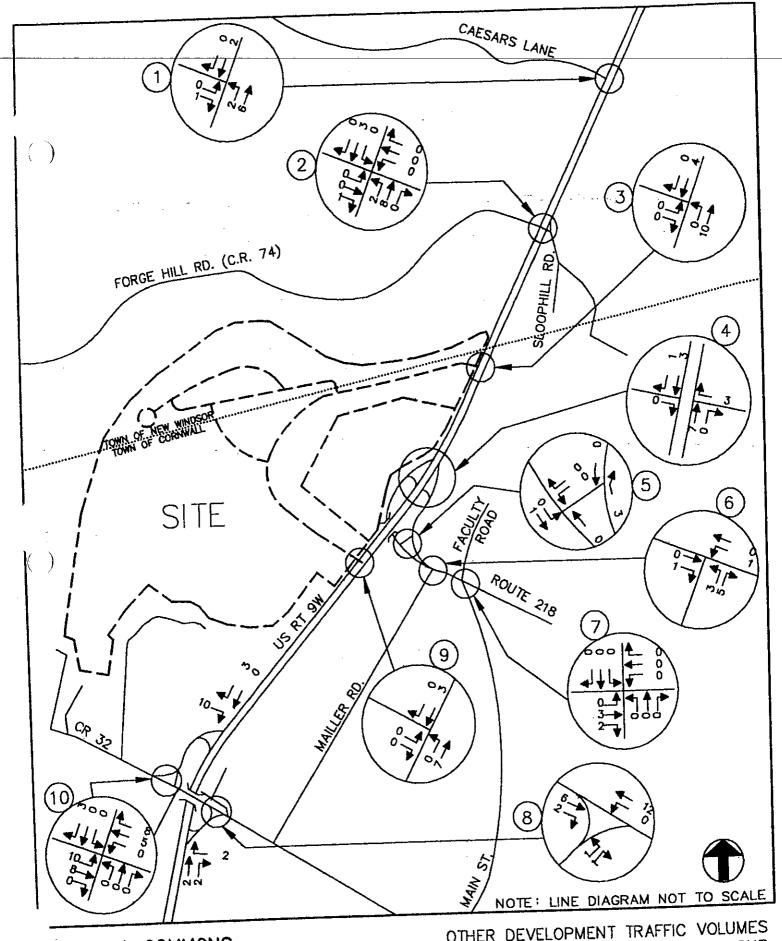
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2010 PROJECTED TRAFFIC VOLUMES PEAK AM HOUR



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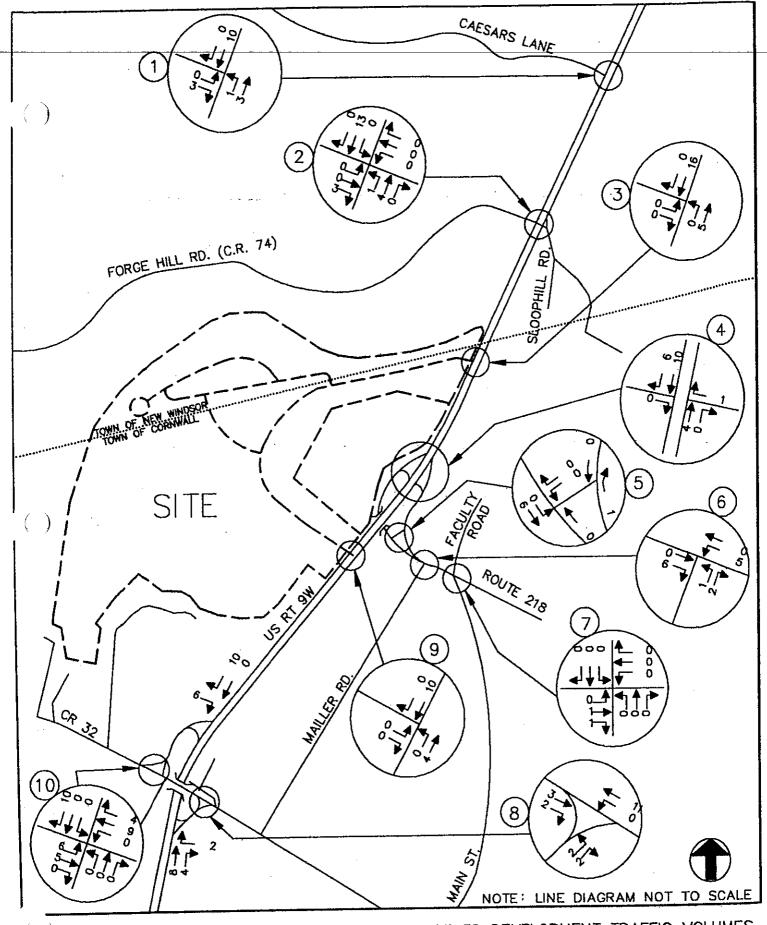
2010 PROJECTED TRAFFIC VOLUMES PEAK PM HOUR



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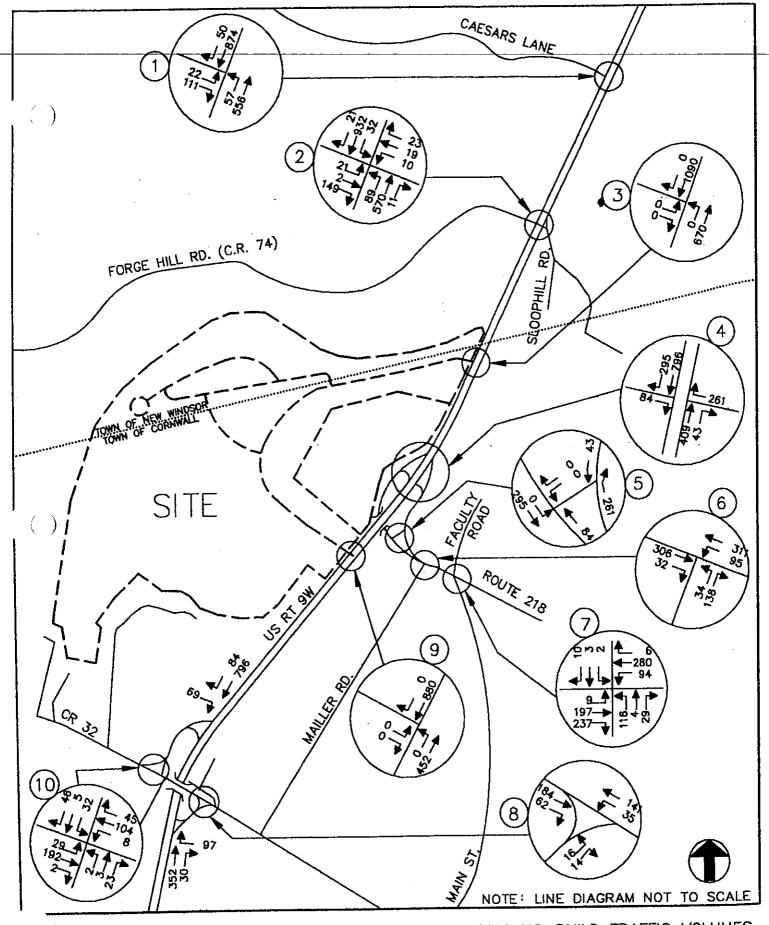
JOHN COLLINS ENGINEERS, P.C. HAWTHORNE , NEW YORK

OTHER DEVELOPMENT TRAFFIC VOLUMES PEAK AM HOUR



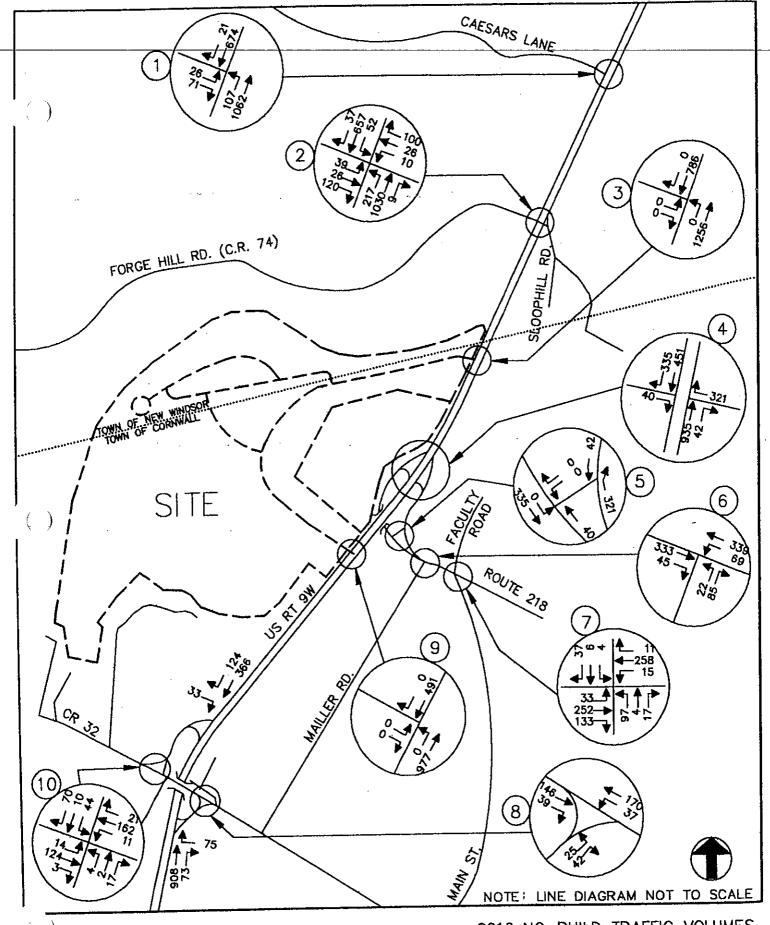
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OTHER DEVELOPMENT TRAFFIC VOLUMES PEAK PM HOUR



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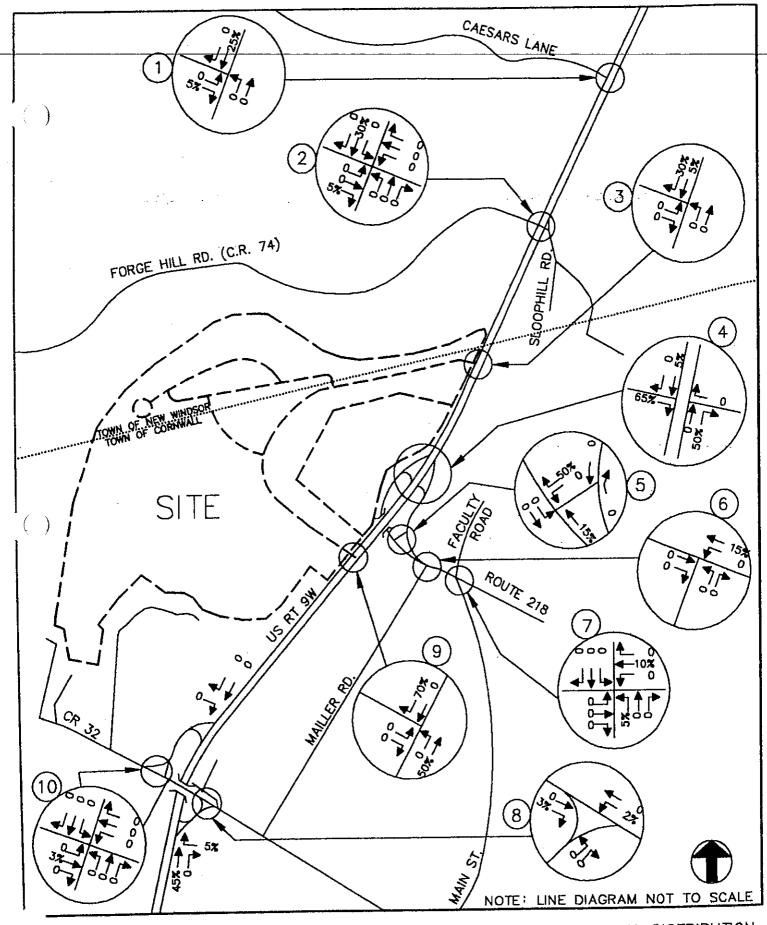
2010 NO-BUILD TRAFFIC VOLUMES
PEAK AM HOUR



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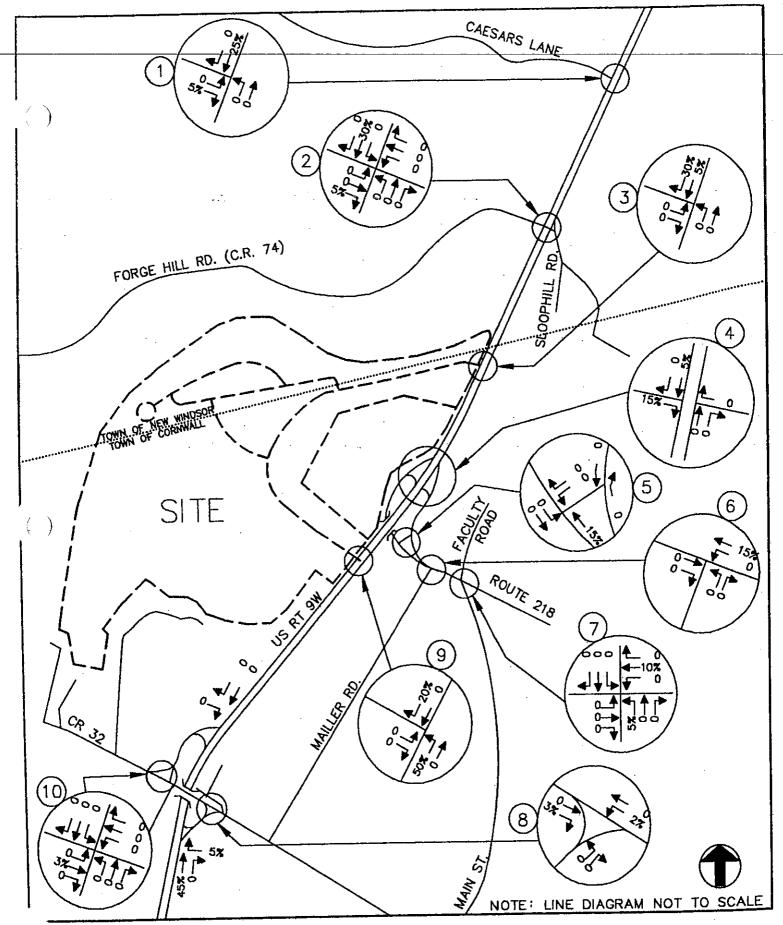
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2010 NO-BUILD TRAFFIC VOLUMES PEAK PM HOUR



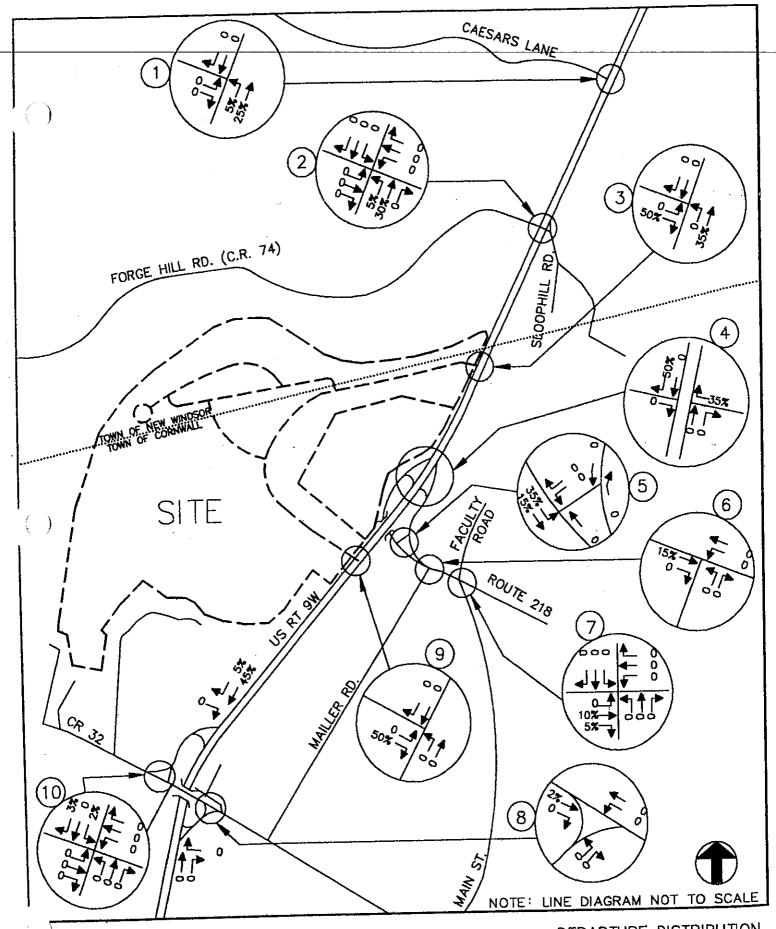
RNWALL COMMONS CORNWALL / NEW WINDSOR, NY ARRIVAL DISTRIBUTION

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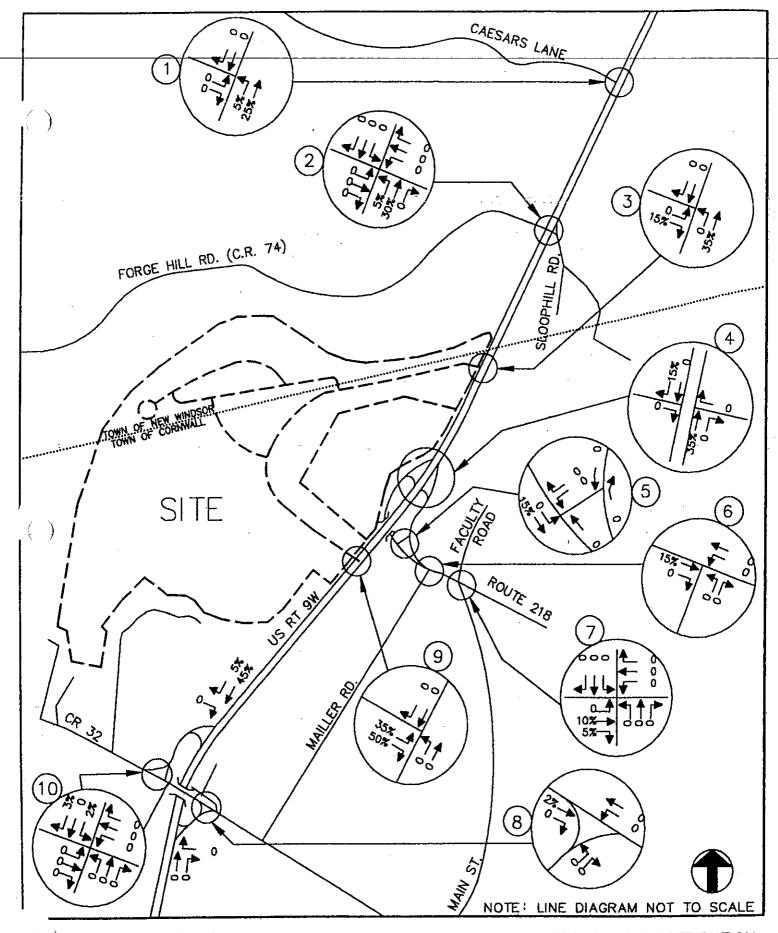
CORNWALL COMMONS CORNWALL / NEW WINDSOR, NY JOHN COLLINS ENGINEERS, P.C. HAWTHORNE, NEW YORK ARRIVAL DISTRIBUTION

(SCENARIO 2)
PROJECT NO. 173 DATE: JANUARY 2007 FIG. NO. 10A



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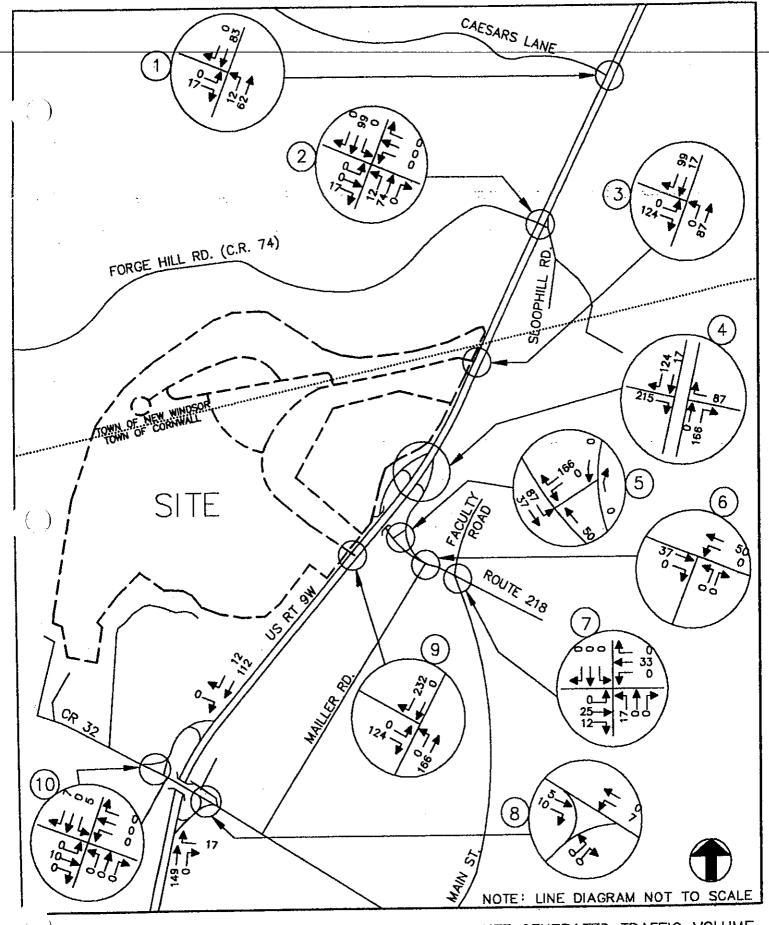
DEPARTURE DISTRIBUTION



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DEPARTURE DISTRIBUTION

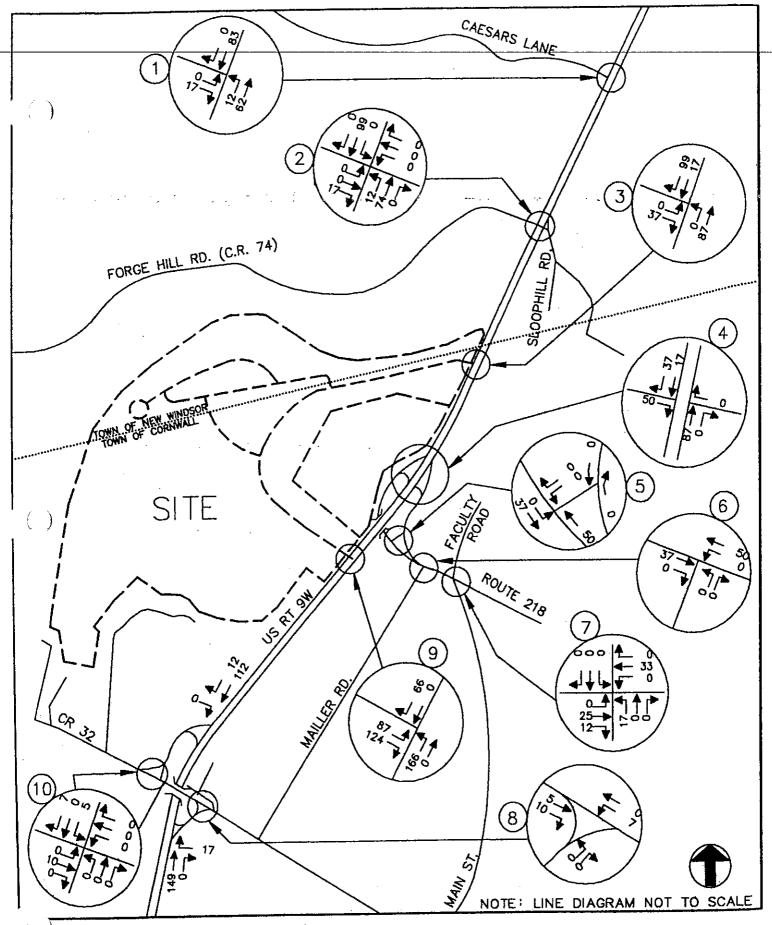
(SCENARIO 2)



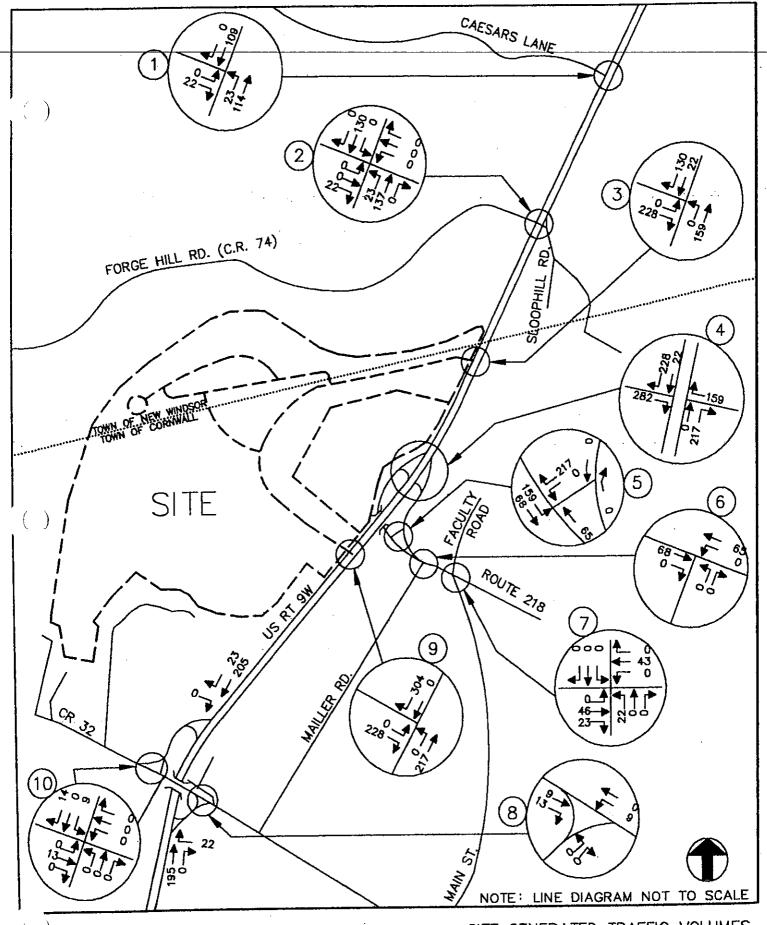
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SITE GENERATED TRAFFIC VOLUME PEAK AM HOUR

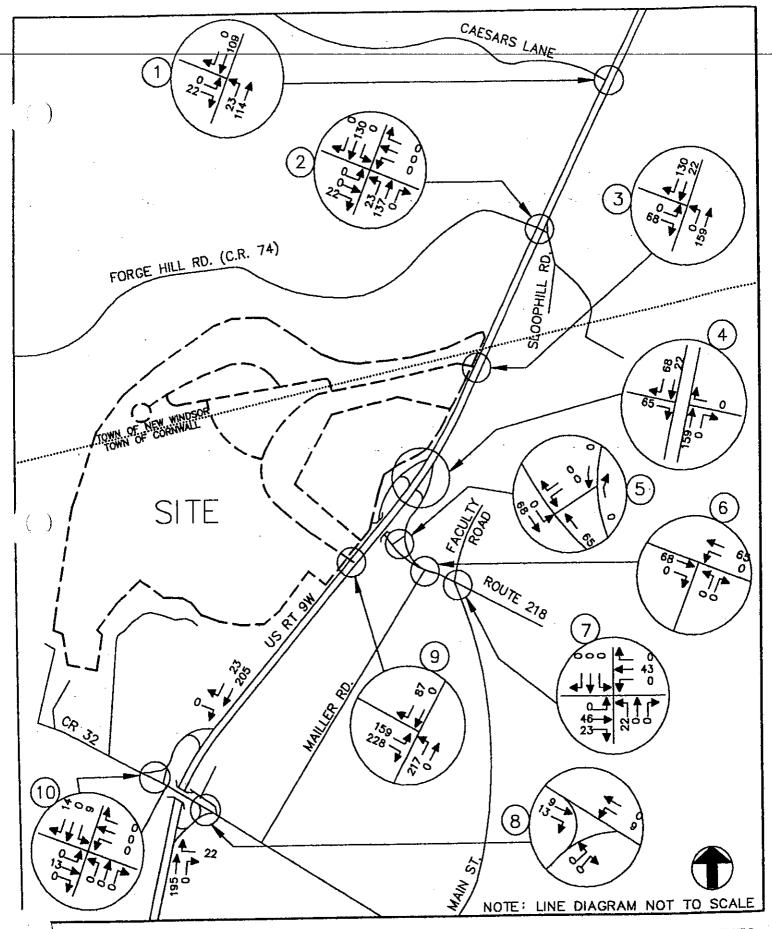


JRNWALL COMMONS CORNWALL / NEW WINDSOR, NY JOHN COLLINS ENGINEERS, P.C. HAWTHORNE, NEW YORK SITE GENERATED TRAFFIC VOLUME PEAK AM HOUR (SCENARIO 2)



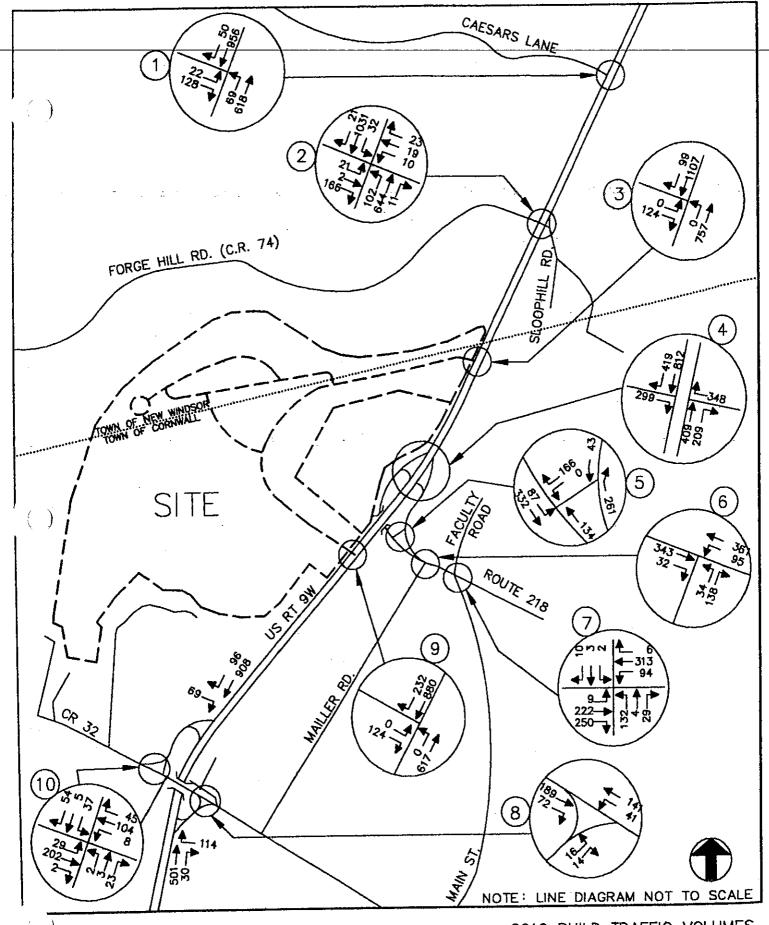
CORNWALL COMMONS CORNWALL / NEW WINDSOR, NY JOHN COLLINS ENGINEERS, P.C. HAWTHORNE, NEW YORK SITE GENERATED TRAFFIC VOLUMES
PEAK PM HOUR

PROJECT NO. 173 DATE: JANUARY 2007 FIG. NO. 13



JRNWALL COMMONS CORNWALL / NEW WINDSOR, NY JOHN COLLINS ENGINEERS, P.C. HAWTHORNE, NEW YORK SITE GENERATED TRAFFIC VOLUMES
PEAK PM HOUR
(SCENARIO 2)

PROJECT NO. 173 DATE: JANUARY 2007 FIG. NO. 13A

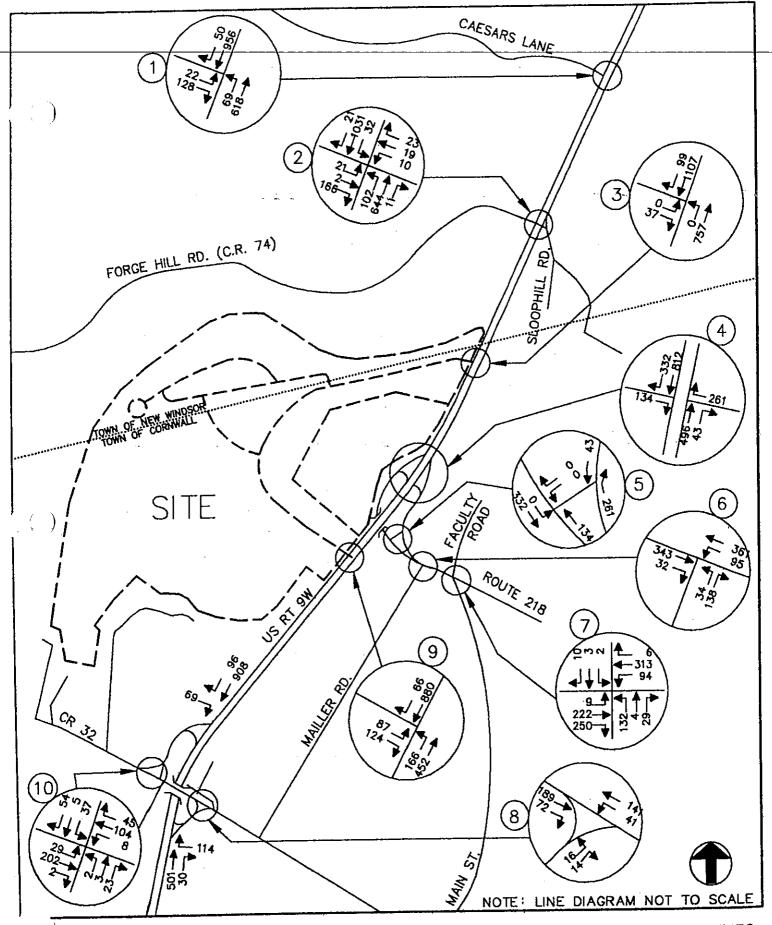


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2010 BUILD TRAFFIC VOLUMES PEAK AM HOUR

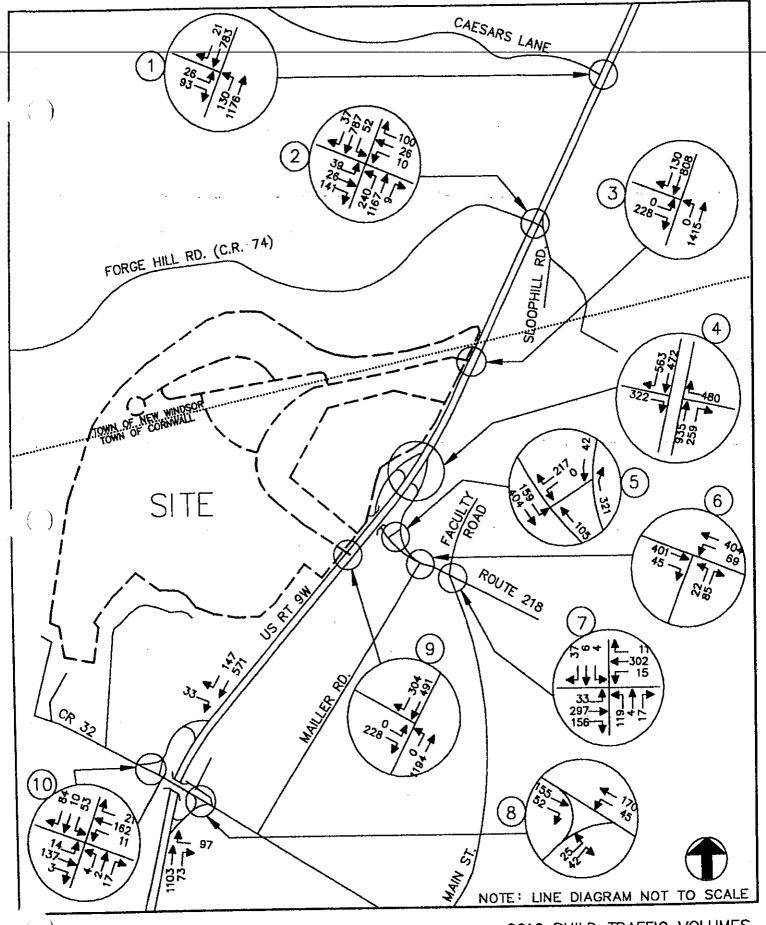
PROJECT NO. 173 DATE: JANUARY 2007 FIG. NO. 14



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2010 BUILD TRAFFIC VOLUMES
PEAK AM HOUR
(SCENARIO 2)

PROJECT NO. 173 DATE: JANUARY 2007 FIG. NO. 14A

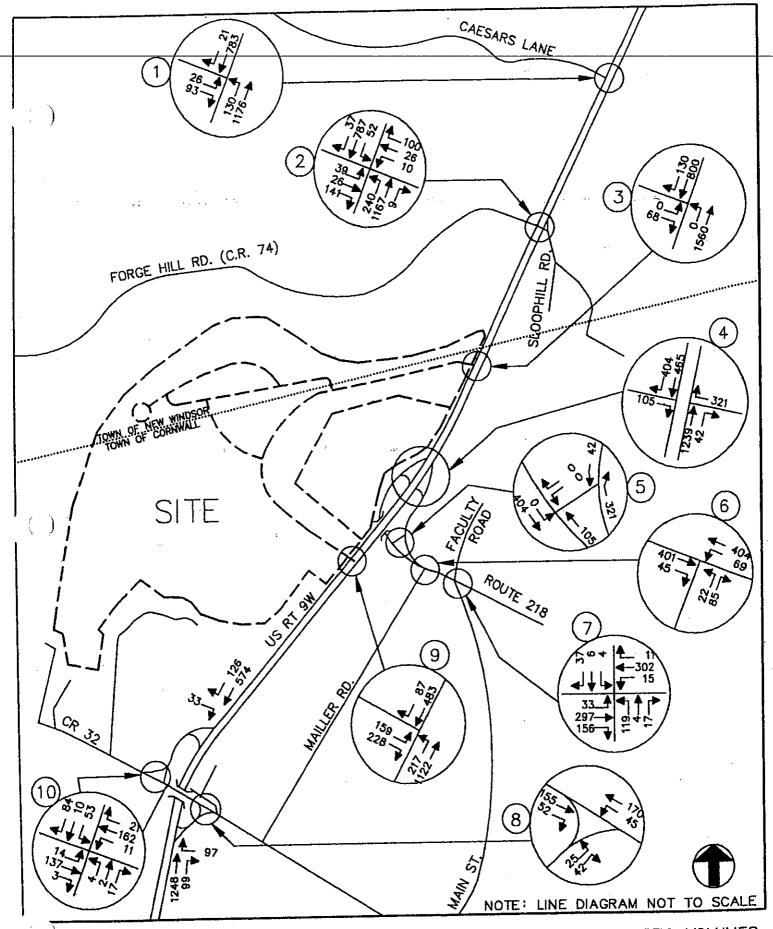


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2010 BUILD TRAFFIC VOLUMES PEAK PM HOUR

PROJECT NO. 173 DATE: JANUARY 2007 FIG. NO. 15



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2010 BUILD TRAFFIC VOLUMES
PEAK PM HOUR
(SCENARIO 2)

PROJECT NO. 173 DATE: JANUARY 2007 FIG. NO. 15A

APPENDIX "B"

TABLES

# HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED SITE GENERATED TRAFFIC VOLUMES

		ENTRY			EXIT	
CORNWALL COMMONS	HTGR*	VOLUME	NEW TRIPS	HTGR*	VOLUME	NEW TRIPS
SENIOR ADULT HOUSING (490 DWELLING UNITS)		·				
PEAK AM HOUR	0.12	59	59	0.19	93	93
PEAK PM HOUR	0.19	93	93	0.12	59	59
SHOPPING CENTER (45,000 S.F.)						
PEAK AM HOUR	1.31	59	44	0.84	38	29
PEAK PM HOUR	4.11	185	139	4.11	185	139
HIGH TURNOVER RESTAURANT (15,500 S.F.)						
PEAK AM HOUR	5.99	93	70	5.53	86	65
PEAK PM HOUR	6.66	103	77	4.26	66	50
OFFICE BUILDING (50,000 S.F.)						
PEAK AM HOUR	1.90	95	95	0.26	13	13
PEAK PM HOUR	0.46	23	23	2.24	112	112
HOTEL (80 ROOMS)						-
PEAK AM HOUR	0.24	19	19	0.15	12	12
PEAK PM HOUR	0.31	25	25	0.28	22	22
CONGREGATE CARE (70 BEDS)	·					
PEAK AM HOUR	0.09	6	6	0.09	6	6
PEAK PM HOUR	0.07	5	5	0.15	11	11
TOTAL		VOLUME			VOLUME	
PEAK AM HOUR	-	331	293	-	248	217
PEAK PM HOUR		434	362	-	455	392

### NOTES:

- 1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON THE DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 7TH EDITION, 2003. ITE LAND USE CODE 710 GENERAL OFFICE BUILDING, LU 252 SENIOR ADULT HOUSING, LU 820 RETAIL, LU 932 HIGH TURNOVER SIT-DOWN RESTAURANT, LU 310 HOTEL AND LU 620 NURSING HOME.
- 2) A 25% PASS-BY CREDIT HAS BEEN TAKEN FOR THE RETAIL AND RESTAURANT USE.

### TABLE 2

## LEVEL OF SERVICE SUMMARY TABLE

								[	SCENA	
			2006 EX	STING	2010 NC	BUILD	2010 E		2010 E	
	•		AM	PM	AM	PM	- AM .	PM	AM	PM
1.	CAESER'S LANE & US ROUTE 9W	NB EB	B[10.4] C[15.7]	A[9.8] C[18.3]	B[10.8] C[18.0]	A[9.9] C[21.5]	B[11.5] C[21.0]	B[10.8] D[28.8]	B[11.5] C[21.0]	B[10.8] D[28.8]
2.	FORGE HILL RD. (C.R. 74) / SLOOPHILL RD. & US ROUTE 9W	NB SB EB WB	B[17.4] B[14.3] D[37.7] C[32.8]	D[47.8] B[13.8] D[39.3] C[34.7]	B[18.4] B[14.8] D[40.6] C[32.8]	E[70.0] B[14.1] D[43.0] C[34.9]	C[20.1] B[15,6] D[44.3] C[32.9]	F(120.3] B(14.5) D(49.6) C(34.9)	C[20.1] B[15.6] D[44.3] C[32.9]	F[120.3] B[14.5] D[49.6] C[34.9] E[75.4]
	WITH SIGNAL TIMING IMPROVEMENTS  WITH NYSDOT IMPROVEMENTS	SB EB WB OVERALL NB SB EB WB	B[17.7]	D[36.5]	B[18.6]  C[25.4]  C[21.0]  C[31.0]  C[27.8]  C[23.6]  B[10.8]  C[21.0]  C[31.0]  C[27.8]  B[18.3]	D[47.9]  C[20.7]  B[19.9]  D[39.6]  C[33.9]  C[22.5]  B[10.5]  B[18.6]  C[32.4]  C[30.1]  B[15.8]	B[20.0]  B[19.1]  C[22.6]  C[31.6]  C[27.8]  C[22.1]  B[11.1]  C[22.6]  C[31.6]  C[27.8]  B[19.2]	E[75.4]  D[45.7] C[20.6] D[49.6] C[34.9] D[37.0]  B[12.6] B[19.4] C[33.8] C[30.1] B[17.2]	B[20.0]  B[19.1]  C[22.6]  C[31.6]  C[27.8]  C[22.1]  B[11.1]  C[22.6]  C[31.6]  C[27.8]  B[19.2]	D[45.7] C[20.6] D[49.6] C[34.9] D[37.0] B[12.6] B[19.4] C[33.8] C[30.1] B[17.2]
3	NORTH END SITE ACCESS & US ROUTE 9W	OVERALL EB		-		-	C[18.4]	C[19.0]	B[14.9]	B[13.3]
- 4	NYS ROUTE 218 & US ROUTE 9W NB RAMPS	WB	B[10.7]	B[15.0]	B[11.1]	C[16.7]	B[12.3]	D[29.1]	B[11.6]	C[22.2]
	NYS ROUTE 218 & US ROUTE 9W SB RAMPS	EB	B[11.3]	A[9.6]	B[11.8]	A[9.8]	C[17.1]	B[13.2]	B[12.6]	B[10.3]
-	NYS ROUTE 218 & US ROUTE 9W (ON/OFF RAMPS)	SB EB			-	-	B[11.0] A[7.9]	B[11.3] A[8.0]	A[9.3] A[7.6}	A[9.0] A[7.5]

### NOTES:

<sup>1)</sup> THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND AVERAGE VEHICLE DELAY IN SECONDS.

<sup>2)</sup> SEE APPENDIX "D" FOR A DESCRIPTION OF THE LEVELS OF SERVICE

<sup>3)</sup> THE 2010 BUILD REPRESENTS THE RESULTS FOR THE CURRENTLY PROPOSED DEVELOPMENT AS PRESENTED IN TABLE 1R.

<sup>4)</sup> AT LOCATION 2, THE ANALYSIS REFLECTS THE MYSDOT INTERIM SIGNAL & STRIPING IMPROVEMENTS THAT HAVE BEEN COMPLETED SINCE

THE TIME OF THE ORIGINAL DGEIS. TRAFFIC SIGNAL IMPROVEMENTS ARE ALSO INCLUDED UNDER THE REVISED PLAN. THE MYSDOT IMPROVEMENTS AT THIS LOCATION INCLUDE THE LANE WIDENING.

# TABLE 2 (CONTINUED) LEVEL OF SERVICE SUMMARY TABLE

	- # · · · · · · · · · · · · · · · · · ·	•			•		· · · · · ·			
		_					0040.5	5 W 6	SCENA 2010 E	
			2006 EX		2010 NC		2010 E			
			AM	PM	AM	PM	AM	PM	AM	PM
6.	MAILLER AVENUE & NYS ROUTE 218	NB WB	C[16.7] A[8.5]	C[20.0] A[9.0]	C[19.8] A[8.6]	C[16.6] A[8.7]	C[23.2] A[8.8]	C[20.0] A[9.0]	C[23.2] A[8.8]	C[20.0] A[9.0]
7.	MAIN STREET / FACULTY ROAD & NYS ROUTE 218  WITH SIGNALIZATION	NB SB EB WB NB SB EB WB	F[157.9] C[17.6] A[8.1] A[9.2]	F[54.8] B[13.8] A[8.1] A[8.5]	F[300.6] C[19.4] A[8.2] A[9.5] B[17.3] B[14.8] B[11.8] B[14.6] B[13.7]	F[91.3] B[14.5] A[8.2] A[8.7] B[17.7] B[15.6] A[9.6] A[7.7] B[10.4]	F[525.7] C[21.9] A[8.4] A[9.8] B[18.3] B[14.8] B[13.7] B[18.9] B[16.4]	F[280.4] C[16.6] A[8.4] A[9.0] B[18.8] B[15.6] B[10.8] A[8.2] B[11.3]	F[525.7] C[21.9] A[8.4] A[9.8] B[18.3] B[14.8] B[13.7] B[18.9] B[16.4]	F[280.4] C[16.6] A[8.4] A[9.0] B[18.8] B[15.6] B[10.8] A[8.2] B[11.3]
8	WILLOW AVE. (C.R. 32) & US ROUTE 9W NB RAMPS	NB WB	B[11.2] A[7.9]	₿(10.8) A(7.7)	B[11.7] A[8.0]	B[11.3] A[7.8]	B[11.9] A[8.1]	B[11.6] A[7.9]	B[11.9] A[8.1]	B[11.6] A[7.9]
9.	SOUTH END SITE ACCESS & US ROUTE 9W WITH SIGNALIZATION	EB  NB SB EB OVERALL	- - -	-	-	-	C[16.9] - - - -	C[16.3] - - - -	A[8.4] C[23.3] C[30.7] B[19.0]	C[25.4] C[30.8] B[17.7] C[25.5]
10.	WILLOW AVE. (C.R. 32) & US RTE 9W SB RAMP/HARRIS LANE	NB SB EB WB	B[10.3] B[10.3] A[7.6] A[7.7]	B[10.1] B[12.0] A[7.7] A[7.5]	B[10.6] B[12.5] A[7.7] A[7.8]	8[10.4] B[12.9] A[7.8] A[7.6]	8[10.7] B[12.9] A[7.7] A[7.8]	B[10.7] B[13.6] A[7.8] A[7.6]	B[10.7] B[12.9] A[7.7] A[7.8]	B[10.7] B[13.6] A[7.8] A[7.6]

### NOTES:

<sup>1)</sup> THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND AVERAGE VEHICLE DELAY IN SECONDS.

<sup>2)</sup> SEE APPENDIX "D" FOR A DESCRIPTION OF THE LEVELS OF SERVICE

<sup>3)</sup> THE 2010 BUILD REPRESENTS THE RESULTS FOR THE CURRENTLY PROPOSED DEVELOPMENT AS PRESENTED IN TABLE 1R.

<sup>4)</sup> AT LOCATION 2, THE ANALYSIS REFLECTS THE NYSDOT INTERIM SIGNAL & STRIPING IMPROVEMENTS THAT HAVE BEEN COMPLETED SINCE THE TIME OF THE ORIGINAL DIGEIS. TRAFFIC SIGNAL IMPROVEMENTS ARE ALSO INCLUDED UNDER THE REVISED PLAN. THE MYSDOT IMPROVEMENTS AT THIS LOCATION INCLUDE THE LANE WIDENING.

APPENDIX "C"

CAPACITY ANALYSIS

#### HCS+: Unsignalized Intersections Release 5.2 TWO-WAY STOP CONTROL SUMMARY 2006 EXISTING AM PEAK HOUR alyst: /ency/Co.: JANUARY 2007 Date Performed: Analysis Time Period: 2006 EXISTING AM PEAK HOUR CAESER'S LANE & US ROUTE 9W Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: 173EXAM1 CAESER'S LANE East/West Street: US ROUTE 9W North/South Street: Study period (hrs): Intersection Orientation: NS Vehicle Volumes and Adjustments Southbound Northbound Approach Major Street: 5 6 4 3 2 1 Movement Т R L T ' R 1 L 807 46 509 51 Volume 0.91 0.91 0.91 0.91 Peak-Hour Factor, PHF 886 50 559 Hourly Flow Rate, HFR 56 2 Percent Heavy Vehicles Undivided Median Type/Storage RT Channelized? 2 0 2 1 Lanes TR Т Т L Configuration No No ostream Signal? Eastbound Westbound Approach Minor Street: 12 10 11 9 7 Movement R R Г $\mathbf{T}$ L 102 20 Volume 0.91 0.91 Peak Hour Factor, PHF 112 21 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles -1 Percent Grade (%) Νo Flared Approach: Exists?/Storage 0 0 Lanes LR Configuration Delay, Queue Length, and Level of Service Eastbound Westbound SB NB Approach 10 11 12 9 8 7 1 Movement LR ١ L Lane Config 133 56 v (vph) 467 727 C(m) (vph) 0.28 0.08 ₹/c 1.16 0.25 95% queue length 15.7 10.4 Control Delay С В 3OS 15.7

С

Ápproach Delay

Approach LOS

## TWO-WAY STOP CONTROL SUMMARY

\nalyst:

2006 EXISTING PM PEAK HOUR

.gency/Co.:

Date Performed:

JANUARY 2007

Intersection:

Analysis Time Period: 2006 EXISTING PM PEAK HOUR CAESER'S LANE & US ROUTE 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173EXPM1

CAESER'S LANE East/West Street: North/South Street: US ROUTE 9W

Intersection Orientation: NS

Study period (hrs): 0.25

		cle Volu	thbound			So	uthbound		
ajor Street:	Approach		2	3	1	4	5	6	
-	Movement	1 L	T	R	į	L	T	R	
		98	981				615	19	
olume		=	0.91				0.91	0.91	
eak-Hour Fact	or, PHF	0.91					675	20	
AURIU Flow Ra	ite, Hrk	107	1078						
ercent Heavy	Vehicles	2				,			
edian Type/St	corage	Undivi	.ded			/		•	
T Channelized	1?	1	2				2	0	
anes		1_					T T	R	
configuration		L	T				No		
Jpstream Signa	al?		Ио						
·		Was	stbound			Εa	stbound		
Minor Street:	Approach		8	9	1	10	11	12	
	Movement	7	Ť	Ř	i	L	T	R	
		L	1	10	,	_			
			<del></del>			24		63	
Volume						0.91		0.91	
Peak Hour Fac	tor, PHF					26		69	
tourly Flow R	ate, Hrk					2		2	
Percent Heavy	Vehicles	•	•			-	-1		
	. (*)		0			/		No	/
Percent Glade Flared Approa	ch: Exists?	/Storage				, o		0	
Lanes						v	LR	•	
Configuration	1								

	Delay,	Queue	Len	gth,	and Leve: estbound	l of	Ser	vice	astbound	
Approach Movement Lane Config	- NB 1 L	SB 4	1	7	8	9	 	10	11 LR	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	107 897 0.12 0.40 9.6 A								95 365 0.26 1.02 18.3 C	

## TWO-WAY STOP CONTROL SUMMARY

alyst:

2010 NO-BUILD AM PEAK HOUR

ency/co.:

Date Performed:

JANUARY 2007

Intersection:

Analysis Time Period: 2010 NO-BUILD AM PEAK HOUR CAESER'S LANE & US ROUTE 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173NBAM1

CAESER'S LANE East/West Street: North/South Street: US ROUTE 9W

Intersection Orientation: NS

Study period (hrs): 0.25

	le Volu	mes and thbound	Adjus	CINE	Sou	thbound		·
Major Street: Approach		2	3	1	4	5	6	
Movement	1 L	T	R	į	L	T	R	
Volume	57	556				874 0.91	50 0.91	
Peak-Hour Factor, PHF Hourly Flow Rate, HFR	0.91 62	0.91 610				960	54	
Percent Heavy Vehicles Median Type/Storage	2 Undivi	_ded			/			
RT Channelized? Lanes	1 L	2 T				2 C T TE		
Configuration spatream Signal?	ц	No				No		
)	· WA	stbound			Ea	stbound		
Minor Street: Approach Movement	7 L	8 T	9 R	1	10 L	11 T	12 R	
					22		111	
Volume Peak Hour Factor, PHF Hourly Flow Rate, HFR					0.91 24 2		0.91 121 2	
Percent Heavy Vehicles Percent Grade (%) Flared Approach: Exists?	/Storage	0			/ 0	<b>~1</b>	No 0	/
Lanes Configuration						LR		

Approach Movement	Delay, NB	Queue SB 4	Le	ngth 7	, and Level Westbound 8	of 9	Serv	vice 10	Eastbound 11 LR	12
Lane Config	L		١		···				145	
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	62 680 0.09 0.30 10.8 B								421 0.34 1.51 18.0 C 18.0	

#### HCS+: Unsignalized Intersections Release 5.2 TWO-WAY STOP CONTROL SUMMARY 2010 NO-BUILD PM PEAK HOUR alyst: lancy/Co.: JANUARY 2007 Date Performed: Analysis Time Period: 2010 NO-BUILD PM PEAK HOUR CAESER'S LANE & US ROUTE 9W Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: 173NBPM1 CAESER'S LANE East/West Street: US ROUTE 9W Study period (hrs): 0.25 North/South Street: Intersection Orientation: NS Vehicle Volumes and Adjustments Southbound Northbound Approach Major Street: 6 5 4 3 2 1 Movement R Т L R Т L 674 21 1062 107 0.91 0.91 Volume 0.91 0.91 Peak-Hour Factor, PHF 23 740 1167 117 Hourly Flow Rate, HFR Percent Heavy Vehicles Undivided Median Type/Storage RT Channelized? 2 0 2 1 TR Т Lanes $\mathbf{T}$ L Configuration No No pstream Signal? Eastbound Westbound Approach 12 Minor Street: 11 10 9 8 7 Movement R Т L R T $\mathbf{L}$ 71 26 0.91 0.91 Volume Peak Hour Factor, PHF 78 28 Hourly Flow Rate, HFR 2 2 Percent Heavy Vehicles -1 0 Percent Grade (%) No Flared Approach: Exists?/Storage 0 0 LR Lanes Configuration Delay, Queue Length, and Level of Service Eastbound Westbound SB NB 12 11 10 Approach 9 7 4 1 LR Movement L Lane Config 106 117 323 v (vph) 845 0.33 G(w) ( $\Delta by$ ) 0.14 1.39 v/c 0.48 95% queue length 21.5 9.9 Control Delay С

21.5

Ç

Α

LOS

Approach Delay

Approach LOS

## TWO-WAY STOP CONTROL SUMMARY

\nalyst:

2010 BUILD AM PEAK HOUR

gency/Co.:

Date Performed:

JANUARY 2007

Intersection:

Analysis Time Period: 2010 BUILD AM PEAK HOUR CAESER'S LANE & US ROUTE 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDAM1

East/West Street: North/South Street:

CAESER'S LANE

US ROUTE 9W

Intersection Orientation: NS

Study period (hrs): 0.25

	Vehi	cle Volu	mes and	Adjus	tme	nts	-thhouse		
Major Street: A	proach	Nor	thbound				uthbound	_	
Major Berees	vement	1	2	3		4	5	6	
5.7.	, v 0.11.0	L	T	R	1	L	T	R	
			618	<u> </u>			956	50	
Volume		69					0.91	0.91	
Peak-Hour Factor	, PHF	0.91	0.91				1050	54	
Hourly Flow Rate	, HFR	75	679				1000		
Percent Heavy Ve	hicles	2		<del></del>					
Median Type/Stor	age	. Undivi	.ded			/			•
RT Channelized?		4	^				2	)	
Lanes	•	1	2				T T		
Configuration		L	T				No		
pstream Signal?			Νo				NO		
/	pproach	Wes	tbound			Eâ	stbound		
Minor Street: A	pproacti	7	8	9	1	10	11	12	
M	ovement	L	T	R	į	L	T	R	
						22		128	
Volume						0.91		0.91	
Peak Hour Factor	PHF					24		140	
Hourly Flow Rate	HFR					2		2	
Percent Heavy Ve	hicles					٠ .	-1	-	-
Porcent Grade (9	s <b>)</b>		0 .			,	-T	Mo	1
Flared Approach:	Exists?/	/Storage			/			No	/
	•	-				0		0	
Lanes Configuration							LR		

Approach Movement Lane Config	Delay, NB 1 L	SB 4		119 C 7	West	bound 8	9	1	10 Ea	stbound 11 LR	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay )LOS Approach Delay Approach LOS	75 628 0.12 0.40 11.5									164 386 0.42 2.06 21.0 C 21.0	-

### TWO-WAY STOP CONTROL SUMMARY

2010 BUILD PM PEAK HOUR

nalyst: gency/Co.:

Date Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD PM PEAK HOUR Intersection: CAESER'S LANE & US ROUTE 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDPM1

CAESER'S LANE East/West Street: North/South Street: US ROUTE 9W

Intersection Orientation: NS

Study period (hrs): 0.25

	Vehi	cle Volu			stme	nts	<del></del>		
Major Street:	Approach	Noi	thbound			S	outhbound	_	
••••	Movement	1	2	3	1	4	5	6	
		L	T	R	1	L	T	R	
Volume	<del>, _, , _, , _, , _, , _, , _, , _, _, _,</del>	130	1176		<del></del>	·	783	21	
	AM DUF	0.91	0.91				0.91	0.91	
Peak-Hour Fact		142	1292				860	23	
Hourly Flow Ra	ite, urk	2	1272						
Percent Heavy		-	dod			/			
Median Type/St		Undivi	Lueu			,	•	•	
RT Channelized	1?						2 (	1	
Lanes		1_	2					_	
Configuration		${f L}$	T						
pstream Signa	1?		No				Ио		
<i>f</i>									<del></del>
Minor Street:	Approach	Wes	stbound				Castbound		·
	Movement	7	8	9	- 1	10	11	12	
		L	T	R	1	L	T	R	
Volume				<del> </del>		26		93	<del></del>
Peak Hour Fact	or PHF					0.91	L.	0.91	
Hourly Flow Ra						28		102	
Hourty Flow No	Vohicles					2		2	
Percent Heavy	AGUITOTES		0			-	-1		
Percent Grade	(a) Prietol	/c+02240	•		/		-	No	1
Flared Approac	CU: EXISTS:/	Scorage			,	C	١ .	0	,
Lanes						•	LŔ	,	
Configuration							ΉĽ		
								<del></del>	

Approach	_Delay, NB	Queue SB	Ĺе	ngt	h, and Le		Ser	vice	Eastbound	
Movement	1	4	1	7	8	9		10	11	12
Lane Config	L		l						LR	
v (vph)	142		<del></del>			<del> </del>			130	
C(m) (vph)	762								278	
A/C	0.19								0.47	
95% queue length	0.68								2.34	
Control Delay	10.8								28.8	
CONCLOT Detay	В								D	
									28.8	
Ápproach Delay Approach LOS									D	

Agency: TOWN OF NEW WINDSOR

te: JANUARY 2007

Jurisd: Year :

Inter.: CAESAR'S LANE & NYS ROUTE 9W

Area Type: All other areas

riod: 2010 NO-BUILD PEAK AM HOUR

riod: 201 rroject ID:	173NBAM	l I	110021				0			
E/W St: CAE	SAR'S LAN	NE		N/S	St: NY	S ROUT	'E 9W			
		SIGN	ALIZED	INTERSEC	TION S	UMMARY	, 			
	Eastbo		Westbo	und	Nort	hbound		South	oound R	. 1
	L T	R I	L T	R	L 	T P	i			
No. Lanes	1	0 0	0 0	0	1 L	1 C	) ] 	0 2	2 O	· I
LGConfig	•	LR   111		!		56	ĺ	874		i
Volume Lane Width	122			į	12.0 1	2.0		12.		ļ
RTOR Vol	i	0 1		1			 		0	ļ
Duration	0.25	Area Ty	pe: All	other a	areas ions					
Phase Combi	nation 1	2	3	4		5	6	7	8	
EB Left	A			NB	Left	A A				
Thru	•			) 	Thru Right	A				
Right Peds	A	•		1	Peds					
WB Left				SB	Left	<u>.</u>				
Thru					Thru Right	A A				
Right				} 	Peds	A				
Peds , % Right				EB	Right					
Right				WB	Right					
Green		.0	•			25.0 3.0				
Yellow	3. 2.					2.0				•
All Red	۷.					_	e Lengt	th: 50	.0	secs
<del>/</del>		_Intersec Adj Sat	tion Per Ratio	rformanc os	e Summa Lane (	ary Group	Appro	oach		
Appr/ Lane Gre		flow Rate		<del>_</del>			<del></del>			
	pacity	(s)	v/c	g/C	Delay	LOS	Delay	LOS		
Eastbound										
LR 5	04	1680	0.29	0.30	13.7	В	13.7	В		
Westbound										,
Northbound		A 1 7	0.30	0.50	8.1	A				
	209 946	417 1891	0.64	0.50	10.6	В	10.4	В		
Southbound	ì									
						78	9.2	A		
TR 1	L770	3539	0.57	0.50	9.2	A	J.E	••		
		3539 ion Delay					ction		A	

Agency: TOWN OF NEW WINDSOR

te: JANUARY 2007 riod: 2010 NO-BUILD PEAK PM HOUR

Project ID: 173NBPM1

E/W St: CAESAR'S LANE

Inter.: CAESAR'S LANE & NYS ROUTE 9W

Area Type: All other areas

Jurisd: Year :

N/S St: NYS ROUTE 9W

E/W St: CAE	SAR'S I	LANE		N/S	5C. N1	5 11001				
		sign		INTERSE				G	hbound	<del></del>
	East	bound	Westb		•	hbound T I		L		а I ?
	ļ L	T R	L T	R	ļ 1	1 1				`i
No. Lanes			0	0 0	<u> </u>	2 (	ō i	0	<del>-</del>	<u>)</u> [
LGConfig		LR			L	T	.		TR	, ,
Volume	126	71			•	062	j i		574 2: .2.0	د ) ا
Lane Width	:	12.0		i	112.0 1	2.0	1	_	.2.0	1
RTOR Vol	1	0			ı		Ť			
Duration	0.25	Area T	ype: Al Signa	l other l Operat	areas ions					
Phase Comb:	ination	1 2	3	4		5	6	7	8	
EB Left		A		NB	Left	A				
Thru					Thru Right	A				
Right		A		1	Peds					
Peds		,		i SB	Left					
WB Left Thru				Ì	Thru	A				
Right				İ	Right	A				
Peds					Peds					
β Right				EB	Right					
∌ Right				WB	Right	25.0				
Green		15.0 3.0				3.0				
Yellow		2.0				2.0				
All Red						_	e Leng	gth:	50.0	secs
	•			erformano	e Summa	iry	Ann	roach		
	ne	Adj Sat	Rati	LOS	Lane G	eroup	wpp	roach		
	oup	Flow Rate	v/c	g/C	Delay	LOS	Dela	y LOS		
Grp Ca	pacity	(s)	V/ C	9,0				<u>.</u>		
Eastbound										
	.00	1698	0.21	0.30	13.3	В	13.3	В		
LR 5	109	1090	0.21	0.00						
Westbound										
									^	
Northbound			0 07	0 50	8.4	Α				
_	311	621	0.37 0.64	0.50 0.50	10.0-		9.8	Α		
T 1	1800	3600	0.04	0.30	10.0	••	- • •			
Southbound	i t					-				
TR 1	17 <b>7</b> 5	3550	0.43	0.50	8.1	A	8.1	A		
1		11.2 x 12 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2	- 0.4	(sec/v	eh) T	nterse	ection	LOS	= A	
· /	Interse	ction Delay	= 9.4	(sec/v	e11) I	,,corb(	CCCTOII			

Agency: TOWN OF NEW WINDSOR

JANUARY 2007

riod: JANUARY 2007 priod: 2010 BUILD PEAK AM HOUR

rroject ID: 173BDAM1

Inter.: CAESAR'S LANE & NYS ROUTE 9W

Area Type: All other areas

Jurisd: Year :

E/W St: CAESAR'S LANE		N/S	st: NYS ROU	re 9W		
	NALIZED	INTERSE	CTION SUMMAR			
Eastbound	Westbo		Northbound		Southbo	
LTR	L T	R	L	R   :	L T	R
No. Lanes   0 0 0   LGConfig   LR   Volume   22   128   Lane Width   12.0   RTOR Vol   0	0 0	0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0	0 2 TR 956 12.0	50
Duration 0.25 Area T	ype: All	other	areas			
		L Operat	10ns5	6	7	8
Phase Combination 1 2 EB Left A Thru Right A Peds	3	4     NB   	Left A Thru A Right Peds	v	•	·
WB Left Thru Right Peds B Right	•	SB         EB   WB	Left Thru A Right A Peds Right Right Right			
B Right Green 15.0 Yellow 3.0 All Red 2.0		·	25.0 3.0 2.0 Cycl	e Leng	th: 50.0	secs
	tion Pe: Ration		e Summary Lane Group	Appr	oach	
Appr/ Lane Adj Sat Lane Group Flow Rate Grp Capacity (s)	√/c .	g/C	Delay LOS	Delay	LOS	
Lane Group Flow Rate		g/C	Delay LOS	Delay	LOS	
Lane Group Flow Rate Grp Capacity (s)		g/C 0.30	Delay LOS	Delay	LOS B	
Lane Group Flow Rate Grp Capacity (s) Eastbound	v/c					
Lane Group Flow Rate Grp Capacity (s)  Eastbound  LR 503 1677  Westbound  Northbound L 178 355	v/c 0.32	0.30	13.9 B 9.5 A	13.9	В	
Lane Group Flow Rate Grp Capacity (s)  Eastbound  LR 503 1677  Westbound  Northbound	v/c . 0.32	0.30	13.9 B			
Lane Group Flow Rate Grp Capacity (s)  Eastbound  LR 503 1677  Westbound  Northbound  L 178 355	v/c 0.32	0.30	13.9 B 9.5 A	13.9	В	
Lane Group Flow Rate Grp Capacity (s)  Eastbound  LR 503 1677  Westbound  Northbound  L 178 355  T 946 1891	v/c 0.32	0.30	13.9 B  9.5 A 12.2 B	13.9	В	

Agency: TOWN OF NEW WINDSOR

ate: JANUARY 2007 eriod: 2010 BUILD PEAK PM HOUR

Project ID: 173BDPM1

Inter.: CAESAR'S LANE & NYS ROUTE 9W

Area Type: All other areas

Jurisd: Year :

N/S St: NYS ROUTE 9W

E/W St: (	CAESAR'S				st: NY						
		SIG		INTERSE					\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1 1	
	Eas	tbound	Westb		•	hbound			hbound		
	L	T R I	L T	R	l L	T F	₹	L	T · F	1	
	l	I	<u>.</u>				<del></del> ¦-	0	2 (	<del></del> -¦	
No. Lanes	s i 0	0 0 1	- 0	0 0	1 1	-	)	U	TR	, i	
LGConfig	1	LR	•		L	T 176	1	7	83 21	1	
Volume	126	93 I				176	1		2.0	• ! !	
Lane Widt	th	12.0			12.0 1	.2.0		7	2.0	-	
RTOR Vol	I	0 [					1		O	1	
Duration	0.25	Area T	ype: Al	l other	areas						
				l Operat	ions			7	8		
Phase Cor	mbination	1 2	3	4	* . E.	5	6	,	Q		
EB Left		A		NB	Left	A M					
Thru	•			Į.	Thru	A					
Righ	t	A		ļ.	Right						
Peds				1 00	Peds						
WB Left				SB	Left	Th		•			
Thru				ļ.	Thru	A A					
Righ				l i	Right Peds	A					
Peds				1 55	Right						
⊣¦B Righ				EB   WB	Right						
∫åB Righ	t	45.0		dw l	Magire	25.0					
Green		15.0				3.0					
Yellow		3.0				2.0					
All Red		2.0					e Len	gth: 5	0.0	sec	s
		Intersec	tion Pe	rformanc	e Summa			J			
7-5-7	Lane	Adj Sat	Rati		Lane G		App	roach			
I- I	Group	Flow Rate									
	Capacity	(s)	V/C	g/C	Delay	LOS	Dela	y ros			
Eastboun	nd										
* D	507	1689	0.25	0.30	13.5	В.	13,5	В			
LR	307	1003									
Westboun	nd										
			,								
Northbou	and										
L	259	517	0.54	0.50	11.0	В		_			
T	1800	3600	0.71	0.50	11.0	В	11.0	В			
Southbou	und										
Southbou TR	and 1776	3552	0.49	0.50	8.5	A	8.5	A			
	1776	3552 ction Delay							= B		

Jurisd:

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Area Type: All other areas

Analyst: MAB

Agency: CORNWALL/NEW WINDSOR

ate: JANUARY 2007 Priod: 2006 EXISTING PEAK AM

į.	ate: JAN eriod: 200	UARY 20		ıΜ	Yea	15u. r :					
	Project ID:	A LYIST O PYTOT	ING FEAL F	77.7	2,000						
	E/W St: FOR	anderi.	RD(CR 74)	/SLOOPHI	LL N/S	st: US	ROUT	E 9W			
	E/W St. PON	00									
			SIG	NALIZED	INTERSE	CTION S	SUMMAR	Υ			<del></del>
		East	bound	Westbo		•	hboun			nbound	
		L	T R	L T	R	L	T	R:	L I	r R	ļ
		İ		<u></u>	<del></del>			!	<del></del>	2 0	¦
	No. Lanes	1 0	1 0	0 1		1	-	0	1	2 0 TR	
	LGConfig	1	LTR	•	T R	L	TR 520 1	•	L	50 19	i i
	Volume	119 2		8 18		81 5  12.0 1			2.0 12		ì
	Lane Width	] 3	L2.0	12.	0	12.0 . 	0	-	2.0 1.	0	İ
	RTOR Vol	1	30	ŀ		i	v	•		•	•
	Duration	0.25	Area	Type: All	other	areas					
	Duracton	0.25	11104	Signal	Operat	ions					
	Phase Combi	nation	1 2	3	4		5	6	7	8	
	EB Left		A		NB	Left	A				
	Thru		A		1	Thru	A	A			
	Right		A			Right	A	A			
	Peds					Peds			71		
	WB Left		. <b>A</b>	• •	" Į. SB	Left Thru		A	A A		•
	Thru		A		1	Right		A	A		
	Right		A		1	Peds		**	~-		
	Peds		•		, EB	Right					
6	B Right				WB	Right					
Ψ,	∫B Right Green	,	14.0		•	,	13.0	30.0	13.0		
	Yellow		3.0				3.0	3.0	3.0		
	All Red		2.0				2.0	2.0	2.0		
					_		_	e Leng	th: 9	0.0	secs
				ction Per		e Summ	ary	Non-	oach		
	Appr/ Lar		Adj Sat	Ratio	១ន	Lane	Group	Appr	oach		
		oup	Flow Rate	v/c	g/C	Delay	T.O.S.	Delay	, LOS	<del>-</del>	
	Grp Cap	pacity	(s)	V/C	9/ C	Deady	202	24247			
	Eastbound										
	nabez o a						_		_		
	LTR 24	47	1586	0.55	0.16	37.7	D	37.7	D		
	Westbound										
	Tm 24	60	1674	0.11	0.16	32.8	C	32.8	C		
		45	1575	0.09	0.16	32.7	C				
	Northbound										
		59	1796	0.33	0.14	35.4	D				
	_	005	1885	0.56	0.53	14.7	В	17.4	В		
	Southbound		1704	A 12	0.14	33.8	С				
	_	50	1734 3465	0.13 0.51	0.14	13.7		14.3	В		
	TR 1	848	2402	0.51	0,00		_				
	) <sub>T</sub>	ntersec	tion Delay	r = 17.7	(sec/ve	eh) I	nterse	ction	Los =	В	
	+	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1		=						

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Agency: CORNWALL/NEW WINDSOR

Area Type; All other areas

te: JANUARY 2007
Find: 2006 EXISTING PEAK PM

Jurisd:

Year :

riod: 20	006 EXIST	ING PEAK PI	M	rea	r:						
Libject II	D: 173EXF	M2 RD(CR 74)	/gt.oop#	TT.T. NT/S	St. IIS	S ROUTI	r 9w				
E/W St: F	OKGE HIPE	RD(CR /4)	OHOOF II.	11/5	DC. C	, Moori	_				
		STG	NALIŻED	INTERSE	CTION S	SUMMAR!	ď				
	I Fast	bound	Westbe		Nort	thbound		Sou	thbour	nd	
-	L	T R	L T	R	L .	T I	R J	L	T	R	
	i	ĺ									!
No. Lanes	0	1 0		1 1	1	_	0	1	2	0	!
LGConfig	1	LTR		LT R	L	TR	•	L	TR		1
Volume			9 24	93	•	950 8	•			34	ļ
Lane Widt	h   1	.2.0	12		112.0		] ]	12.0		0	<u> </u>
RTOR Vol		30		0	l	0	1		,	J	1
		7 mag (III)	, mag = 70.7	l other	37036		<del></del>			<del></del>	
Duration	0.25	Area I		l Operat		-					
Phase Com	hination	1 2	3 <sup>+9.10</sup>	4		5	6	7	8		·
EB Left	Dinacion	A	·	NB	Left	A					
Thru		A		i	Thru	A	A				
Right		A		ĺ	Right	A	Α				
Peds				Į.	Peds						
WB Left	· <del>*</del>	A		SB	Left			A			
Thru		A		-	Thru		A	A			
Right		A		ļ	Right		A	A			
Peds				}	Peds						
Right		•		EB   WB	Right Right						
( $)$ Right				ם און	Right	13.0	31.0	12.	0		•
Green		L4.0 3.0				3.0	3.0	3.0			
Yellow		2.0			•	2,0	2.0	2.0			
All Red	•					Cycl	e Len	gth:	90.0	ຣ	secs
		Intersec	tion Pe	rformanc	e Summ	ary					
Appr/ L	ane	Ādj Sat	Rati	os	Lane	Group	App:	roach	ı		
	Froup	Flow Rate					= -	- = = =			
	Capacity	(s)	v/c	g/C	Delay	LOS	Dela	y Los	,		
Eastbound	ì										
		1560	0.60	0.16	<b>२</b> ० २	D	39.3	D			
LTR	243	1560	0.00	0.10	37.5		03.0				
Westbound	3										
westbound											
ĽT	266	1708	0.13	0.16	33.0	С	34.7	С			
	245	1575		0.16	35.3	D					
Northbour											
L	257	1778		0.14				_			
	1018	1870	0.99	0.54	46.0	D	47.8	D			
Southbour		4 11 12 4	0.00	0 12	25 2	D					
L	236	1770		0.13 0.53			13.8	Þ			
ΤR	1876	3518	0.33	0.55	14.4	L)	10.0	ם			
· )	Thtoreon	tion Delay	= 35.5	(sec/v	eh) T	nterse	ction	LOS	= D		
* / /	THICATORC	CTON DOTAL		, , • .	<b>, -</b>		- /-	•			

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Agency: CORNWALL/NEW WINDSOR

Area Type: All other areas

JANUARY 2007

Jurisd:

riod: 2010 NO-BUILD PEAK AM

Year :

Project ID: 173NBAM2
E/W St: FORGE HILL RD(CR 74)/SLOOPHILL N/S St: US ROUTE 9W

				INTERSE				200	thbo	und	1
	Eastbo			oound	•	thbour T	na 1 R 1	L	T	una R	i i
	L T	R	L 'I	r R	¦ L	T	1	ш	1	17	1
o. Lanes	0 1		0	1 1	<u> </u>	1	o i	1	2	0	i
GConfig	1 -	rr i	•	LT R	Ĺ	TR	ĺ	L	TR	-	1
olume	21 6		10 19		[89 !	570 1		32	932	21	
ane Width	12.0	•		2.0 12.0	12.0	12.0	1	12.0	12.0		
TOR Vol	i	30 j		0	1	C	)			0	1
uration	0.25	Area T		ll other							
				al Operat	ions	5	6	7		8	
hase Combi		2	3	4     NB	Left	A	U	,		0	
B Left	A			ן מאן	Thru		Α				
Thru	A			i	Right		A				
Right Peds	A			· [	Peds						
Peds B Left	. A			, SB	Left			A			
Thru	A		•	i	Thru		A	Α			
Right	A			i	Right		A	Α			
Peds				İ	Peds						
				EB	Right						
3 Right 3 Right				į WB	Right						
-											
reen	14.	0				13.0					
	3.0					3.0	3.0	3.0	)		
ellow						3.0 2.0	3.0 2.0	3.0 2.0	) )		
ellow	3.0 2.0				- Comm	3.0 2.0 Cycl	3.0	3.0 2.0	) )		secs
ellow ll Red	3.0 2.0	Intersec		erformanc		3.0 2.0 Cycl ary	3.0 2.0 Le Len	3.0 2.0 gth:	90.0		secs
ellow 11 Red	3.0 2.0	Intersec dj Sat	ction Pe		ce Summ Lane (	3.0 2.0 Cycl ary	3.0 2.0 Le Len	3.0 2.0	90.0		secs
ellow 11 Red ppr/ Lan	3.0 2.0 ne A	Intersec dj Sat ow Rate	Rati	ios	Lane	3.0 2.0 Cycl ary_ Group	3.0 2.0 Le Len	3.0 2.0 gth: roach	90.0		secs
ellow 11 Red ppr/ Lan ane Gro	3.0 2.0	Intersec dj Sat			Lane	3.0 2.0 Cycl ary	3.0 2.0 Le Len	3.0 2.0 gth:	90.0		secs
ellow Il Red  Appr/ Lan Jane Gro	3.0 2.0 ne A	Intersec dj Sat ow Rate	Rati	ios	Lane	3.0 2.0 Cycl ary_ Group	3.0 2.0 Le Len	3.0 2.0 gth: roach	90.0		secs
ellow ll Red  ppr/ Lan ane Gro rp Cap astbound	3.0 2.0 ne A oup Fl	Intersec dj Sat ow Rate	Rati	ios	Lane	3.0 2.0 Cycl ary_ Group	3.0 2.0 Le Len	3.0 2.0 gth: roach	90.0		secs
ellow ll Red appr/ Lan ane Gro arp Cap Castbound	3.0 2.0 ne A oup Fl	Intersec dj Sat ow Rate (s)	Rat:	ios g/C	Lane Delay	3.0 2.0 Cyclary Group	3.0 2.0 Le Len App Dela	3.0 2.0 gth: roach	90.0		secs
ellow all Red appr/ Lan ane Gro arp Cap astbound astbound astbound	3.0 2.0 ne Abup Floacity	Intersec dj Sat ow Rate (s)	v/c 0.63	ios 	Delay	3.0 2.0 Cyclary Group LOS	3.0 2.0 Le Len App Dela	3.0 2.0 gth: roach	90.0		secs
ellow all Red appr/ Lan ane Gro arp Cap astbound att 24 destbound	3.0 2.0 ne A oup Floracity	Interseddj Sat ow Rate (s) 590	0.63	ios g/C	Delay 40.6	3.0 2.0 Cyclary Group LOS	3.0 2.0 Le Len App Dela	3.0 2.0 gth: roach	90.0		secs
ellow Ill Red  Appr/ Lan Fane Gro Frp Cap  Castbound  TR 24  Vestbound  TT 26  Castbound	3.0 2.0 ne A oup Floacity 17 1	Intersec dj Sat ow Rate (s)	0.63	ios g/C 0.16	Delay 40.6	3.0 2.0 Cyclary_ Group LOS	3.0 2.0 Le Len App Dela	3.0 2.0 gth: roach	90.0		secs
Sane Gro Frp Cap Castbound TR 24 Vestbound TT 26 R 24 Northbound	3.0 2.0 ne A oup Floacity 17 1	Interseddj Sat ow Rate (s) 590	0.63 0.12 0.10 0.37	0.16 0.16 0.16 0.16	Delay 40.6 32.9 32.8 35.7	3.0 2.0 Cyclary_ Group LOS D	3.0 2.0 Le Len App Dela 40.6	3.0 2.0 gth: roach y Los	90.0		secs
ellow 11 Red  ppr/ Lan ane Gro rp Cap astbound TR 24 Vestbound T 26 Vestbound T 26 Vestbound	3.0 2.0 ne A oup Floacity 17 1 51 1 15 1	Intersection of the section of the s	0.63 0.12 0.10 0.37	0.16 0.16	Delay 40.6 32.9 32.8 35.7	2.0 Cyclary_ Group LOS D	3.0 2.0 Le Len App Dela	3.0 2.0 gth: roach y Los	90.0		secs
ellow ill Red  appr/ Lan ane Gro irp Cap Castbound TR 24 Vestbound TR 24 Vorthbound TR 10 TR 10	3.0 2.0 ne A oup Floracity 17 1 15 1 15 1	Intersection of the section of the s	0.63 0.12 0.10 0.37 0.61	0.16 0.16 0.16 0.14 0.53	Delay 40.6 32.9 32.8 35.7 15.7	3.0 2.0 Cyclary_ Group LOS D	3.0 2.0 Le Len App Dela 40.6	3.0 2.0 gth: roach y Los	90.0		secs
Tellow All Red  Appr/ Lan Lane Gro Grp Cap Castbound  LTR 24 Vestbound  LT 26 Northbound L 25 IR 10 Southbound L 25	3.0 2.0 ne A oup Floacity 17 1 51 1 15 1 59 1 005 1	Intersed dj Sat ow Rate (s) 590 675 575 796 885	0.63 0.12 0.10 0.37 0.61	0.16 0.16 0.16 0.14 0.53	Delay 40.6 32.9 32.8 35.7 15.7	3.0 2.0 Cyclary_ Group LOS D C C D B	3.0 2.0 Le Len App Dela 40.6	3.0 2.0 gth: roach y Los	90.0		secs
ellow ll Red  ppr/ Lan ane Gro rp Cap astbound TR 24 Vestbound TR 24 Vorthbound TR 10 Southbound	3.0 2.0 ne A oup Floacity 17 1 15 1 15 1 1005 1	Intersection of the section of the s	0.63 0.12 0.10 0.37 0.61	0.16 0.16 0.16 0.14 0.53	Delay 40.6 32.9 32.8 35.7 15.7	3.0 2.0 Cyclary_ Group LOS D C C D B	3.0 2.0 Le Len App Dela 40.6	3.0 2.0 gth: roach y Los	90.0		secs

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Agency: CORNWALL/NEW WINDSOR

te: JANUARY 2007

Area Type: All other areas

Jurisd: Year :

riod: 2010 NO-BUILD PEAK PM

riod: 2010 NO-BUILD PR	LAR PM	1641	•				
E/W St: FORGE HILL RD(C	74)/SLOOPHI	LL N/S	st: US R	OUTE 9W			
E/ # Bt. Folia Mana 115 (a)		·					
	_signalized						
Eastbound	Westbo		Northbo	-	South		
L T	R L T	R	L T	R	L T	R-	1 ···
No. Lanes   0 1			1 1	•		2 0	ļ
LGConfig   LTR	•	T R	L T			TR	ļ
Volume  39 26 12			217 103		52 65		ļ
Lane Width   12.0	7	-	12.0 12.0	-	12.0 12		'
RTOR Vol   30	)	0 !		0 1		0	1
Duration 0.25 An	ea Type: All	other a	areas				
Phase Combination 1	2 3	4	5	6	7	8	<del></del>
	2 3	I NB	Left A	=	,	•	•
EB Left A Thru A		1	Thru A				
Right A		ì	Right A				
Peds	•	ì	Peds				
WB Left A		SB	Left		A		
Thru A		1	Thru	A	A		
Right A		1	Right	A	Α		
Peds		Ī	Peds				
3 Right		EB	Right				
Right		WB	Right	0 21 0	100		ě
Green 14.0			13 3.0				
Yellow 3.0			2.0		2.0		
All Red 2.0	•			ycle Len		.0 s	secs
Inte	ersection Per	rformance		-	.90 55		
Appr/ Lane Adj			Lane Gro		roach	<del></del>	
Lane Group Flow							
Grp Capacity (s		g/C	Delay Lo	S Dela	y LOS		
Eastbound		•					
LTR 242 . 1556	0.67	0.16	43.0 D	43.0	D D		
Westbound							
					_		
LT 263 1692		0.16	33.1 C		) C		
R 245 1575	0.43	0.16	35.6 D				
Northbound	0.00	0 14	66.7 E				
L 257 1778		0.14	66.7 E		) E		
TR 1018 1870	1.07	0.54	/V./ E	70.0	ن ،		
Southbound	0.00	0.12	25 / N				
L 236 1770		0.13 0.53	35.4 D 12.5 B		. В		
TR 1876 3518	0.33	U.J.S	14.J D	T.A.* 7			
Intersection D	elay = $47.9$	(sec/ve	h) Inte	rsection	LOS =	D	
				i .			

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Agency: CORNWALL/NEW WINDSOR

Area Type: All other areas

te: JANUARY 2007 riod: 2010 BUILD PEAK AM Jurisd: Year :

Project ID: 173BDAM2

F/W St. FORGE HILL RD(CR 74)/SLOOPHILL N/S St: US ROUTE 9W

E/W St: FOR	GE HILL	RD(CR 74)	/SLOOPHI	LL N/S	St: US	ROUTI	E 9W			
		STO	SNALIZED	INTERSE	CTION S	UMMAR	ď			
	1 Fact	bound	Westbo			hbound		South	bound	
		T R	L T	R	L	T i	R I İ	T	R	'
	1 1	1	. –		į					I
No. Lanes	¦ <del></del> 0	1 0	i 0 1	1	1	1 (	<u> </u>	1	2 0	
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Peds		**		i	Peds					
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3 Right B Right				) WB	Right					
Green	1	4.0				13.0	30.0	13.0		
Yellow		3.0				3.0	3.0	3.0		
All Red		2.0				2.0	2.0	2.0		
ATT NOO						-	e Leng	th: 90	0.0	secs
			ction Pe							
Appr/ Lan	ne	Adj Sat	Rati	08	Lane	Group	Appr	oacn		
	oup	Flow Rate				T 0 0	2-1	TAC	-	
Grp Cap	pacity	(s)	v/c	g/C	Delay	ros	Delay	TOS		
Eastbound	,,			·	<del></del>		<del></del>		<del> </del>	
Eastwoand		٠		2			44 3	ъ.		
LTR 2	48	1593	0.70	0.16	44.3	D	44.3	D		
Westbound										
		4.00.0	0 10	0.16	32.9	С	32.9	С		
	54	1636		0.16	32.9		74.7	~		
	45	1575	0.10	0.16	32.0	C				
Northbound		4766	0 40	0.14	36.2	D				
_	59	1796	•	0.14	17.6		20.1	С		
TR 1	006	1886	0.69	0,33	11.0	IJ	20.1	•		
Southbound				,		_				
	50	1734	0.14	0.14	33.8		15 0	-		
	848	3465	0.61	0.53	15.0	В	15.6	В		
( ) -	ntersec	tion Dela	v = 20.0-	- (sec/v	reh) J	[nterse	ection	LOS =	В	
			•		÷					

Agency: CORNWALL/NEW WINDSOR

ite: JANUARY 2007

briod: 2010 BUILD PEAK PM

Year :

Jurisd:

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Area Type: All other areas

Project ID: 173BDPM2 E/W St: FORGE HILL RD(CR 74)/SLOOPHILL N/S St: US ROUTE 9W

		SIGNAL	IZED II	NTERSEC	TION S	SUMMA	RY			<del></del> _	<del></del>
- <del></del>	Eastbound	d W	estbou	nd	Nort	thbou	nd	Sou	thbou		. !
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lo. Lanes	0 1	<del></del> -	0 1	1	1	1	0	1	2	0	i
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RTOR Vol		30 İ		0	}		0 1			0	1
÷	0.25	Area Type	: All	other a	areas				· · · · · · · · · · · · · · · · · · ·		
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EB Left	A			ן אט	Thru	A	Α				
Thru	A			l I	Right		A				
Right	A			1	Peds	41	**				
Peds	_			l SB	Left -			Α			
WB Left	A		•	1 55	Thru	-	A	A		,	
Thru	A			i i	Right		A	A			
Right	A			} 	Peds		••				
Peds				I I EB	Right						
B Right				I WB	Right						
Æ Right				i MD	Right	13.0	31.0	12.	. 0		•
Green	14.0										
. 11	~ ~								)		
	3.0					3.0	3.0	3.0			
	3.0 2.0					3.0		3.0 2.0	כ		secs
	2.0	ntersectio	on Perf	ormanc	e Summ	3.0 2.0 Cyc	3.0 2.0 le Len	3.0 2.0 ngth:	90.0		secs
Yellow All Red Appr/ Lane	2.0 In Adj	Sat	on Perf Ratios		e Summ Lane	3.0 2.0 Cyc	3.0 2.0 le Len	3.0 2.0	90.0	·•.	secs
All Red  Appr/ Lane	2.0 In Adj p Flow	Sat Rate	Ratios		Lane	3.0 2.0 Cyc ary Group	3.0 2.0 le Ler	3.0 2.0 igth:	90.0	·	secs
All Red  Appr/ Lane Lane Grou	2.0 In Adj p Flow	Sat	Ratios		e Summ Lane Delay	3.0 2.0 Cyc ary Group	3.0 2.0 le Ler	3.0 2.0 ngth:	90.0		secs
All Red Appr/ Lane Lane Grou	2.0 In Adj	Sat Rate	Ratios		Lane	3.0 2.0 Cyc ary Group	3.0 2.0 le Ler	3.0 2.0 igth:	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound	2.0 In Adj p Flow acity (	Sat Rate (s) V	Ratios c 9		Lane	3.0 2.0 Cyc ary Group	3.0 2.0 le Ler	3.0 2.0 agth: proach	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243	2.0 In Adj p Flow acity (	Sat Rate (s) V	Ratios c g	7/C	Lane Delay	3.0 2.0 Cyc ary Group	3.0 2.0 le Len App	3.0 2.0 agth: proach	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound	In Adj Flow (city (	Sat Rate (s) V/	Ratios C 9	).16	Delay 49.6	3.0 2.0 Cycary Group LOS	3.0 2.0 le Len App Dela	3.0 2.0 agth: broach	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound  LT 257	In Adj Flow city (	Sat (Rate (s) V/	Ratios 7c 9 .76 0	).16	Delay 49.6	3.0 2.0 Cyc ary Group LOS	3.0 2.0 le Len App	3.0 2.0 agth: broach	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound  LT 257 R 245	In Adj Flow city (	Sat (Rate (s) V/	Ratios 7c 9 .76 0	).16	Delay 49.6	3.0 2.0 Cycary Group LOS	3.0 2.0 le Len App Dela	3.0 2.0 agth: broach	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound  LT 257 R 245  Northbound	2.0InAdj p Flow acity (  3 156 7 164 5 157	Sat (s) V/ 52 0.	Ratios 7c 9 .76 0	).16 ).16 ).16	Delay 49.6 33.1 35.6	3.0 2.0 Cyc ary Group LOS D	3.0 2.0 le Len App Dela	3.0 2.0 agth: broach	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound  LT 257 R 245  Northbound L 257	2.0 In Adj p Flow acity (  156 7 164 7 177	Sat Rate (s) V/ 52 0. 49 0. 75 0	Ratios 7c 9 .76 0	).16 ).16 ).16	Delay 49.6 33.1 35.6 90.0	3.0 2.0 Cyc ary Group LOS D	3.0 2.0 le Len App Dela	3.0 2.0 agth: proach by LOS	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound  LT 257 R 245  Northbound	2.0 In Adj p Flow acity (  156 7 164 7 177	Sat Rate (s) V/ 52 0. 49 0. 75 0	Ratios 7c 9 .76 0	).16 ).16 ).16	Delay 49.6 33.1 35.6	3.0 2.0 Cyc ary Group LOS D	3.0 2.0 le Len App Dela	3.0 2.0 agth: broach	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound  LT 257 R 245  Northbound L 257	2.0  In Adj p Flow acity (  156 7 164 7 177 18 187	Sat Rate (s) V/ 52 0. 49 0. 75 0. 78 0. 70 1.	.76 C	).16 ).16 ).16 ).14 ).54	Delay 49.6 33.1 35.6 90.0 126.4	3.0 2.0 Cyc ary Group LOS D	3.0 2.0 le Len App Dela	3.0 2.0 agth: proach by LOS	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound  LT 257 R 245  Northbound L 257 TR 101  Southbound	2.0  In Adj p Flow acity (  156 7 164 7 177 18 187	Sat (s) V/ 52 0. 49 0. 75 0. 78 0. 70 0.	Ratios 7c 9 .76 0 .15 0 .43 0 .98 0 .22 0	).16 ).16 ).16 ).14 ).54	Delay 49.6 33.1 35.6 90.0 126.4	3.0 2.0 Cyclary Group LOS D F F F	3.0 2.0 le Len App Dela 49.6	3.0 2.0 agth: proach ay Los	90.0		secs
All Red  Appr/ Lane Lane Grou Grp Capa  Eastbound  LTR 243  Westbound  LT 257 R 245  Northbound L 257 TR 101  Southbound	2.0  In Adj p Flow acity (  156 7 164 7 177 18 187	Sat (s) V/ 52 0. 49 0. 75 0. 78 0. 70 0.	Ratios 7c 9 .76 0 .15 0 .43 0 .98 0 .22 0	).16 ).16 ).16 ).14 ).54	Delay 49.6 33.1 35.6 90.0 126.4	3.0 2.0 Cyclary Group LOS D F F F	3.0 2.0 le Len App Dela	3.0 2.0 agth: proach ay Los	90.0		secs

Agency: CORNWALL/NEW WINDSOR

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W Area Type: All other areas

Jurisd:

ate: JANUARY 2007 eriod: 2010 NO-BUILD PEAK AM

Year : WITH SIGNAL TIMING CHANGE

Project ID: 173NBAM2

CORRECT N/S St. US ROUTE 9W

· ·			LL N/S							
	SIGNA	ALIZED :	INTERSEC	TION S	UMMARY					
Eastb	<del></del>	Westbo		Nort	hbound	1	Sout	hbou	nd	1
L I		ь т	R	L '	T R		L	T	R	 
No. Lanes	1 0	0 1	1	1	1 0 TR		1 L	2 TR	0	
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701ume  21 6	149  10	19					2.0		<i>L</i>	i
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RTOR Vol	30		0		0	1				 
Ouration 0.25	Area Ty	pe: All	other a	areas						
		_	Operat:	TO112	5	6	7	8		
Phase Combination		3	4 I I NB	Left	A.	J	•	,		
EB Left	A		i ND	Thru	A	A				
	A.		1		A	Ā				
Right I	A		l I	Right Peds	n	13				
Peds			l an	reas Left			A			
WB Left		•	SB	Thru		A	A			
Thru .	A		į.			A	A			
Right	A		!	Right		A	А			
Peds			 	Peds						
B Right			EB	Right						
B Right			WB	Right	1 F O	20.0	15.	^		
Green 2	0.0				15.0	20.0	3.0			
Yellow 3	.0				3.0	3.0				
All Red 2	.0				2.0 Cvcle	2.0 e Leng	2.0			secs
	Intersect	ion Per	formanc	e Summa	-					
Appr/ Lane	Adj Sat	Ratio	s	Lane G	roup	Appı	oach			
Lane Group Grp Capacity	Flow Rate (s)	v/c	g/C	Delay	TOS	Delas	LOS			
						Dela				
Eastbound	<del></del>	<del></del>						<del></del>		·
	1600	0.44	0.22	31.0	С	31.0	С	<u> </u>		
	1600	0.44	0.22			31.0	С			
LTR 356 Westbound	1600	0.44	0.22	31.0	c		С			
LTR 356 Westbound LT 370				31.0	С	31.0	С			
LTR 356 Westbound LT 370 R 350	1664	0.08	0.22	31.0 27.8 27.7	c c c	31.0	С			
LTR 356 Westbound LT 370 R 350 Northbound	1664 1575	0.08	0.22	31.0 27.8 27.7 33.6	c c c	31.0	c			
LTR 356 Westbound LT 370	1664	0.08 0.07	0.22	31.0 27.8 27.7	c c c	31.0	c			
LTR 356 Westbound LT 370 R 350 Northbound L 299	1664 1575 1796 1885	0.08 0.07 0.32 0.74	0.22 0.22 0.17 0.44	31.0 27.8 27.7 33.6 24.1	C C C C C	31.0	c			
LTR 356 Westbound LT 370 R 350 Northbound L 299 TR 838 Southbound	1664 1575 1796 1885	0.08 0.07 0.32 0.74	0.22 0.22 0.17 0.44	31.0 27.8 27.7 33.6 24.1	C C C C C	31.0 27.8 25.4	c c			
LTR 356 Westbound LT 370 R 350 Northbound L 299 TR 838 Southbound L 289 TR 1540	1664 1575 1796 1885	0.08 0.07 0.32 0.74	0.22 0.22 0.17 0.44	31.0 27.8 27.7 33.6 24.1 32.1 20.7	C C C C C	31.0 27.8 25.4	c c			

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Agency: CORNWALL/NEW WINDSOR

Area Type: All other areas

Jurisd:

te: JANUARY 2007 riod: 2010 NO-BUILD PEAK PM

Year : WITH SIGNAL TIMING CHANGE

Project ID: 173NBPM2

N/GTAABUTTT M/C CH. ITC DATITE OW

E/W St: FORG														
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o. Lanes	j 0,	1 0	· .	0	1	1	•			L		TR		i
GConfig	}	LTR	ı		LT		L	TR	^	•			37	i
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ane Width	1	2.0	1		12.0	12.0	112.0			12.	. 0 .	12.0	_	į.
TOR Vol	1	30	1			0			0	۱.			0	J
	· 											<del></del>		
uration	0.25	Ar	ea Ty	γpe:	All	other Operat	areas							
hase Combir	nation	1	2	3_9	. 4			5	6		7		8	
		A A	_	•		i NB	Left	A						
B Left		_				1	Thru	A	A					
Thru		A -				f I	Right		A					
Right		A				j .		. А	A					
Peds							Peds				71			
B Left .		A				SB	Left	•	_		Α			•
Thru		Α					Thru		A		Α			
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Right Green Yellow	3	.0				j WB	·	20.0 3.0 2.0 Cyc	3.0	:	3.0 2.0	90.0		secs
Right Green Kellow All Red	3 2	.0 :.0 Inte				WB	ce Sumn	20.0 3.0 2.0 Cyc mary	3.0 2.0 cle Le	ngt	3.0 2.0 h:			secs
Right Freen Cellow All Red Appr/ Land	3 2 e	.0 .0 Inte	3at		Per1	WB	ce Sumn	20.0 3.0 2.0 Cyc	3.0 2.0 cle Le	ngt	3.0 2.0			secs
Right Freen Cellow All Red Appr/ Land Lane Grow	2 e up	Inte	Bat Rate	Ra	atios	WB	ce Summ Lane	20.0 3.0 2.0 Cyc mary Group	3.0 2.0 cle Le	ngt	3.0 2.0 h: ach			secs
Right Freen Cellow All Red Appr/ Land Lane Grow	3 2 e	.0 .0 Inte	Bat Rate		atios	WB	ce Summ Lane	20.0 3.0 2.0 Cyc mary	3.0 2.0 cle Le	ngt	3.0 2.0 h: ach			secs
Right Green Yellow All Red Appr/ Land Lane Gro	2 e up	Inte	Bat Rate	Ra	atios	WB	ce Summ Lane	20.0 3.0 2.0 Cyc mary Group	3.0 2.0 cle Le	ngt	3.0 2.0 h: ach			secs
Right Freen Cellow All Red Appr/ Lane Gro Grp Cap	e up acity	Inte	Bat Rate	Ra v/c	atios (	WB formand s g/C	ce Sumn Lane Delay	20.0 3.0 2.0 Cyc mary Group	3.0 2.0 cle Le Del	ngt pro	3.0 2.0 h: ach			secs
Right Freen Cellow All Red Appr/ Lanc Frp Cap Eastbound	e up acity	Inte	Bat Rate	Ra	atios (	WB	ce Summ Lane	20.0 3.0 2.0 Cyc mary Group	3.0 2.0 cle Le	ngt pro	3.0 2.0 h: ach			secs
Right Freen Cellow All Red Appr/ Land Lane Ground Eastbound LTR 26	e up acity	Inte	Bat Rate	Ra v/c	atios (	WB formand s g/C	ce Sumn Lane Delay	20.0 3.0 2.0 Cyc mary Group	3.0 2.0 cle Le Del	ngt pro	3.0 2.0 h: ach			secs
Right Freen Yellow All Red Appr/ Lane Gro Grp Cap	e up acity	Inte Adj S Flow F (s)	Sat Rate )	v/c 0.63	atios 	formands  g/C  0.17	Delay	20.0 3.0 2.0 Cyc mary_ Group / LOS	3.0 2.0 cle Le Del	ngt prod ay	3.0 2.0 h: ach LOS			secs
Right Freen Cellow All Red Appr/ Lanc Lane Gro Eastbound LTR 26 Westbound	e up acity	Inte Adj S Flow F (s)	Sat Rate )	0.63	atios (	WB  formands  g/C  0.17	Delay 39.6	20.0 3.0 2.0 Cyc Group Group	3.0 2.0 cle Le Del	ngt prod ay	3.0 2.0 h: ach			secs
Right Freen Cellow All Red Appr/ Lane Gro Eastbound LTR 26 Westbound LT 28	e up acity	Inte Adj S Flow F (s)	Sat Rate )	v/c 0.63	atios (	formands  g/C  0.17	Delay	20.0 3.0 2.0 Cyc Group Group	3.0 2.0 cle Le Del	ngt prod ay	3.0 2.0 h: ach LOS			secs
Right Freen Cellow All Red Appr/ Lane Grov Grp Cap Eastbound LTR 26 Westbound LT 28 R 26	e up acity	Inte Adj S Flow F (s)	Sat Rate )	0.63	atios (	WB  formands  g/C  0.17	Delay 39.6	20.0 3.0 2.0 Cyc Group Group	3.0 2.0 cle Le Del	ngt prod ay	3.0 2.0 h: ach LOS			secs
Right Freen Fellow All Red Appr/ Lane Frp Cap Eastbound LTR 26 Westbound LT 28 R 26 Northbound	e up acity	Inter Adj S Flow F (s)  1560	Sat Rate )	0.63	3	WB formands g/C 0.17 0.17	Delay 39.6	20.0 3.0 2.0 Cyc Group Group	3.0 2.0 cle Le Del	ngt prod ay	3.0 2.0 h: ach LOS			secs
Right Freen Fellow All Red Appr/ Land Earp Cap Eastbound LTR 26 Westbound LT 28 R 26 Northbound L 39	e up acity	Interpolation	Sat Rate ) 	0.63 0.13 0.40 0.56	atios 3 3 0	WB  formands  g/C  0.17  0.17  0.17	Delay 39.6 32.2 34.5	20.0 3.0 2.0 Cyc Group Group  LOS  D  C  C	3.0 2.0 cle Le Del Del	proday:	3.0 2.0 h: ach LOS			secs
Right Freen Yellow All Red Appr/ Lane Frp Cap Eastbound LTR 26 Westbound LT 28 R 26 Northbound L 39	e up acity	Inter Adj S Flow F (s)  1560	Sat Rate ) 	0.63	atios 3 3 0	WB formands g/C 0.17 0.17	Delay 39.6	20.0 3.0 2.0 Cyc Group Group  LOS  D  C  C	3.0 2.0 cle Le Del	proday:	3.0 2.0 h: ach LOS			secs
Right Freen Fellow Fellow Fill Red Fill	e up acity	Interpolation	Sat Rate ) 	0.63 0.13 0.40 0.56 0.90	3 3 0 8 6	Formands  g/C  0.17  0.17  0.17  0.17  0.22  0.61	39.6 32.2 34.5 27.4	20.0 3.0 2.0 Cyc mary_ Group LOS D C C C B	3.0 2.0 cle Le Del Del	proday:	3.0 2.0 h: ach LOS			secs
Right Freen Cellow All Red Appr/ Lane Freen Cap Cap Eastbound LTR 26 Westbound LT 28 R 26 Northbound L 39 TR 11 Southbound	e up acity 33 33 35 43	Interpolation	Sat Rate )	0.63 0.13 0.40 0.56	3 3 0 8 6	WB  formands  g/C  0.17  0.17  0.17	39.6 32.2 34.5 27.4 19.2	20.0 3.0 2.0 Cyc mary Group TLOS D C C C B	3.0 2.0 cle Le Del Del 39.	proday:	3.0 2.0 h: ach Los D			secs
Right Freen Cellow All Red Appr/ Lane Cap Lane Gro Eastbound LTR 26 Westbound LT 28 R 26 Northbound L 39 TR 11 Southbound L 98	e up acity 33 33 35 43	Inter Adj S Flow F (s)  1560  1698 1575 1778 1870	Sat Rate )	0.63 0.13 0.40 0.56 0.90	3 (3 (6 (6 (6 (6 (6 (6 (6 (6 (6 (6 (6 (6 (6	Formands  g/C  0.17  0.17  0.17  0.17  0.22  0.61	39.6 32.2 34.5 27.4	20.0 3.0 2.0 Cyc mary Group TLOS D C C C B	3.0 2.0 cle Le Del Del	proday:	3.0 2.0 h: ach LOS			secs
Right Freen Cellow All Red Appr/ Lane Cap Lane Gro Eastbound LTR 26 Westbound LT 28 R 26 Northbound L 39 TR 11 Southbound L 98	e up acity 33 33 35 43	Inte Adj S Flow F (s) 1560 1698 1575 1778 1870	Sat Rate )	0.63 0.13 0.40 0.50 0.5	3 (3 (6 (6 (6 (6 (6 (6 (6 (6 (6 (6 (6 (6 (6	WB formands	39.6 32.2 34.5 27.4 19.2	20.0 3.0 2.0 Cyc mary Group TLOS D C C C B	3.0 2.0 cle Le Del Del 39.	proday:	3.0 2.0 h: ach Los D			secs
Right Freen Fellow All Red  Appr/ Lane Frp Cap  Eastbound  LTR 26  Westbound  LT 28 R 26  Northbound L 39 TR 11  Southbound L 98 TR 15	e up acity 33 33 35 43	Interval 1560  Interval 1560  1698 1575 1778 1870 1770 3518	Sat Rate )	0.63 0.13 0.40 0.50 0.5	3 (3 (6 6 6 7 7 )	WB  formand  g/C  0.17  0.17  0.22  0.61  0.06  0.44	Delay 39.6 32.2 34.5 27.4 19.2	20.0 3.0 2.0 Cyc mary Group TLOS  D  C C B  D  B	3.0 2.0 cle Le Del Del 39.	proday:	3.0 2.0 h: ach LOS C			secs

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Area Type: All other areas

Analyst: MAB

Agency: CORNWALL/NEW WINDSOR

te: JANUARY 2007  ( )riod: 2010 BUILD FEAK AM  rroject ID: 173BDAM2  E/W St: FORGE HILL RD(CR 74		Jur Yea	isd: r : WI	TH S		IMING	CHANGE	:s
	GNALIZED			:hboui		South	bound	
Eastbound	Westbo	R	•			L 1		i
L T R	I L · T	IX.	1 1	*	*		-	i
No. Lanes 0 1 0	0 1	. 1	1	1	<u> </u>	1	2 0	i
LGConfig   LTR	-	T R	L	TR	1	L	TR	
Volume  21 6 166	10 19	23	1102 6	44 :	11  3	2 10	31 21	1
Lane Width   12.0	12.	0 12.0	12.0 1	2.0	1	2.0 12		1
RTOR Vol 30	1	0	1	(	o		0	ţ
			<u></u>		·			<del></del> -
Duration 0.25 Area	Type: All	Lother	areas					
		. Operat	lous	5	6	7	8	<del></del>
Phase Combination 1 2	3	4     NB	Left	A	U	,	Ů	
EB Left A		1 110	Thru	A	A			
Thru A		] }	Right	A	A			
Right A Peds		] 	Peds	••				
_		SB	Left			Α		
WB Left A Thru A			Thru	•	A	A		
Right A		i	Right		A	A		
Peds		i	Peds					
3 Right		EB	Right					
Right		WB	Right					
Green 20.0		•		15.0				
Yellow 3.0				3.0	3.0	3.0		
All Red 2.0				2.0	2.0	2.0		
		<b>c</b>			le Leng	tn: 90	,,,	secs
	ection Per		e Summa Lane G		Appr	oach		
Appr/ Lane Adj Sat	Ratio	os	Lane 6	roup	whhr	Oacn		
Lane Group Flow Rat	e √/c	g/C	Delay	LOS	Delay	LOS	-	
Grp Capacity (s)	V/C	9,0	DCTWJ		20241			
Eastbound								
LTR 356 1602	0.49	0.22	31.6	С	31.6	С		
<b>2.</b>								
Westbound								
LT 368 1656	0.08	0.22	27.8	С	27.8	С		
R 350 1575	0.07	0.22	27.7	С				
Northbound				_				
L 299 1796	0.36	0.17	29.6	C	10.1	-		
TR 838 1886	0.83	0.44	17.4	В	19.1	В		
Southbound					•			
L 289 1734	0.12	0.17	32.1	С				
TR 1540 3465	0.73	0.44	22.3	C	22.6	С		
	00 1	1000/20	h) T	ntere	ection	LOS =	C	
Intersection Dela	y - 22.1	(360) 46			0001011	~~~	-	

Agency: CORNWALL/NEW WINDSOR

te: JANUARY 2007 riod: 2010 BUILD PEAK PM

Project ID: 173BDPM2

Jurisd:

Area Type: All other areas

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Year : WITH SIGNAL TIMING CHANGE

		ידדד אָלָיס י	St: US	ROUTE 9W			
	SIGNALIZED	INTERSEC'					
Eastboun	nd   Westb	ound	North	bound		hbound	
į L T	R L T	R L	L T	. R 1	L	T R	
No. Lanes   0 1	0 0	1 1	1	1 0	1	2 0	<u> </u>
LGConfig LTR	R J	LT R J			L	TR	Ţ
Volume  39 26	141   10 26					87 37	ŀ
Lane Width   12.0	12	.0 12.0	12.0 12	.0	12.0 1	2.0	İ
RTOR Vol	30 f	0 1	-	0 1		0	Ť
Duration 0.25	Area Type: Al	l other a	reas		<del></del>		<u> </u>
Phase Combination 1	Signa 2 3	l Operati	ons	5 6	7	8	
_	2 5		Left	A	•	Ť	
DD 2010		•	=	A A			
2		•		A A			
Right A			Peds				
Peds		•	Left	_	A		
WB Left A	••	•	Thru	A	A.	•	
Thru A		***	Right	Ā	A		
Right A			Peds	**			
Peds		•	Right				
3 Right			Right				
& Right.		. I MD	_	1.0 30.0	5.0		
Green 14.0			=	1.0 30.0	3.0		
Yellow 3.0				.0 2.0	2.0		
			4	2.0	2.0		
All Red 2.0				Cualo Ter	ath. 0	n n	CACS
	ntareaction Pe	rformance		Cycle Ler	gth: 9	0.0	secs
Ir	ntersection Pe i Sat Rati		Summar	.y		0.0	secs
Ir Appr/ Lane Ad	j Sat Rati			.y	ngth: 9 oroach	0.0	secs
Ir Appr/ Lane Ad Lane Group Flow		os	Summar	oup App			secs
Ir Appr/ Lane Ad Lane Group Flow Grp Capacity	j Sat Rati w Rate	.os	Summar Lane Gr	oup App	roach	-	secs
Ir Appr/ Lane Add Lane Group Flow Grp Capacity Eastbound	j Sat Rati w Rate (s) v/c	.os g/C	Summar Lane Gr Delay I	oup App	oroach ny LOS	-	secs
Ir Appr/ Lane Add Lane Group Flow Grp Capacity Eastbound	j Sat Rati w Rate (s) v/c	.os g/C	Summar Lane Gr Delay I	oup Apr	oroach ny LOS	-	secs
Ir Appr/ Lane Ad- Lane Group Flow Grp Capacity Eastbound	j Sat Rati w Rate (s) v/c	os g/C 0.16	Summar Lane Gr Delay I	oup App OS Dela	ny LOS	-	secs
Ir Appr/ Lane Add Lane Group Flow Grp Capacity  Eastbound LTR 243 150 Westbound LT 257 160	j Sat Rati w Rate (s) v/c  62 0.76	0.16	Summar Lane Gr Delay I 49.6	D 49.6	ny LOS	-	secs
Appr/ Lane Add Lane Group Flow Grp Capacity  Eastbound  LTR 243 150  Westbound  LT 257 160	j Sat Rati w Rate (s) v/c  62 0.76	0.16	Summar Lane Gr Delay I	oup App OS Dela	ny LOS	-	secs
Appr/ Lane Add Lane Group Flow Grp Capacity  Eastbound  LTR 243 150  Westbound  LT 257 160 R 245 15	j Sat Rati w Rate (s) v/c  62 0.76  49 0.15 75 0.43	0.16 0.16	Summar Lane Gr Delay I 49.6	D 49.6	ny LOS	0.0	secs
Appr/ Lane Add Lane Group Flow Grp Capacity  Eastbound  LTR 243 156  Westbound  LT 257 166 R 245 157  Northbound	j Sat Rati w Rate (s) v/c  62 0.76  49 0.15 75 0.43	0.16 0.16 0.23	Summar Lane Gr Delay I 49.6 33.1 35.6	D 49.6	Droach D. C.	-	secs
Ir Appr/ Lane Add Lane Group Flow Grp Capacity  Eastbound  LTR 243 150  Westbound  LT 257 160 R 245 157  Northbound L 415 17	j Sat Rati w Rate (s) v/c  62 0.76  49 0.15 75 0.43 78 0.61	0.16 0.16 0.23	Summar Lane Gr Delay I 49.6	D 49.6	Droach D. C.	0.0	secs
Appr/ Lane Add Lane Group Flow Grp Capacity  Eastbound  LTR 243 156  Westbound  LT 257 166 R 245 157  Northbound L 415 177 TR 1164 187  Southbound	j Sat Rati w Rate (s) v/c 62 0.76 49 0.15 75 0.43 78 0.61 70 1.06	0.16 0.16 0.16 0.23 0.62	Summar Lane Gr Delay I 49.6 33.1 35.6 27.2 49.5	D 49.6  C 34.5  D 45.7	Droach D. C.	0.0	secs
Appr/ Lane Add Add Lane Group Flow Grp Capacity  Eastbound  LTR 243 150  Westbound  LT 257 160  R 245 157  Northbound  L 415 177  TR 1164 187  Southbound  L 98 177	j Sat Rati w Rate (s) v/c 62 0.76 49 0.15 75 0.43 78 0.61 70 1.06	0.16 0.16 0.16 0.23 0.62	Summar Lane Gr Delay I 49.6 33.1 35.6 27.2 49.5	D 49.6  C 34.5  D 45.7	D. C.	0.0	secs
Appr/ Lane Add Add Lane Group Flow Grp Capacity  Eastbound  LTR 243 150  Westbound  LT 257 160  R 245 157  Northbound  L 415 177  TR 1164 187  Southbound  L 98 177	j Sat Rati w Rate (s) v/c 62 0.76 49 0.15 75 0.43 78 0.61 70 1.06	0.16 0.16 0.16 0.23 0.62	Summar Lane Gr Delay I 49.6 33.1 35.6 27.2 49.5	D 49.6  C 34.5  D 45.7	D. C.		secs

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Agency: CORNWALL/NEW WINDSOR

Area Type: All other areas

JANUARY 2007

riod: 2010 NO-BUILD PEAK AM

Year :

`_foject 1	D: 173NB	AM2 (WITH I L RD(CR 74)	OOT IMPE	ROVEMENTS	)	IS ROU	re 9w				
		SIC	NALIZEI	) INTERSE	CTION	SUMMA	RY				
	Eas	tbound	Westh			thbour		Sor	thbou	ind	
	L	T R	L 1		L	T	R	L	T	R	İ
No. Lanes	0	1 0	0	1 1		2	<del>o</del> i	1	2	0	— ;
LGConfig		LTR		LT R	L	TR	[	L	TR		Į
Volume	•		10 19		•			32	932	21	ļ
Lane Widt RTOR Vol	n	12.0   30	. 12	2.0 12.0	112.0	12.0		12.0	12.0	0	l l
					[		, I				
Duration	0.25	Area 1		l other 1 Operat							
Phase Com	bination	1 2	3	4		5	6	7	<del></del>	3	
EB Left		A		, NB	Left	A					
Thru		A		ĺ	Thru	Α	A				
Right	<u>.</u>	A		I	Right	A	A				
Peds				Ť	Peds						
WB Left		Α .	•	SB	Left	**	•	A			
Thru		A		!	Thru		A	A			
Right	•	A			Right		A	A			
Peds				I I EB	Peds Right						
3 Right				WB	Right						
Green		20.0		. 1 112	Kigne	15.0	20.0	15.	0		
Yellow		3.0				3.0	3.0	3.0	-		
All Red		2.0	•			2.0	2.0	2.0			
		Tatovoo	tion Do		o Giimm		e Len	gth:	90.0		secs
Appr/ I	ane	Incersec Adj Sat	Rati	rformanc .os		ary Group	App	roach			<del>,</del>
	roup	Flow Rate		····	<del></del>			· · · · · · · · · · · · · · · · · · ·	<del></del>		
Grp C	apacity	(s)	v/c	g/C	Delay	LOS	Dela	y Los			
Eastbound	İ	, , , , , , , , , , , , , , , , , , ,	······································						· · · ·		<del></del>
LTR	356	1600	0.44	0.22	31.0	C	31.0	С			
Westbound	<b>L</b> .										
LT	370	1664	0.08	0.22	27.8	С	27.8	С			
	350	1575	0.07	0.22	27.7	C .					
Northboun											
	299	1796		0.17			_				
TR	1595	3589	0.39	0.44	8.0	A	10.8	В			
Southbour											
	289	1734	0.12	0.17							
	1540	3464	0.66	0.44	20.7	С	21.0	С			
)	Intersect	tion Delay	= 18.3	(sec/ve	h) I	nterse	ction	LOS =	= B		

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Agency: CORNWALL/NEW WINDSOR

Area Type: All other areas

Jurisd: Year :

te: JANUARY 2007
riod: 2010 NO-BUILD PEAK PM

riod: 2	010 NO-B D: 173NB	BUILD PEAK E BPM2 (WITH I	PM DOT IMPR	Yea OVEMENTS							
E/W St: F	ORGE HIL	L RD(CR 74)	/SLOOPH	ILL N/S	st: U	S ROU	re 9W				
		STO	NALTZED	INTERSE	CTION	SUMMAI	RY				
	I Eas	tbound	Westb			thbou		Sou	thbo	ınd	ı
•	L	T R	L T		Ĺ	T	R	L	T	R	1
No. Lanes	i 0	1 0	0	1 1	1 1	2	0 1	1	2	0	1
LGConfig	i	LTR	,	LT R	L	TR		L	TR		- 1
Volume	39	26 120	10 26			1030	•		657	37	ļ
Lane Widtl	h	12.0	12	.0 12.0	12.0		•	12.0	12.0		!
RTOR Vol	l	30		0	}	(	)			0	i
Duration	0.25	Area 1		l other		<del></del>		<u> </u>			· <u> </u>
		1 0		1 Operat	ions	5	6	<del>7</del>		3	
Phase Com	bination	_	3	4     NB	Left	- A	O	,	,	3	
EB Left		A.		ND	Thru	A	A				
Thru		A		l I	Right		A				
Right		A		1	Peds	41					
Peds WB Left		A		SB.				A			
WB Left Thru	**	A	•	1	Thru	-	A	A			•
Right		A		i	Right		A	A			
Peds		**		i	Peds						
\ Right	•			EB	Right						
( ) Right				WB	Right						
Green		19.0			-	15.0	28.0	8.0			•
Yellow		3.0				3.0	3.0	3.0		-	
All Red		2.0				2.0	2.0	2.0			
						-	le Leng	jth:	90.0		secs
				rformanc			Anna	oach			
	ane	Adj Sat	Rati	os	rane	Group	Whbi	.oacn			
	roup apacity	Flow Rate (s)	v/c	g/C	Delay	LOS	Delay	LOS	<del></del>		
grb o	<u> </u>							<del></del>			
Eastbound								-			
LTR	332	1572	0.49	0.21	32.4	С	32.4	C			
Westbound											
	25.6	1607	0 11	0.21	28.8	С	30.1	С			
,	356	1687 1575	0.32	0.21	30.5	Ċ	30.1	C			
	333	1373	0.52	0.21	50.5	Ŭ					
Northboun	.a 296	1778	0 77	0.17	42.8	D					
_	1899	3560		0.53	3.8		10.5	В			
IK	1000		3,00					_			
Southboun				2 22	20.0	-					
	157			0.09			10.0	_			
TR	1603	3518	0.46	0.46	17.0	B	18.6	В			
( )	Intersec	ction Delay	= 15.8	(sec/ve	h) I	nters	ection	LOS	= B		

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W Analyst: MAB

Area Type: All other areas Agency: CORNWALL/NEW WINDSOR

Jurisd: Tte: JANUARY 2007 Year : riod: 2010 BUILD PEAK AM

liect Ti	D • 173BD	D PEAK AM AM2 (WITH D	OT IMPRO	OVEMENTS	)					
E/W St: F	ORGE HIL	L RD(CR 74)	/SLOOPH	ILL N/S	St: US	ROUT	E 9W			
				INTERSE						
	- Fac	tbound	Westbo			hboun		South	bound	<del></del>
	L	T R	L T	R	-		R	L T		İ
No. Lanes	1 0	1 0	0 :	1 1	1 1	2	0 1		2 0	¦
LGConfig	i	LTR	ו	LT R	L	TR	1		TR	ļ.
Volume	121	6 166	10 19			544 1			31 21	ļ
Lane Widt		12.0	12	.0 12.0	12.0 3		•	12.0 12		!
RTOR Vol	İ	30 I		0	1	0	l		0	 
Duration	0.25	Area T	ype: Al.	l other l Operat	areas					
Phase Com	hination	1 2	31911a.	4	±0115	5	6	7	8	
	DINACION	A Z	J	NB	Left	A				
EB Left Thru		A		1	Thru	A	Α			
Right		A		i	Right	A	A			
Peds				i i	Peds					
WB Left		A		SB	Left			A		
Thru		A		. 1	Thru		Α	$\mathbf{A}$		
Right		· <b>A</b>		j	Right		A	A		
Peds				1	Peds					
3 Right				EB	Right					
/ \ Right				WB	Right	<b>45</b> 0		15 0		
Leen '		20.0		•		15.0	-			
Yellow		3.0	·			3.0 2.0	3.0 2.0	3.0 2.0		
All Red		2.0						gth: 90	. ^	secs
		Tatoacos	tion De	rformanc	e Summa	_	e neu	gen. 20	• •	2000
Anny/ T	ane	Adj Sat	Rati		Lane (		App	roach		<del> </del>
	roup	Flow Rate	* • • · · ·			•		·	_	
	Capacity	(s)	v/c	g/C	Delay	LOS	Dela	y LOS		
Eastbound	i							·····		
LTR	356	1602	0.49	0.22	31.6	С	31.6	C		
Westbound										
			0.00	0 00	27.8	C	27.8	С		
LT	368	1656	0.08	0.22 0.22	27.7		27.0	Ç		
R	350	1575	0.07	0.22	21,1	C				
Northbour		1706	0.36	0.17	29.6	С				
L	299	1796 3591	0.36	0.44	8.2	A	11.1	. В		
TR	1596	2021	0.33	0.77	0.2	••				
Southbou				0 4 77	20 1	<b>a</b>				
L	289	1734	0.12	0.17	32.1		20.0			
TR	1540	3465	0.73	0.44	22.3	C	22.6	5 C		
	Interse	ction Delay	= 19.2	(sec/ve	eh) I	nterse	ction	LOS =	В	

Inter.: C.R. 74/SLOOPHILL RD. & RT 9W

Agency: CORNWALL/NEW WINDSOR

Area Type: All other areas

JANUARY 2007

Jurisd:

priod: 2010 BUILD PEAK PM

roject ID: 173BDPM2 (WITH DOT IMPROVEMENTS)

E/W St:	FORGE HII	LL RD(CR 74)	/SLOOPH	ILL N/S	St: US	S ROUT	E 9W			
		STO	NALIZED	INTERSE	CTION S	SUMMAR	Y			
	l Eas	tbound	Westb			thboun		Sout	nbound	ī
- •.	L	TR	L T		L		R I		r R	j
	i				1				·	_1
No. Lan	es   0	1 0		1 1	1	-	0	1	2 0	+
LGConfi	g l	LTR		LT R	ł L	TR	•	L	TR	1
Volume	39		10 26			1167 9	•		37 37	-
Lane Wi	dth	12.0	12	.0 12.0	112.0		-	12.0 1		
RTOR Vo	1	30		0	†	0	1		0	ı
Duratio	n 0.25	Area T	ype: Al	l other	areas				<del></del>	
				1 Operat	ions					
	ombination		3	4		5	6	7	8	
EB Lef		A		NB	Left	A	_			
Thr		A		. !	Thru	A	A			
Rig		A		!	Right	A	A			
Ped		_		!	Peds			2		
WB Lef		A		SB	Left			. Д	٠,	
Thr		A		-	Thru		A	A		
Rig		A			Right Peds		A	A		
Ped				l   EB	Right					
B Rig				I WB	Right					
B Rig	nt	19.0		, 112	Right	15.0	28.0	8.0	•	
Green Yellow		3.0				3.0	3.0	3.0		
All Red		2.0				2.0	2.0	2.0		
WIT Wen		2.0						gth: 90	).0 s	ecs
		Intersec	tion Pe	rformanc	e Summa	_				
Appr/	Lane	Adj Sat	Rati	os	Lane (	Group	App	roach		
Lane	Group	Flow Rate							<b>-</b>	
Grp	Capacity	(s)	v/c	g/C	Delay	Los	Delay	y LOS		
Eastbou	ind			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	<del></del> -	<del></del>			<del></del>
		1576	0.56	0 21	22.0	c	22.0			
LTR	333	1576	0.56	0.21	33.8	С	33.8	С		٠
Westbou	ınd									
LT	354	1678	0.11	0.21	28.8	С	30.1	С		
R	333	1575	0.32	0.21	30.5	С				
Northbo										
L	296	1778	0.85	0.17	52.5	D				
TR	1899	3561	0.65	0.53	4.4	A	12.6	В		
Southbo	ound									
L	157	1770	0.35	0.09	39.9	D				
TR	1605	3523	0.54	0.46	18.1	В	19.4	В		
)	Intersec	ction Delay	= 17.2	(sec/ve	h) I	nterse	ction	LOS =	В	

### TWO-WAY STOP CONTROL SUMMARY

alyst: ency/Co.:

Date Performed: JANUARY 2007

Analysis Time Period: 2010 BUILD AM PEAK HOUR

Intersection:

RT 9W & NORTH END SITE ACCESS

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDAM3

East/West Street: NORTH END SITE ACCESS

North/South Stree Intersection Orie		ROUTE 9W NS		S	tudy	peri	od (hr	s):	0.25	<b>;</b>
	Veh:	icle Vol	umes and	d Adju	stme	nts	<del></del>			
Major Street: Ap	proach	No	rthbound	Ė		S	Southbo	und		
	vement	1	2	3	1	4	5		6	
		L	T	R	1	L	T		R	
Volume	<del></del>		757				110	7	99	
Peak-Hour Factor,	риг		0.90				0.9	0	0.90	
Hourly Flow Rate,			841				123	0	110	
Percent Heavy Veh		Undiv	i ded			/				
Median Type/Stora	ge	Olidiv	raea			••	••			
RT Channelized?			2				2	0		
Lanes			T				T	TR		
Configuration				•			No	***		
stream Signal?			ЙO							
Minor Street: Ap	proach	₩e	stbound				Lastbou	ınd		
	vement	7	8	9	1	10	11		12	
		L	T	R	1	L	Т		R	
Volume	<u> </u>		***				<u></u>		124	
Peak Hour Factor,	PHF								0.90	
Hourly Flow Rate,	HFR								137	
Percent Heavy Veh	പ്രിക്ക								0	
Percent Grade (%)			0			•	0			
Flared Approach:	Eviete2	/Storage	,		/					/
	DAIGUD.	, bcorage						1		
Lanes Configuration								R		
<u></u>	Delay,	Queue Le	ngth, a	nd Lev	vel o	f Se	rvice_			
Approach	NB	SB	Wes	tbound					ound	
Movement	1	4	7	8	9	1	10	1	1	12
Lane Config		ì				1				R
v (vph)		<del></del>	<u></u>				<u> </u>	<del></del>		137
C(m) (vph)										404
A\C (W) (Abtt)										0.34
										1.47
95% queue length										18.4
Control Delay										C
os								1	8.4	-
Approach Delay									C	
Approach LOS									-	. <u> </u>

`alyst:

yency/Co.:
 ate Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD PM PEAK HOUR

Intersection:

RT 9W & NORTH END SITE ACCESS

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDPM3

East/West Street: NORTH END SITE ACCESS

North/South Street: US ROUTE 9W

Intersection Orientation: NS

Vehicle Volumes and Adjustments	Intersection Orie	ntation:	NS		S	tudy	perı	od (hrs	3): 0.7	25
Major Street: Approach Movement         Northbound L T R Southbound         Southbound Southbound           Volume         1415 R L T R           Peak-Hour Factor, PHF D.90 Nourly Flow Rate, HFR Percent Heavy Vehicles         1572 897 144           Median Type/Storage Median Type/Storage Percent Heavy Vehicles         Undivided / RT Channelized?           Lanes         2 2 2 0           Configuration Street: Approach Movement         Westbound Street: Approach Movement         Eastbound Street: Approach Movement           Feak Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles         228           Percent Grade (%)         0         0           Flared Approach: Exists?/Storage Lanes         0         0           Configuration         R         1           Delay, Queue Length, and Level of Service Approach NB SB Westbound Movement         Eastbound Eastbound R SB SB Westbound SB SB Westbound SB SB Westbound SB SB Westbound SB SB Westbound SB SB Westbound SB SB Westbound SB SB Westbound SB SB SB Westbound SB SB SB Westbound SB SB SB Westbound SB SB SB SB SB SB SB SB SB SB SB SB SB		Veh:	icle Vol	lumes a	nd Adju	stme	nts			
Movement	Major Street: Ap							outhbou	ind	
L T R   L T R     L T R       N	_		1	2	3	ļ	4	5	6	
Peak-Hour Factor, PHF			L	T	R	.1	L	T	R	
Peak-Hour Factor, PHF							···			
Hourly Flow Rate, HFR										
Percent Heavy Vehicles   Median Type/Storage   Undivided   /										D
Median Type/Storage         Undivided         /           RT Channelized?         2         2         0           Configuration pstream Signal?         T         T TR         TR           postream Signal?         No         No         No           Prinor Street:         Approach Movement 7 8 9 10 11 12 12 12 12 12 12 12 12 12 12 12 12	Hourly Flow Rate,	HFR		1572				897	144	
RT Channelized?   2	Percent Heavy Veh	icles								
Lanes		.ge	Undi	vided			/			
Configuration ostream Signal?  No No No No No No No No No No No No No N	RT Channelized?									
No No No   No   No   No   No   No   N	Lanes			2						
No   No   No   No   No   No   No   No	Configuration			T				${f T}$	TR	
Movement   Approach   Mestbound   Eastbound   Movement   7				No				No		
Movement   7   8   9   10   11   12   12   1   T   R     L   T   R     L   T   R     L   T   R     R     R     R     R     R     R     R     R     R     R     R     R     R     R     R   R     R     R     R     R     R     R     R     R     R     R   R     R     R     R     R     R     R     R     R     R     R   R     R	)				<u> </u>				<del> </del>	
Movement   7   8   9   10   11   12   12   T   R   L   T   R   R   L   T   R   R   R   L   T   R   R   R   R   R   R   R   R   R	Minor Street: Ap	proach	We	estbound			E		ıd	
Volume         228           Peak Hour Factor, PHF         0.90           Hourly Flow Rate, HFR         253           Percent Heavy Vehicles         0           Percent Grade (%)         0           Flared Approach: Exists?/Storage         /           Lanes         1           Configuration         R           Delay, Queue Length, and Level of Service           Approach         NB         SB         Westbound         Eastbound           Movement         1         4         7         8         9         10         11         12           Lane Config                             R         253           C(m) (vph)         253         06         0.50         0.50           95% queue length         2.76         0.50         0.50         0.50           95% queue length         2.76         0.50	_	vement	7	8 .	9	ţ	10	11	12	
Peak Hour Factor, PHF         0.90           Hourly Flow Rate, HFR         253           Percent Heavy Vehicles         0           Percent Grade (%)         0           Flared Approach: Exists?/Storage         /           Lanes         1           Configuration         R           Delay, Queue Length, and Level of Service           Approach         NB         SB         Westbound           Movement         1         4         7         8         9         10         11         12           Lane Config                             R           V (vph)         253         C(m) (vph)         506           V/C         0.50         0.50           95% queue length         2.76         0.50           Control Delay         19.0         0.50			L	T	R	1	${f L}$	${f T}$	R	
Peak Hour Factor, PHF         0.90           Hourly Flow Rate, HFR         253           Percent Heavy Vehicles         0           Percent Grade (%)         0           Flared Approach: Exists?/Storage         /           Lanes         1           Configuration         R           Delay, Queue Length, and Level of Service           Approach         NB         SB         Westbound         Eastbound           Movement         1         4         7         8         9         10         11         12           Lane Config                             R         253           C(m) (vph)         506         0.50           95% queue length         2.76           Control Delay         19.0           OS         C	· -									
Hourly Flow Rate, HFR	Volume							·		
Hourly Flow Rate, HFR Percent Heavy Vehicles Percent Grade (%) Percent Grade (%) Percent Grade (%) Percent Grade (%)  Percent Grade (%)  Flared Approach: Exists?/Storage  Lanes Configuration    Delay, Queue Length, and Level of Service   Approach	Peak Hour Factor,	PHF			,					)
Percent Heavy Vehicles	Hourly Flow Rate,	HFR							253	
Percent Grade (%)   0									0	
Exists?/Storage				0				0		
Delay, Queue Length, and Level of Service     Approach   NB   SB   Westbound   Eastbound   Movement   1   4   7   8   9   10   11   12   12   12   13   14   7   8   9   10   11   12   14   17   15   15   15   15   15   15   15			/Storage	e		/				/
Delay, Queue Length, and Level of Service	<del></del>							•	1	
Delay, Queue Length, and Level of Service									R	
Approach NB SB Westbound Eastbound Movement 1 4 7 8 9 10 11 12 Lane Config R  V (vph) C(m) (vph) V/c 95% queue length Control Delay OS C(m) NB SB Westbound Eastbound R  253 C 0 10 11 12 R  253 C 0 506 C 0 506 C 0 50	002									
Approach         NB         SB         Westbound         Eastbound           Movement         1         4         7         8         9         10         11         12           Lane Config         I         R         R         253         R           V (vph)         506         50										
Movement 1 4 7 8 9 10 11 12 Lane Config		_Delay, (					f Ser			
Lane Config       R         v (vph)       253         C(m) (vph)       506         v/c       0.50         95% queue length       2.76         Control Delay       19.0         OS       C	Approach	NB	SB							
v (vph)       253         C(m) (vph)       506         v/c       0.50         95% queue length       2.76         Control Delay       19.0         OS       C	Movement	1	4	7.	8	9	}	10	11	12
C(m) (vph) 506 v/c 0.50 95% queue length 2.76 Control Delay 19.0 C	Lane Config		i				1			R
C(m) (vph) 506 v/c 0.50 95% queue length 2.76 Control Delay 19.0 C		·				<del></del>				050
v/c       0.50         95% queue length       2.76         Control Delay       19.0         OS       C										
95% queue length Control Delay OS C										
Control Delay 19.0 C										
yos C								•		
	Control Delay									
pproach Delay 19.0	os									С
	pproach Delay		•						19.0	
Approach LOS C									С	

### HCS+: Unsignalized Intersections Release 5.2 TWO-WAY STOP CONTROL SUMMARY nalyst: ency/Co.: JANUARY 2007 Late Performed: Analysis Time Period: 2010 BUILD AM PEAK HOUR RT 9W & NORTH END SITE ACCESS Intersection: Jurisdiction: Units: U. S. Customary SCENARIO 2 Analysis Year: Project ID: 173BDAM3 NORTH END SITE ACCESS East/West Street: US ROUTE 9W North/South Street: Study period (hrs): 0.25 Intersection Orientation: NS Vehicle Volumes and Adjustments Southbound Northbound Major Street: Approach 5 2 1 Movement T R Т R L L 99 1107 757 Volume 0.90 0.90 0.90 Peak-Hour Factor, PHF 1230 110 Hourly Flow Rate, HFR 841 Percent Heavy Vehicles Undivided Median Type/Storage RT Channelized? 2 2 Lanes T TR Т Configuration No No pstream Signal? Eastbound Westbound Approach minor Street: 12 11 10 8 Movement R Т L T R ı L 37 Volume 0.90 Peak Hour Factor, PHF 41 Hourly Flow Rate, HFR 0 Percent Heavy Vehicles 0 Percent Grade (%) Flared Approach: Exists?/Storage 1 Lanes R Configuration Delay, Queue Length, and Level of Service

	_pergl.	SB		9-	Westbound			E	astbound	
Approach Movement Lane Config	NB 1	4	]	7	8	9	1	10	11	12 R
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS					,				14.9 B	41 404 0.10 0.34 14.9 B

alyst: ency/Co.:

Date Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD PM PEAK HOUR

Intersection:

RT 9W & NORTH END SITE ACCESS

Jurisdiction:

Units: U. S. Customary

Analysis Year:

SCENARIO 2

Project ID: 173BDPM3

East/West Street: NORTH END SITE ACCESS

North/South Street: US ROUTE 9W

Study period (hrs): 0.25

, a second of

North/South Street: US ROUI Intersection Orientation: NS	E 3W	Study per	iod (hrs):	0.25
	Volumes and Northbound	Adjustments_	Southbound	
Major Street: Approach Movement 1		3   4	5	6
HOVEMENT I		R [ L	T	R
			800	130
Volume	1560		0.90	0.90
Peak-Hour Factor, PHF	0.90 1733		888	144
Hourly Flow Rate, HFR	1755			<b></b>
Percent Heavy Vehicles	Jndivided	1 .	19	
Median Type/Doorage	, individuo			
RT Channelized?	2		2 0	
Lanes	T		T TR	
Configuration	No		No	
pstream Signal?			Eastbound	
Minor Street: Approach	Westbound	9   10		12
Movement	7 8	•	T	R
	L T	R   L	•	
				68
Volume				0.90
Peak Hour Factor, PHF				75
Hourly Flow Rate, HFR				0
Percent Heavy Vehicles	0		0	,
Percent Grade (%) Flared Approach: Exists?/St	orage	/		/
	•		_1	,
Lanes Configuration			R	
Confiduración				
	. T	d Level of S	Service	
	eue Length, an	bound:	East	oound
Approach		8 9	1 10	11 12
Movement 1	1		į	R
Lane Config	ı			
				75 500
v (vph)				509 0.15
C(m) (vph)				0.13
v/c 95% queue length				13.3
Control Delay				В
) LOS				13.3
Approach Delay				B
Approach LOS				<del>-</del>

```
TWO-WAY STOP CONTROL SUMMARY
                       2006 EXISTING AM PEAK HOUR
 alyst:
  ency/Co.:
                       JANUARY 2007
Date Performed:
Analysis Time Period: 2006 EXISTING AM PEAK HOUR
                       NYS RT 218 NB RAMP & US RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year:
             173AMEX4A
Project ID:
                       NYS ROUTE 218 NB ON/OFF RAMP
East/West Street:
                       US ROUTE 9W
North/South Street:
                                               Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                         Southbound
                                Northbound
                Approach
Major Street:
                                                             5
                                                                     6
                                            3
                                                      4
                                     2
                              1
                Movement
                                                                     R
                                                             Т
                                                      L
                              L
                                     Т
                                            R
                                             40
                                     372
Volume
                                            0.92
                                     0.92
Peak-Hour Factor, PHF
                                             43
                                     404
Hourly Flow Rate, HFR
Percent Heavy Vehicles
Median Type/Storage
                              Undivided
                                           No
RT Channelized?
                                     2
                                           1
Lanes
                                     T
                                         R
Configuration
                                                              No
                                     No
 ostream Signal?
                                                         Eastbound
                                 Westbound
                Approach
Minor Street:
                                                                     12
                                                             11
                                                      10
                                     8
                                             9
                Movement
                                                              Т
                                                                     R
                                     Т
                                             R
                                                      L
                              L
                                             239
Volume
                                             0.92
Peak Hour Factor, PHF
                                             259
Hourly Flow Rate, HFR
                                             2
Percent Heavy Vehicles
                                                              0
Percent Grade (%)
                   Exists?/Storage
Flared Approach:
                                           1
Lanes
                                          R
Configuration
                    Delay, Queue Length, and Level of Service
                                                               Eastbound
                                        Westbound
                             SB
                      NB
 Approach
                                                            10
                                                                   11
                                                                           12
                                            8
                             4
                                    7
                      1
 Movement
                                                   R
                                                         1
 Lane Config
                                                    259
 v (vph)
                                                    887
 C(m) (vph)
                                                    0.29
 v/c
                                                    1,22
 95% queue length
                                                    10.7
 Control Delay
                                                     В
 SOS
                                            10.7
 Approach Delay
                                             В
 Approach LOS
```

```
TWO-WAY STOP CONTROL SUMMARY
                       2006 EXISTING PM PEAK HOUR
  alyst:
 ency/Co.:
                       JANUARY 2007
Date Performed:
Analysis Time Period: 2006 EXISTING PM PEAK HOUR
                       NYS RT 218 NB RAMP & US RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year:
Project ID: 173PMEX4A
                       NYS ROUTE 218 NB ON/OFF RAMP
East/West Street:
                       US ROUTE 9W
North/South Street:
                                                Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                          Southbound
                                 Northbound
                Approach
Major Street:
                                                                     6
                                                       4
                                                              5
                              1
                                     2
                Movement
                                                              Т
                                                                     R
                                             R
                                                      L
                                     T
                                             39
                                     862
Volume
                                     0.92
                                             0.92
Peak-Hour Factor, PHF
                                             42
                                     936
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                              Undivided
Median Type/Storage
                                            No
RT Channelized?
                                      2
                                           1
Lanes
                                     T
                                          R
Configuration
                                                              No
                                     No
 pstream Signal?
                                                          Eastbound
                                 Westbound
Minor Street:
                Approach
                                                                      12
                                             9
                                                       10
                                                              11
                                      8
                              7
                Movement
                                                              T
                                                                      R
                                             R
                                                    1
                                                       L
                                      \mathbf{T}
                              T.
                                             296
Volume
                                             0.92
Peak Hour Factor, PHF
                                             321
Hourly Flow Rate, HFR
                                             2
 Percent Heavy Vehicles
                                                              0
 Percent Grade (%)
 Flared Approach: Exists?/Storage
                                           1
 Lanes
                                          R
 Configuration
                    Delay, Queue Length, and Level of Service
                                        Westbound
                                                                Eastbound
                      NB
                              SB
 Approach
                                                                    11
                                                                           12
                                                    9
                                                            10
                                     7
                                            8
                              4
                      1
 Movement
                                                    R
 Lane Config
                                                    321
 v (vph)
                                                    678
 C(m) (N
                                                    0.47
 v/c
                                                    2.55
 95% queue length
                                                    15.0-
 Control Delay
                                                     В
 LOS
                                             15.0-
 Approach Delay
                                              В
 Approach LOS
```

```
TWO-WAY STOP CONTROL SUMMARY
                       2010 NO-BUILD AM PEAK HOUR
 alyst:
  pncy/Co.:
                       JANUARY 2007
Jate Performed:
Analysis Time Period: 2010 NO-BUILD AM PEAK HOUR
                       NYS RT 218 NB RAMP & US RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year:
             173AMNB4A
Project ID:
                       NYS ROUTE 218 NB ON/OFF RAMP
East/West Street:
                       US ROUTE 9W
North/South Street:
                                               Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                         Southbound
                                 Northbound
                Approach
Major Street:
                                                                    6
                                                             5
                                                      4
                                     2
                                            3
                              1
                Movement
                                                             Т
                                                                    R
                                            R
                                                      L
                                     Т
                             Ŀ
                                     409
                                            43
Volume
                                            0.92
                                     0.92
Peak-Hour Factor, PHF
                                     444
                                            46
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                              Undivided
Median Type/Storage
                                           No
RT Channelized?
                                     2
                                          1
Lanes
                                     Т
                                         R
Configuration
                                                             No
                                     No
  əstream Signal?
                                                         Eastbound
                                 Westbound
Minor Street:
                Approach
                                                                     12
                                                             11
                                                      10
                                             9
                                     8
                              7
                Movement
                                                             Т
                                                                     R
                                                      L
                                     Т
                                             R
                              L
                                             261
Volume
                                             0.92
 Peak Hour Factor, PHF
                                             283
 Hourly Flow Rate, HFR
                                             2
 Percent Heavy Vehicles
                                                              0
 Percent Grade (%)
 Flared Approach: Exists?/Storage
                                           1
 Lanes
                                          R
 Configuration
                    Delay, Queue Length, and Level of Service
                                                               Eastbound
                                        Westbound
                      NB
                             SB
 Approach
                                                                   11
                                                                          12
                                                            10
                                            8
                      1
                             4
 Movement
                                                   R
 Lane Config
                                                    283
 v (vph)
                                                    870
 C(m) (vph)
                                                    0.33
 v/c
                                                    1.42
 95% queue length
                                                    11.1
 Control Delay
                                                     В
  OS
                                            11.1
  approach Delay
                                             В
 Approach LOS
```

```
TWO-WAY STOP CONTROL SUMMARY
                       2010 NO-BUILD PM PEAK HOUR
 \alyst:
ency/Co.:
                       JANUARY 2007
Date Performed:
Analysis Time Period: 2010 NO-BUILD PM PEAK HOUR
                       NYS RT 218 NB RAMP & US RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year:
Project ID: 173PMNB4A
                       NYS ROUTE 218 NB ON/OFF RAMP
East/West Street:
                       US ROUTE 9W
North/South Street:
                                                Study period (hrs):
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                         Southbound
                                 Northbound
                Approach
Major Street:
                                                                     6
                                                              5
                                                      4
                                     2
                                             3
                              1
                Movement
                                                                     R
                                                              Т
                                                      L
                                             R
                                                   ļ
                                     Т
                              L
                                             42
                                      935
Volume
                                             0.92
                                      0.92
Peak-Hour Factor, PHF
                                      1016
                                             45
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                              Undivided
Median Type/Storage
                                            No
RT Channelized?
                                      2
                                           1
Lanes
                                          R
                                      Т
Configuration
                                                              No
                                      No
 pstream Signal?
                                                          Eastbound
                                  Westbound
                Approach
 Minor Street:
                                                                      12
                                                              11
                                             9
                                                       10
                                      8
                              7
                Movement
                                                              \mathbf{T}
                                                                      R
                                                       L
                                             R
                                                    1
                                      Т
                              L
                                              321
 Volume
                                              0.92
 Peak Hour Factor, PHF
                                              348
 Hourly Flow Rate, HFR
                                              2
 Percent Heavy Vehicles
                                      0
 Percent Grade (%)
 Flared Approach: Exists?/Storage
                                            1
 Lanes
                                           R
 Configuration
                    Delay, Queue Length, and Level of Service
                                                                Eastbound
                                         Westbound
                              SB
                       NB
 Approach
                                                                            12
                                                             10
                                                                    11
                                                     9
                                             8
                                     7
                              4
                       1
 Movement
                                                     Ŕ
                                                          Į
  Lane Config
                                                     348
  v (vph)
                                                     650
  C(m) (nbp)
                                                     0.54
  v/c
                                                     3.19
  95% queue length
                                                     16.7
  Control Delay
                                                      C
  LOS
                                             16.7
  Approach Delay
                                              С
  Approach LOS
```

```
TWO-WAY STOP CONTROL SUMMARY
                       2010 BUILD AM PEAK HOUR
  alyst:
  ency/Co.:
                      JANUARY 2007
Lute Performed:
Analysis Time Period: 2010 BUILD AM PEAK HOUR
                      NYS RT 218 NB RAMP & US RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year:
Project ID: 173AMB4A
                      NYS ROUTE 218 NB ON/OFF RAMP
East/West Street:
                      US ROUTE 9W
North/South Street:
                                               Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                        Southbound
                                Northbound
               Approach
Major Street:
                                                                    6
                                                             5
                                            3
                                                     4
                                    2
                             1
               Movement
                                                                    R
                                                     L
                                                             \mathbf{T}
                                            R
                                    Т
                                                  1
                             L
                                            209
                                     409
Volume
                                            0.92
                                     0.92
Peak-Hour Factor, PHF
                                            227
                                     444
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                             Undivided
Median Type/Storage
                                           No
RT Channelized?
                                     2
                                          1
Lanes
                                     Т
                                         R
Configuration
                                                             No
                                     No .
  stream Signal?
                                                         Eastbound
                                 Westbound
                Approach
minor Street:
                                                             11
                                                                    12
                                                      10
                                            9
                                     8
                              7
                Movement
                                                                    R
                                                             Т
                                            R
                                                   1
                                                     L
                                     Т
                              L
                                            348
Volume
                                            0.92
Peak Hour Factor, PHF
                                            378
Hourly Flow Rate, HFR
                                            2
Percent Heavy Vehicles
                                                             0
 Percent Grade (%)
Flared Approach: Exists?/Storage
                                          1
Lanes
                                         R
 Configuration
                   Delay, Queue Length, and Level of Service
                                                              Eastbound
                                       Westbound
                             SB
                     NB
 Approach
                                                                          12
                                                                  11
                                                           10
                                    7
                                            8
                             4
                      1
 Movement
                                                   R
 Lane Config
                                                   378
 v (vph)
                                                   870
 C(m) (vph)
                                                   0.43
 v/c
                                                   2.22
 95% queue length
                                                   12.3
 Control Delay
                                                    В
  OS
                                            12.3
  pproach Delay
                                             В
 Approach LOS
```

```
TWO-WAY STOP CONTROL SUMMARY
                       2010 BUILD PM PEAK HOUR
 alyst:
  ency/Co.:
                       JANUARY 2007
vate Performed:
Analysis Time Period: 2010 BUILD PM PEAK HOUR
                       NYS RT 218 NB RAMP & US RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year:
Project ID: 173PMB4A
                       NYS ROUTE 218 NB ON/OFF RAMP
East/West Street:
                       US ROUTE 9W
North/South Street:
                                               Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                         Southbound
                                 Northbound
                Approach
Major Street:
                                                             5
                                                                     6
                                                      4
                                     2
                                            3
                              1
                Movement
                                                                     R
                                                             Т
                                                     Ļ
                                     \mathbf{T}
                                            R
                                                   1
                              L
                                     935
                                             259
Volume
                                     0.92
                                             0.92
Peak-Hour Factor, PHF
                                             281
                                     1016
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                              Undivided
Median Type/Storage
                                            No
RT Channelized?
                                     2
                                           1
Lanes
                                     T
                                         R
Configuration
                                                              No
                                     No
  ostream Signal?
                                                         Eastbound
                                 Westbound
Minor Street:
                Approach
                                                                     12
                                                              11
                                                      10
                                     8
                              7
                Movement
                                                              T
                                                                     R
                                                      L
                                     \mathbf{T}
                                             R
                                             480
Volume
                                             0.92
Peak Hour Factor, PHF
                                             521
Hourly Flow Rate, HFR
                                             2
Percent Heavy Vehicles
                                                              0
 Percent Grade (%)
Flared Approach: Exists?/Storage
                                           1
 Lanes
                                          R
 Configuration
                    Delay, Queue Length, and Level of Service
                                                               Eastbound
                                        Westbound
                      NB
                             SB
 Approach
                                                                           12
                                                            10
                                                                   11
                                            8
                                                    9
                                     7
                      1
                             4
 Movement
                                                    R
 Lane Config
                                                    521
 v (vph)
                                                    650
 C(m) (vph)
                                                    0.80
 v/c
                                                    8.07
 95% queue length
                                                    29.1
 Control Delay
                                                     D
  OS
                                             29.1
  .pproach Delay
                                              D
 Approach LOS
```

```
TWO-WAY STOP CONTROL SUMMARY
                       2010 BUILD AM PEAK HOUR
  alyst:
 ency/Co.:
                       JANUARY 2007
Játe Performed:
Analysis Time Period: 2010 BUILD AM PEAK HOUR
                       NYS RT 218 NB RAMP & US RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
                       SCENARIO 2
Analysis Year:
Project ID: 173AMB4A
                       NYS ROUTE 218 NB ON/OFF RAMP
East/West Street:
                       US ROUTE 9W
North/South Street:
                                                Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                          Southbound
                                 Northbound
                Approach
Major Street:
                                                              5
                                                       4
                                             3
                                     2
                              1
                Movement
                                                                      R
                                                              T
                                                      L
                                                    i
                                     T
                                             R
                              \mathbf{L}
                                             43
                                      496
Volume
                                             0.92
                                      0.92
Peak-Hour Factor, PHF
                                      539
                                             46
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                              Undivided
Median Type/Storage
                                            No
RT Channelized?
                                      2
                                           1
Lanes
                                          R
                                      Т
Configuration
                                                               No
                                      No
 pstream Signal?
                                                          Eastbound
                                  Westbound
Minor Street:
                 Approach
                                                                      12
                                                              11
                                                       10
                                              9
                                      8
                              7
                 Movement
                                                                      R
                                                               Т
                                                       \mathbf{L}
                                              R
                                                    1
                                      Т
                              \mathbf{L}
                                              261 ·
 Volume
                                              0.92
 Peak Hour Factor, PHF
                                              283
 Hourly Flow Rate, HFR
                                              2
 Percent Heavy Vehicles
                                                               0
 Percent Grade (%)
 Flared Approach: Exists?/Storage
                                            1
 Lanes
                                           R
 Configuration
                    Delay, Queue Length, and Level of Service
                                                                Eastbound
                                         Westbound
                              SB
                      NB
                                                                            12
 Approach
                                                                    11
                                                             10
                                                     9
                                             8
                                      7
                       1
                              4
 Movement
                                                     R
                                   ļ
 Lane Config
                                                     283
  v (vph)
                                                     829
  C(m) (nbp)
                                                     0.34
  v/c
                                                     1.52
  95% queue length
                                                     11.6
  Control Delay
                                                      В
  LOS
                                              11.6
  Approach Delay
                                               В
  Approach LOS
```

```
TWO-WAY STOP CONTROL SUMMARY
                       2010 BUILD PM PEAK HOUR
  alyst:
  ncy/Co.:
                       JANUARY 2007
 ce Performed:
Analysis Time Period: 2010 BUILD PM PEAK HOUR
                      NYS RT 218 NB RAMP & US RT 9W
Intersection:
Jurísdiction:
Units: U. S. Customary
                     SCENARIO 2
Analysis Year:
Project ID: 173PMB4A
                       NYS ROUTE 218 NB ON/OFF RAMP
East/West Street:
                       US ROUTE 9W
North/South Street:
                                               Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                         Southbound
                                 Northbound
                Approach
Major Street:
                                                                    6
                                                             5
                                            3
                                                      4
                                     2
                              1
                Movement
                                                                    R
                                                             Т
                                                      L
                                     \mathbf{T}
                                            R
                                                   1
                              ۲,
                                            42
                                     1239
Volume
                                     0.92
                                            0.92
Peak-Hour Factor, PHF
                                     1346
                                             45
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                              Undivided
Median Type/Storage
                                           No
RT Channelized?
                                     2
                                           1
Lanes
                                     \mathbf{T}
                                         R
 Configuration
                                                              No
                                     No
  ostream Signal?
                                                         Eastbound
                                 Westbound
                Approach
 minor Street:
                                                                     12
                                                      10
                                                              11
                                             9
                                     8
                Movement
                                                                     R
                                                              Т
                                                      L
                                             R
                                     Т
                              L
                                             321
 Volume
                                             0.92
 Peak Hour Factor, PHF
                                             348
 Hourly Flow Rate, HFR
 Percent Heavy Vehicles
                                                              0
 Percent Grade (%)
 Flared Approach: Exists?/Storage
                                           1
 Lanes
                                          R
 Configuration
                    Delay, Queue Length, and Level of Service
                                                               Eastbound
                                  Westbound
                              SB
                      NB
  Approach
                                                            10
                                                                   11
                                                                           12
                                                    9
                                             8
                                     7
                       1
  Movement
                                                    R
                                  ļ
  Lane Config
                                                    348
  v (vph)
                                                    549
  C(m) (vph)
                                                    0.63
  v/c
                                                    4.42
  95% queue length
                                                    22.2
  Control Delay
                                                     С
   COS
                                             22.2
   pproach Delay
                                              С
  Approach LOS
```

TWO-WAY STOP CONTROL SUMMARY 2006 EXISTING AM PEAK HOUR `¬alyst: \incy/Co.: JANUARY 2007 te Performed: Analysis Time Period: 2006 EXISTING AM PEAK HOUR NYS RT 218 SB ON/OFF & RT 9W Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: 173AMEX4B NYS ROUTE 218 SB ON/OFF RAMP

East/West Stree North/South Str Intersection Or	eet: NYS	ROUTE 2 ROUTE 9 NS	18 SB ON W			period	(hrs):	0.25	
		icle Vol	13mor 200	d Adin	stment	ts			<del> </del>
		TCTE AOT	rthbound	i naja I	o cinom	Sout	hbound		
Major Street:	Approach Movement	1	2	3	1 4	4	5	6	
	Movemenc	L	T	R	( )	<b>L</b>	T	R	
							734	272	
Volume							0.92	0.92	
Peak-Hour Facto	or, PHF						797	295	
Hourly Flow Rat	ce, HFR								
Percent Heavy	Vehicles	** 32-	 تمیدادات		/				
Median Type/Sto	orage	Undiv	naea		.*	÷	No		
RT Channelized	?						2 1		
Lanes							T R		
Configuration			No				No		
~>stream Signa	1?		No						
	3ab	W	estbound	<del></del>		Eas	tbound		
nor Street:	Approach	7 "	8	9	1	10	11	12	
	Movement	, L	T	R	Ì	Ļ	T	R	
		11	-		•				
** . 3			<del></del>				<del></del>	78	
Volume	or PHF							0.92	
Peak Hour Fact	to HFR							84	
Hourly Flow Ra	Vehicles							2	
Percent Heavy Percent Grade	181		0				0		
Flared Approac	h· Exists:	?/Storag	e		/				/
	л. цитосо	., ,	-				1	-	
Lanes							R		
Configuration									
		Queue L	ength, a	and Te.	neT or	Servi	Facti	ound	
Approach	NB	SB		tboun	a 9	ı 1		L1	12
Movement	1	4	7	8	9	+			R
Lane Config		i				1			
			<u> </u>						84
v (vph)									652
C(w) ( $vbp$ )									0.13
v/c									0.44
95% queue leng	gth								11.3
Control Delay									В
7,0S								11.3	
pproach Delay	У							В	
Approach LOS									

```
TWO-WAY STOP CONTROL SUMMARY
                       2006 EXISTING PM PEAK HOUR
  alyst:
  ency/Co.:
                       JANUARY 2007
Late Performed:
Analysis Time Period: 2006 EXISTING PM PEAK HOUR
                       NYS RT 218 SB ON/OFF & RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year:
Project ID: 173PMEX4B
                       NYS ROUTE 218 SB ON/OFF RAMP
East/West Street:
                       NYS ROUTE 9W
North/South Street:
                                               Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                         Southbound
                                 Northbound
                Approach
Major Street:
                                                             5
                                                      4
                                     2
                             1
                Movement
                                                             Т
                                                                     R
                                            R
                                                      \mathbf{L}
                                     Т
                             L
                                                                     305
                                                             408
Volume
                                                             0.92
                                                                     0.92
Peak-Hour Factor, PHF
                                                             443
                                                                     331
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                              Undivided
Median Type/Storage
                                                                  No
RT Channelized?
                                                             2
                                                                  1
Lanes
                                                             Т
                                                                  R
Configuration
                                                             No
                                     No
  stream Signal?
                                                         Eastbound
                                 Westbound
                Approach
Minor Street:
                                                                     12
                                                      10
                                                             11
                                     8
                Movement
                                                                     R
                                                              T
                                                      L
                                     Т
                                             R
                                                   ı
                              L
                                                                     37
Volume
                                                                     0.92
 Peak Hour Factor, PHF
                                                                     40
 Hourly Flow Rate, HFR
                                                                     2
 Percent Heavy Vehicles
                                                              0
 Percent Grade (%)
 Flared Approach: Exists?/Storage
                                                                   1
 Lanes
                                                                  R
 Configuration
                    Delay, Queue Length, and Level of Service
                                                               Eastbound
                                        Westbound
                             SB
                      NB
 Approach
                                                                           12
                                                            10
                                                                   11
                                                    9
                                            8
                                     7
                              4
                      1
 Movement
                                                                           R
 Lane Config
                                                                           40
 v (vph)
                                                                           818
 C(m) (\Delta bp)
                                                                           0.05
 v/c
                                                                           0.15
 95% queue length
                                                                           9.6
 Control Delay
                                                                            Α
                                                                    9.6
  Approach Delay
                                                                    Α
  Approach LOS
```

```
TWO-WAY STOP CONTROL SUMMARY
                       2010 NO-BUILD AM PEAK HOUR
 nalyst:
hency/Co.:
                       JANUARY 2007
Jate Performed:
Analysis Time Period: 2010 NO-BUILD AM PEAK HOUR
                      NYS RT 218 SB ON/OFF & RT 9W
Intersection:
Jurisdiction:
Units: U. S. Customary
Analysis Year:
Project ID: 173AMNB4B
                      NYS ROUTE 218 SB ON/OFF RAMP
East/West Street:
                       NYS ROUTE 9W
North/South Street:
                                               Study period (hrs): 0.25
Intersection Orientation: NS
                       Vehicle Volumes and Adjustments
                                                         Southbound
                                Northbound
               Approach
Major Street:
                                                                     6
                                                             5
                                                      4
                                            3
                                     2
                             1
                Movement
                                                                    R
                                                             Т
                                                     L
                                            R
                                                   1
                             L
                                                             796
                                                                     295
Volume
                                                                     0.92
                                                             0.92
Peak-Hour Factor, PHF
                                                                     320
                                                             865
Hourly Flow Rate, HFR
Percent Heavy Vehicles
                             Undivided
Median Type/Storage
                                                                 No
RT Channelized?
                                                              2
                                                                  1
Lanes
                                                             Т
                                                                  R
Configuration
                                                             No
                                     No
 pstream Signal?
                                                         Eastbound
                                 Westbound
                Approach
Minor Street:
                                                             11
                                                                     12
                                                      10
                                             9
                                     8
                              7
                Movement
                                                              Т
                                                      L
                                             R
                                     T
                              \mathbf{L}
                                                                     84
Volume
                                                                     0.92
Peak Hour Factor, PHF
                                                                     91
Hourly Flow Rate, HFR
                                                                     2
Percent Heavy Vehicles
                                                              0
                                      0
 Percent Grade (%)
 Flared Approach: Exists?/Storage
                                                                   1
 Lanes
                                                                  R
 Configuration
                    Delay, Queue Length, and Level of Service
                                                               Eastbound
                                        Westbound
                             SB
                      NB
 Approach
                                                                           12
                                                            10
                                                                   11
                                            8
                                     7
                      1.
 Movement
                                                                           R
                                  Į
 Lane Config
                                                                           91
 v (vph)
                                                                           624
 G(w) (\Lambda by)
                                                                           0.15
 v/c
                                                                           0.51
 95% queue length
                                                                           11.8
 Control Delay
                                                                            В
 LOS
                                                                    11.8
 Approach Delay
                                                                     В
  Approach LOS
```

		TWO-WAY	CTOP (	CONTROI	SUMMAF	RY			
		IWO-WHI	5101	001111101					
1	alyst:	2010 NO-	BUILD	PM PEAR	HOUR				
Ĺ	)ency/Co.:	JANUARY	2007						
	Jate Performed: Analysis Time Period:	2010 NO-	BUILD	PM PEAR	( HOUR				
	Analysis Time relica.	NYS RT 2	18 SB	ON/OFF	& RT 9	N			
	Intersection: Jurisdiction:	21,22							
	Units: U. S. Customan	rv							
	Analysis Year:	- <b>-</b>							· * - *
	Project ID: 173PMNB	4B				_			
	East/West Street:	NYS ROUT		SB ON/	OFF RAM	Ρ .			
	North/South Street:	NYS ROUT	E 9W		Chud	y period	(hrs):	0.25	
	Intersection Orienta	tion: NS			stud	y period	(1120)	••	
		Vehicle	Volume	s and	Adiustm	ents			
	7-70		North	bound		Sout	hbound		-
	Major Street: Appro-	ent 1	2		3	4	5	6	
	MOVER	enc L	ľ		R I	${f r}$	T	R	
								225	
	Volume						451 0.92	335 0.92	
	Peak-Hour Factor, PH	F					490	364	
	Hourly Flow Rate, HF	'R					490		
	Percent Heavy Vehicl	es	- ملمائمینان			1			
	Median Type/Storage	. 0	ndivide	ea .		,	No	•	•
	RT Channelized?						2 1		
	Lanes						T R		
	Configuration		1	No			No		
1	stream Signal?								
١,	Minor Street: Appro	ach		bound	<b>o</b> 1		tbound 11	12	
	Movem	ment 7		8	9   R	10 L	T	R	
		L		T	κ, ι	ם	-		
								40	·
	Volume	ar.						0.92	
	Peak Hour Factor, Ph Hourly Flow Rate, Hi	FR						43	
	Percent Heavy Vehic	les				•	0	2	
	Parcent Grade (%)			0	•	,	0		/
	Flared Approach: Ex	xists?/Sto	rage			/	1		,
	Lanes						R		
	Configuration								
			<del></del>						
	D	elay, Que	ie Leng	th, and	d Level	of Servi	.ce_ Eastb	ound -	
	Approach	NB SI	3	West	bouna		Eastb	ouna 1	12
	Movement	1 4	! 7		8	9   1	.0 1		R
	Lane Config		. 1						
				<u></u>					43
	v (vph)								794
	C(m) (vbp)								0.05
	v/c 95% queue length								0.17
	Control Delay			-					9.8 A
,	, JOS						c	8.6	Д
١.	Approach Delay						3	Α	
	Approach LOS								

	<u>ምመ∕ለ≟መጜ∀</u>	STOP CONT	ROL SUMM	1ARY			
	<del></del>						<del></del>
alyst:	2010 BUIL	D AM PEAK	HOUR				
to Performed.	JANUARY 2	007					
Analysis Time Period:	2010 BUIL	D AM PEAK	HOUR	Ota			
Intersection:	NYS RT 21	8 SB ON/O	FF & RT	9W			
Jurisdiction:	17						
Units: U. S. Customar Analysis Year:	y 294						
Project ID: 173AMB4B				_			
East/West Street:	NYS ROUTE		n/off R	AMP			
North/South Street:	NYS ROUTE	9W	Stu	ndv perio	od (hrs):	0.25	
Intersection Orientat	ion: No		200	r	, ,		
	Vehicle V	olumes an	nd Adjust	tments			
Major Street: Approa		Northbour	ıd	So	outhbound	6	
Moveme	ent 1	2	3 R	4   L	5 T	R	
	L	T	K	, 1	•		
Tr- larmo				<u> </u>	812	419	<del></del>
Volume Peak-Hour Factor, PHE	ŗ				0.92	0.92	
Hourly Flow Rate, HFF	₹				882	455	
Percent Heavy Vehicle	25	 امامانيسير		/			
Median Type/Storage	· unc	livided		<i>I</i> .	~ No		
RT Channelized? Lanes					2 1	•	
Configuration	•				T R		
estream Signal?		No			ЙО		
	la	Westbound	1	E	astbound		<del></del>
Minor Street: Approx Moveme		8	9	10	11	12	
Pio v Citic	L	T	R	l T	T	R	
			<del> </del>		<u> </u>	299	<del></del>
Volume	_					0.92	
Peak Hour Factor, PH	ť' D					324	
Hourly Flow Rate, HF Percent Heavy Vehicle	es				_	2	
Percent Grade (%)		0		,	0		,
Flared Approach: Ex	ists?/Stor	age		/	1		/
Lanes					R		
Configuration							
De	lay, Queue	Length,	and Leve	el of Ser	vice Eastb	ound	
1.15 F - 0 a - 0 - 1	NB SB	we i 7	stbound 8	9 .			12
Movement	1 4	1 /	U				R
Lane Config		į					
v (vph)							324 616
C(m) (vph)							0.53
v/c							3.07
95% queue length							17.1
Control Delay							C
10g							Ç
OS pproach Delay					:	L7.1 C	· ·

		_					
	TWO	-WAY S	TOP CONT	ROL SU	MMARY		
valyst:	2010	BUILI	PM PEAK	HOUR			
ency/Co.:		nnu 00	0.07		•		
Late Performed:	JANU.	ARY 20	UU DENK	מוזח י			
Analysis Time Peri	od: 2010	BOIL	) PM PEAC	ישה נים. ניטטע	OT OTAL		
Intersection:	NYS	RT 218	SB ON/C	er a r	1 9W		
Jurisdiction:							
Units: U. S. Custo	mary						
Analysis Year:						•	
Project ID: 173PM	IB4B						
East/West Street:			218 SB C	N/OFF	RAMP	•	
North/South Street	NYS	ROUTE	9W		•		
Intersection Orier	tation:	NS		S	tudy peri	od (hrs):	0.25
	Vehi		olumes ar		stments_		
Major Street: App	roach	1	Northbour	nd		Southbound	
	rement	1	2	3	4	5	6
		L	T	R	L	T	R
					<u>,</u>		
Volume	····					472	563
Peak-Hour Factor,	PHF			·		0.92	0.92
Hourly Flow Rate,	HFR					513	611
Percent Heavy Vehi	icles						
Median Type/Storag	ie	Und.	ivided		/ /		
RT Channelized?	·- ·,					No	)
Lanes						2 1	
Configuration						T R	•
ostream Signal?			No			Nо	
Stream Signar:							
Minor Street: App	oroach		Westboun	d	1	Eastbound	
	vement	7	8	9	10	11	12
2.0	• • • • • • • • • • • • • • • • • • • •	L	T	R	L	T	R
							<del> </del>
Volume							322
Peak Hour Factor,	PHF						0.92
Hourly Flow Rate,	HFR						349
Percent Heavy Veh	icles						2
Percent Grade (%)			0		•	0	_
Flared Approach:	Exists?	/Stora	ge		/		/
Lanes						]	L
Configuration						R	
Configuración							<u></u>
	Delay,	Queue	Length,	and Le	vel of Se	rvice	<u> </u>
Approach	NB	SB	We	stbound			oound
Movement	1	4	7	8	9	10	11 12
Lane Config	_		1		- 1		R
Banc Contrag							
v (vph)	<del></del>						349
C(m) (vph)							783
v/c							0.45
95% queue length							2.31
Control Delay							13.2
							₿
OS							13.2
pproach Delay							В
Approach LOS			,				

		-								
		TWO-WAY	STOP	CONTRO	<u>L SUMM</u>	YRY_		,		
	nalyst:	2010 BUI	LD AM	PEAK H	OUR					
(	pency/Co.:	JANUARY	2007							
	Date Performed: Analysis Time Period:	2010 BUI	LD AM	PEAK H	OUR					
	Intersection:	NYS RT 2	18 SB	ON/OFF	' & RT !	9W				
	Jurisdiction:									
	Units: U. S. Customar	У								
	Analysis Year:	SCENARIO	) 2		e.				•	•
	Project ID: 173AMB4B	NYS ROUT	re 218	SB ON/	OFF RAI	MP				
	East/West Street: North/South Street:	NYS ROU								
	Intersection Orientat				Stu	dy	period	(hrs):	0.25	
	11100150001				3 J		+ a			
		_Vehicle	Volum	hbound	Adjust	men	Sou	thbound		
	Major Street: Approa	ch nt 1	NOIL	2	3	1	4	5	6	
	Moveme	ine i		T	R	i	L	T	R	
		-							222	
	Volume							812 0.92	332 0.92	
	Peak-Hour Factor, PHF	•						882	360	
	Hourly Flow Rate, HFR	<b>{</b>				•				
	Percent Heavy Vehicle	es ti	ndivio	led		/	•			
	Median Type/Storage RT Channelized?						•	· No		· <u>·</u>
	Lanes							2 1 T R		
	Configuration			<b>11</b> -				No		
,	pstream Signal?			No				1.0		
(_	Minor Street: Approx	ach	West	bound			Eas	tbound	•	
	Minor Screet. Appro-	ent 7		8	9	1	10	11	12	
		L	ı	T	R		L	T	R	
						<u> </u>			134	
	Volume	F							0.92	•
	Peak Hour Factor, PHI Hourly Flow Rate, HFI	Ŕ						·	145	
	Percent Heavy Vehicle	es						0	2	
	percent Grade (%)			0		,		U		1
	Flared Approach: Ex	ists?/Sto	rage			/		1		
	Lanes							R		
	Configuration								<del></del>	
			_	. 4-1	d Torro	3 A	f Sarw	ice		
		lay, Que		gtn, ar teaw	bound	ΙО.	r berv	Eastb	ound	
	upprodo	nb SI 1 4	<b>→</b>	7	8	9	1	10 1	1	12
	Movement Lane Config		ĺ				ļ			R
	Lane Contra			<u></u>						145
	v (vph)									616
	C(m) (vph)									0.24
	v/c						•			0.91
	95% queue length Control Delay									12.6
,	LOS							1	2.6	В
(	Approach Delay							1	B	
	Approach LOS									

								04% D.V						
			TWO-	WAY S	TOP	CONTI	ROL SUM	ENTAR I						
	alyst:		2010	BUILD	PM	PEAK	HOUR							
$\left\langle -\right\rangle$	ency/Co.:		7 N N T F T 7	LRY 20	07									
Ŋ	ate Performed:		JANUA	11110 11110	DM	PEAK	HOUR							
Α	ate Periormed: nalysis Time Pe	riod:	2010	DUIDL	SR	ON/O	FF & RI	9W	•					
	ntersection:		NYS F	(1 210	י טט	0147 0		_				•		
J	urisdiction:													
	nits: U. S. Cus	tomary	/ 	Dro C	,									
Α	nalysis Year:			ARIO 2	•									
Ρ		PMB4B		OTTOP E	218	SB O	n/off i	RAMP						
E	ast/West Street		NID	ROUTE	OW	00 0								
N	orth/South Stre				211		St	tudy	perio	od (hrs	3):	0.25		
Ι	ntersection Ori	.entati	ion; i	N.S				_	•					
			Vahi	ale Vo	olum	es an	d Adju	stmer	its					
_		30000		1	vort	hboun	.d		S	outhbou		_		
M		Approad Movemen		1		2	3	1	4	5	6			
	14,	10 Aettre	110	T.		Ť	R	1	L	${f T}$	P	<b>L</b>		
				_					<u></u>		,			
-										465		104		
	/olume	r phr	ı							0.92		).92		
ŀ	eak-Hour Factor	- HFR								505	4	139		
1	Hourly Flow Rate Percent Heavy Ve	ehicle	s								_			
,	Median Type/Sto	rage	_	Und	ivi	led			/		<b></b>			
Ω	RT Channelized?	Lugo					•			•	No			
										2	_1			
	Lanes									Ţ	R`			
	べんか たっかいどうじしのひ									44.				
. (	Configuration	?				No				No				
(	configuration ostream Signal	?									nd -			-
	stream Signal		ich		West	boun				lastbou		12		-
	Ostream Signal Minor Street:	? Approa Moveme	ich ent	7	West	boun 8	9		10	astbou 11	:	12 R		-
	Ostream Signal Minor Street:	Approa	ich ent		Wes	boun				lastbou	:	12 R		-
	Ostream Signal Minor Street:	Approa	ach ent	7	West	boun 8	9		10	astbou 11				-
	Stream Signal Minor Street:  Volume	Approa Moveme	∍nt 	7	West	boun 8	9	l l	10	astbou 11	]	R 		-
	yolume Peak Hour Facto	Approa Moveme	ent 	7	West	boun 8	9	l l	10	astbou 11		R 105		-
	yolume Peak Hour Facto	Approa Moveme	ent  F R	7	West	boun 8	9	   	10	astbou 11	]	R 105 0.92		-
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V	Approa Moveme or, PHI te, HFI Vehicle	ent  F R	7	West	bound 8 T	9	İ	10	astbou 11	]	R 105 0.92 114		-
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V	Approa Moveme or, PHI te, HFI Wehicle	ent F R es	7 L		boun 8	9		10	astbou 11 T	]	R 105 0.92 114	/	- -
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V	Approa Moveme or, PHI te, HFI Wehicle	ent F R es	7 L		bound 8 T	9		10	astbou 11 T	]	R 105 0.92 114	/	-
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach	Approa Moveme or, PHI te, HFI Wehicle	ent F R es	7 L		bound 8 T	9		10	astbou 11 T	]	R 105 0.92 114	/	-
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach	Approa Moveme or, PHI te, HFI Wehicle	ent F R es	7 L		bound 8 T	9	,	10	astbou 11 T	1	R 105 0.92 114	/	_
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach	Approa Moveme or, PHI te, HFI Wehicle (%)	ent F R es ists?	7 L /Stora	age	B T	9 R	,	10 L	astbou 11 T	1	R 105 0.92 114	/	-
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach	Approa Moveme or, PHI te, HFI Wehicle (%)	ent F R es ists?	7 L /Stora	age	B T	9 R	vel	10 L	astbou 11 T	1 R	105 0.92 114 2	/	-
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach Lanes Configuration	Approa Moveme or, PHI te, HFI Wehicle (%) n: Ex:	FResists?	7 L /Stora	age	o bound 8 T	9	u.	10 L	astbour 11 T	1 R	105 0.92 114 2	/	
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach Lanes Configuration Approach	Approa Moveme or, PHI te, HFI Wehicle (%) n: Ex:	F R es ists?	7 L /Stora	age	o bound 8 T	9 R and Le	vel d	10 L	astbou 11 T	1 R	105 0.92 114 2	12	
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach Lanes Configuration  Approach Movement	Approa Moveme or, PHI te, HFI Wehicle (%) n: Ex:	FResists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R	105 0.92 114 2	/ 12 R	
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach Lanes Configuration Approach	Approa Moveme or, PHI te, HFI Wehicle (%) n: Ex:	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R	105 0.92 114 2	R	
	Volume Peak Hour Facto Hourly Flow Rat Percent Grade ( Flared Approach Lanes Configuration  Approach Movement Lane Config	Approa Moveme or, PHI te, HFI Wehicle (%) n: Ex:	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R	105 0.92 114 2	R 114	- -
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach Lanes Configuration  Approach Movement Lane Config	Approa Moveme or, PHI te, HFI Wehicle (%) n: Ex:	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R	105 0.92 114 2	114 787	
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach Lanes Configuration  Approach Movement Lane Config  V (Vph) C(m) (Vph)	Approa Moveme or, PHI te, HFI Wehicle (%) n: Ex:	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R	105 0.92 114 2	R 114 787 0.14	
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach Lanes Configuration  Approach Movement Lane Config  V (Vph) C(m) (Vph) v/c	Approa Moveme or, PHI te, HFI Wehicle (%)	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R	105 0.92 114 2	114 787 0.14 0.51	
	Volume Peak Hour Facto Hourly Flow Rat Percent Heavy V Percent Grade ( Flared Approach Lanes Configuration  Approach Movement Lane Config  V (Vph) C(m) (Vph) v/c 95% queue leng	Approa Moveme or, PHI te, HFI Wehicle (%)	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R	105 0.92 114 2	R 114 787 0.14 0.51 10.3	
	Volume Peak Hour Facto Hourly Flow Rat Percent Grade ( Flared Approach Lanes Configuration  Approach Movement Lane Config  V (Vph) C(m) (Vph) v/c 95% queue leng Control Delay	Approa Moveme or, PHI te, HFI Wehicle (%)	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R astbo	105 0.92 114 2	114 787 0.14 0.51	
	Volume Peak Hour Facto Hourly Flow Rat Percent Grade ( Flared Approach Lanes Configuration  Approach Movement Lane Config  V (Vph) C(m) (Vph) v/c 95% queue leng Control Delay LOS	Approamor, PHI te, HFI Yehicle (%) n: Ex:	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R astbo	105 0.92 114 2	R 114 787 0.14 0.51 10.3	
	Volume Peak Hour Facto Hourly Flow Rat Percent Grade ( Flared Approach Lanes Configuration  Approach Movement Lane Config  V (Vph) C(m) (Vph) v/c 95% queue leng Control Delay	Approamor, PHI te, HFI Yehicle (%) n: Ex:	F R es ists?	7 L /Stora Queue SB	age	o gth,	9 R and Le	u.	10 L	astbour 11 T	1 R astbo	105 0.92 114 2	R 114 787 0.14 0.51 10.3	

`alyst:

2010 BUILD AM PEAK HOUR

ency/Co::

 $J_{
m ate}$  Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD AM PEAK HOUR

Intersection:

NYS RTE 218 & US RTE 9W RAMPS

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDAM5

East/West Street: NYS ROUTE 218

North/South Street: U.S. ROUTE 9W (ON/OFF RAMPS)

Intersection Orientation: EW

Ve	hicle Volu	mes and	Adju	stme	nts			
		tbound	•		Wes	tbound		
Major Street: Approach		2	3	1	4	5	6	
Movement	1		R	1	Ĺ	T	R	
	L	T	K	,	ш	•	10	
						104		
Volume	87	332				134		
Peak-Hour Factor, PHF	0.67	0.67				0.67		
Tarral Table 1 Pata HFR	129	495				199		
Hourly Flow Rate, HFR	2							
Percent Heavy Vehicles	Undiv:	i ded			1			
Median Type/Storage	" OHOTÁ-	Lueu			•	••		
RT Channelized?	_	-				1		
Lanes	0	1				Ť		
Configuration	$\mathbf{r}_i$	r	•			<del>-</del>		
bstream Signal?		No				No		
7 35 67 600 - 2 2 3 3 3 3 3 3 3 3								
Minor Street: Approach	No	rthbound	1		Soi	uthboun	d	
-Minor Street: Approach Movement	7	8	9	1	10	11	12	
Movement	Ĺ	T	Ŕ	i	L	Т	R	
	11	1	11	•	_	_		
					Ö	<del></del>	166	
Volume					-		0.67	
Peak Hour Factor, PHF					0.67			
Hourly Flow Rate, HFR					0		247	
Percent Heavy Vehicles					2		2	
Percent neavy ventour		0				0		
Percent Grade (%)	no/Storade	_			/		No	/
Flared Approach: Exist.	2:\Prordac			•	0		0	
Lanes					•	LR		
Configuration						***		
			<u>, ,</u>					

	_Delay, EB	Queue	Le	ngt	n, a Nor	na Lev thboun	er or	Set	VICE_	outhboun	d
Approach Movement Lane Config	1 LT	4	i	7	NOL	8	9	! 1	10	11 LR	12
v (vph)	129	<del></del>		· ·-·	<del>, -</del>	<del></del>	<del>·</del>		<del> </del>	247	
v (vpn) C(m) (vph)	1373									842	
=	0.09									0.29	
v/c	0.31									1.23	
95% queue length	7.9									11.0	
Control Delay										В	
os	A									11.0	
Approach Delay Approach LOS										В	

alyst:

2010 BUILD PM PEAK HOUR

ncy/Co.:

Jate Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD PM PEAK HOUR NYS RTE 218 & US RTE 9W RAMPS

Intersection:

Jurisdiction: Units: U. S. Customary

Analysis Year:

Project ID: 173BDPM5

NYS ROUTE 218 East/West Street: North/South Street: U.S. ROUTE 9W (ON/OFF RAMPS)

Intersection Orientation: EW

Major Street:	Vehic Approach Movement	cle Volu Eas 1 L	tbound 2	Adjus 3 R	tme   	nts Wes 4 L	stbound 5 T	6 R	
Volume Peak-Hour Fact Hourly Flow Ra Percent Heavy Median Type/St RT Channelized Lanes Configuration pstream Signa	vehicles orage	159 0.67 237 2 Undiv: 0	1		-	/	105 0.67 156  1 T No	<b></b>	
Minor Street:	Approach Movement	No 7 L	rthboun 8 T	d 9 R	1	50 10 L	uthbour 11 T	12 R	
Volume Peak Hour Fact Hourly Flow R Percent Heavy Percent Grade Flared Approal Lanes Configuration	ate, HFR Vehicles (%) ch: Exists?	/Storage	0			0 0.67 0 2 /	0 LR	217 0.67 323 2 No 0	/

Approach Movement Lane Config	Delay, EB 1 LT	Queue WB 4	Lei	ngti 7	n, and Level Northbound 8	of 9	Ser	vice 10	11 LR	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	237 1424 0.17 0.60 8.0 A								323 890 0.36 1.67 11.3 B 11.3	

	TWO-	WAY S	TOP	CONTRO	o <del>L SU</del> M	MARY				
alyst:	2010	BUILD	AM.	PEAK I	iour					
ency/Co.:		00	.07							
harmed!	JANUF	ARY 20	10 /	מ שמשת	ariot					
Analysis Time Period	: 2010	BUILL	) AM	FEAR 1	TOOK	DAMDS				
Intersection:	NYS F	RTE 21	.8 &	US RT	5 JW I	KAMES				
Jurisdiction:										
Units: U. S. Customa	ry									
Analysis Year:	SCEN	ARIO 2	2				-			•
Project ID: 173BDAM	15									
East/West Street:	NYSI	ROUTE	218	1017 10	nai	ADG)				
North/South Street:			: 9W	(ON/O	o. Le kvi	MEJ)	nario	d (hrs)	: 0.25	
Intersection Orienta	tion:	ew			r)	cuay	perio	2 (1124)	• • • • •	
			\] iim	es and	Adiu	stmen	its			
		○∓æ Λε	zaun Zaet	bound			Wes	stbound		
Major Street: Appro		1	aase	2	3	ı	4	5	6	
Moven	ment	T.		T	Ŕ	į	L	T	R	
		ע		<b>-</b>		•				
		0		332			······································	134		
Volume	7 ED	0.6	7	0.67				0.67		
Peak-Hour Factor, Pi	1.C TD	0.0	,	495				199		
Hourly Flow Rate, Hi	er.	2								
Percent Heavy Vehic	Les		ivio	led		,	/			
Median Type/Storage		0110	T / T /			•	•	•		
RT Channelized?			0	1				1		
Lanes			LT	-				T		
Configuration				No				ЙО		
estream Signal?				110			_			
Minor Street: Appr	oach		Nor	hbound	1	,	So	uthbour		
Minor Street: Appr Move		7		8	9	1	10	11	12	
MOVE.	mene	Ĺ		T	R	Į.	L	T	R	
									<u> </u>	
Volume	<del></del>						0		1	
Peak Hour Factor, P	HF						0.67		0.67	
Hourly Flow Rate, H	FR					-	0		1	
Percent Heavy Vehic	les						2	_	2	
Percent Grade (%)				0		_		0		,
Flared Approach: E	xists?	/stora	age			/	_		No	/
Lanes							0	<b>~</b> ~	0	
Configuration								LR		
0011211911211211							<del></del>		<del></del>	
	4		T	~+b >	nd Ta	rel o	f Serv	vice		
	elay,	Queue	тел	ıytıı, a ~~	nu be thbou	nd vor o		Sou	thbound	
Approach	EΒ	WB		7	8	9	1	10	11	12
_		Α				~				
Movement	1	4	i	1	0	פ	, i		LR	
Movement Lane Config		4			0	Э	ί		LR	
Lane Config	1 LT	4	   			9			LR 1	
Lane Config v (vph)	1 LT	4	   <del></del>	·		<u>.</u>				
Lane Config v (vph) C(m) (vph)	1 LT 0 1373	4				9	<u> </u>		1 842 0.00	
V (vph) C(m) (vph) v/c	1 LT 0 1373 0.00	4				<u>.</u>	<u> </u>		1 842	
V (vph) C(m) (vph) v/c 95% queue length	1 LT 0 1373 0.00 0.00	4				9			1 842 0.00	
v (vph) C(m) (vph) v/c 95% queue length Control Delay	1 LT 0 1373 0.00 0.00 7.6	4			•	9			1 842 0.00 0.00	
v (vph) C(m) (vph) v/c 95% queue length Control Delay	1 LT 0 1373 0.00 0.00	4				9			1 842 0.00 0.00 9.3	
v (vph) C(m) (vph) v/c 95% queue length Control Delay OS	1 LT 0 1373 0.00 0.00 7.6	4	1		•	9			1 842 0.00 0.00 9.3 A	
v (vph) C(m) (vph) v/c 95% queue length Control Delay	1 LT 0 1373 0.00 0.00 7.6	4			•	9			1 842 0.00 0.00 9.3 A 9.3	

	TWO-WAY	TOP CONTR	OL SUMMA	LRY.		
<u></u>	<del></del>					
nalyst:	2010 BUIL	PM PEAK	HOUR			
yency/Co.:						
ate Performed:	JANUARY 20	007				
Analysis Time Period:	2010 BUIL	D PM PEAK	HOUR			
Intersection:	NYS RTE 2	18 & US RT	e 9w ram	1PS		
Jurisdiction:					•	•
Units: U. S. Customar						
Analysis Year:	SCENARIO	2			•	
Project ID: 173BDPM5						
East/West Street:	NYS ROUTE	218				
North/South Street:	U.S. ROUT	E 9W (ON/O	FF RAMPS	5) 3	(hmale 0.25	:
Intersection Orientat	ion: EW		Stud	ny period	(hrs): 0.25	,
		<b>3</b>	To allah sa a derm	ta		
		olumes and	Adjusti	West	bound	
Major Street: Approa		Eastbound	3	4	5 6	
Moveme		2 T	R	; <del>;</del> l L	T R	
	L	T	I(	h T	1 10	
		404		<del></del>	105	
Volume	0 0.6				0.67	
Peak-Hour Factor, PHE	_	602			156	
Hourly Flow Rate, HFF	0 es 2	-002				
Percent Heavy Vehicle	-	ivided		/		
Median Type/Storage	Ulla	TAŤďeď		,	•	
RT Channelized?		0 1			1	
Lanes		LT			T T	
Configuration		No			No	
pstream Signal?		2.0				
Minor Street: Approa	ach	Northbound	<u> </u>	Sout	thbound	
Moveme Movement	_	8	9	10	11 12	
110 1 0	L	T	R	l L	T R	
Volume				0	1	
Peak Hour Factor, PHI	F			0.67	0.67	
Hourly Flow Rate, HFF				0	1	
Percent Heavy Vehicle	es			2	2	
Percent Grade (%)		0			0	,
Flared Approach: Ex:	ists?/Stora	ige		/	No	/
Lanes				0	0	
Configuration					LR	
<del></del>		7 + w - + h	nd TA**A1	of Servi	Ce	
	_	Length, an	ha rever	OT PETAT	Southbound	
bbr.a	EB WB	1 7		9   1		12
110 / 01110110	1 4	! /	0	<i>y</i> ;	LR	<b></b>
Lane Config	LT	1		ı	2211	
				<u></u>	1	<u>.                                    </u>
0 (0P11)	0				890	-
O (1111) ( 1 E 1 - 1)	1424				0.00	
· · · · · · · · · · · · · · · · · · ·	0.00 0.00				0.00	
300 44040					9.0	
JUNUAUM	7.5				A	
OS	A				9.0	
lpproach Delay			•		A	•
Approach LOS						

nalyst:

2006 EXISTING AM PEAK HOUR

pency/Co.:

Jate Performed:

JANUARY 2007

Analysis Time Period: 2006 EXISTING AM PEAK HOUR MAILER ROAD & NYS ROUTE 218

Intersection:

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173EXAM6

East/West Street: North/South Street: MAILER ROAD

NYS ROUTE 218

Intersection Orientation: EW

7	Approach	Eas	mes and tbound		••	Wes	tbound		
	Approach Movement	1	2	3	1	4	5	6	
	MO A SWELLC	Ĺ	T	R	İ	L	T	R	
			283	29		87	288		
olume	- ២២៥		0.77	0.77		0.77	0.77		
eak-Hour Factor	r iteb		367	37		112	374		
ourly Flow Rate	e, nen					2			
ercent Heavy V	enicles	Undivi	ded			<i>_</i>			
edian Type/Sto	rage	OHOTAL	ueu	•		•			•
T Channelized?			1 0			Ω	1		
anes			TR			L	_		
configuration						20.0	No		
ostream Signal	3		No				210		
<u> </u>			thbound			SOL	thbound	}	
	Approach			9	1	10	11	12	
	Movement	7	8		1	L	T T	R	
		L	T	R	ı	ш			
olume		29		123					
Peak Hour Facto	r. PHF	0.77		0.77					
Hourly Flow Rat	e. HFR	37		159					
Percent Heavy V	ehicles	2		2					
Percent Grade (	% \		0				0		
Plared Approach	· Exists?/	Storage		No	/	/			/
		Ó	C	)					
Lanes.		~	LR						
Configuration									

Approach Movement Lane Config	_Delay, EB 1	Queue WB 4 LT	Le:	ngth 7	n, and Leve Northbound 8 LR	el of d 9	Ser   	vice	outhboui 11	nd 12
v (vph) C(m) (vph) v/c 95% queue length Control Delay JOS Approach Delay Approach LOS		112 1155 0.10 0.3 8.5 A	0 2		196 503 0.39 1.83 16.7 C					

### HCS+: Unsignalized Intersections Release 5.2 TWO-WAY STOP CONTROL SUMMARY 2006 EXISTING PM PEAK HOUR િ alyst: lncy/Co.: JANUARY 2007 Jate Performed: Analysis Time Period: 2006 EXISTING PM PEAK HOUR MAILER ROAD & NYS ROUTE 218 Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: 173EXPM6 NYS ROUTE 218 East/West Street: MAILER ROAD North/South Street: Study period (hrs): 0.25 Intersection Orientation: EW Vehicle Volumes and Adjustments Westbound Eastbound Approach Major Street: 6 5 4 3 2 1 Movement R T L R Т L 404 69 401 45 Volume 0.77 0.77 0.77 0.77 Peak-Hour Factor, PHF 524 89 58 520 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles Undivided Median Type/Storage RT Channelized? 1 0 0 1. Lanes LT TR Configuration No No ystream Signal? Southbound Northbound Approach Minor Street: 12 11 10 9 8 7 Movement R L R Т $\mathbf{L}$ 85 22 Volume 0.77 0.77 Peak Hour Factor, PHF 110 28 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles 0 0 Percent Grade (%) Flared Approach: Exists?/Storage No 0 Lanes LR Configuration Delay, Queue Length, and Level of Service Southbound Northbound EB WB Approach 12 10 11 8 7 4 1 Movement LR LT Lane Config 138 89 v (vph) 376 996 C(m) (vph) 0.37 0.09 v/c 1.65 0.29 95% queue length 20.0 9.0 Control Delay

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20.0

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LOS

Approach Delay

Approach LOS

-alyst:

2010 NO-BUILD AM PEAK HOUR

ency/Co.:

Late Performed:

JANUARY 2007

Analysis Time Period: 2010 NO-BUILD AM PEAK HOUR MAILER ROAD & NYS ROUTE 218

Intersection: Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173NBAM6

East/West Street: North/South Street:

NYS ROUTE 218

MAILER ROAD

Intersection Orientation: EW

Vehic	le Volu	mes and	Adjusi	cme:	nts			
					Wes	tbound		
	_		3	1	4	5	6	
/emenc			R	İ	L	T	R	
	ب	-						
		306	32		95	311		
กมต		-	0.77		0.77	0.77		
Pnr						403		
HEK		551					<b></b> -	
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oroach	Nor	thbound			Sou	thbound		
ramont				ı	10	11	12	
vement	-	_		i	L	T	R	
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	34		138					
DUE			0.77					
rnr								
HER								
icles	2	0	2			0 .		
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Exists?/	Storage	_		/	•			,
	0	C	)					
		LR						
	PHF HFR icles PHF HFR icles	PHF Proach vement  I  PHF HFR icles pe  Undivi  PHF  A4 icles 2	## PHF   0.77   HFR   34	PHF 0.77 0.77 HFR 44 179 icles 2	State	The state of the s	Droach   Eastbound   Westbound   Vement   1	Display

Annyonch	_Delay, 	WB	ب.ر <i>-</i>	90	Nor	nd Leve thbound	i		ริง	outhbou	
Approach Movement Lane Config	1	4 LT		7		8 LR	9		10	11	12
v (vph)		123				223					
C(m) (vph)		112	2			462					
v/c		0.1	1			0.48					
95% queue length		0.3	7			2.58					
Control Delay		8.6				19.8					
		A				C					
OS						19.8					•
pproach Delay Approach LOS						С					

### TWO-WAY STOP CONTROL SUMMARY 2010 NO-BUILD PM PEAK HOUR alyst: ency/Co.: JANUARY 2007 Date Performed: Analysis Time Period: 2010 NO-BUILD PM PEAK HOUR MAILER ROAD & NYS ROUTE 218 Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: 173NBPM6 NYS ROUTE 218 East/West Street: MAILER ROAD North/South Street: Study period (hrs): 0.25 Intersection Orientation: EW Vehicle Volumes and Adjustments Westbound Eastbound Approach Major Street: 6 5 4 2 3 1 Movement Т R L R 1 L 69 339 45 333 Volume 0.77 0.77 0.77 0.77 Peak-Hour Factor, PHF 440 89 432 58 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles Undivided Median Type/Storage RT Channelized? 0 1 1 0 Lanes LTTR Configuration No No ostream Signal? Southbound Northbound Approach Minor Street: 12 11 10 9 8 7 Movement T R L R Т L 85 22 Volume 0.77 0.77 Peak Hour Factor, PHF 110 Hourly Flow Rate, HFR 28 2 Percent Heavy Vehicles 0 0 Percent Grade (%) Exists?/Storage No Flared Approach: 0 Lanes LR Configuration Delay, Queue Length, and Level of Service Southbound Northbound EB WB Approach 12 10 11 . 8 7 4 1 Movement LR Lane Config 138 89 v (vph) 446 1073 C(m) (vph) 0.31 0.08 v/c 1.30 0.27 95% queue length 16.6 8.7 Control Delay Ċ Α LQS 16.6 Approach Delay C Approach LOS

/ alyst:

2010 BUILD AM PEAK HOUR

lncy/Co.:

Date Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD AM PEAK HOUR MAILER ROAD & NYS ROUTE 218

Intersection:

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDAM6

East/West Street: NYS ROUTE 218 North/South Street: MAILER ROAD

Intersection Orientation: EW

			Te vor	umes and stbound	AG) GO			est	bound		
Major Street:	Appı	roach		2	3	1	4		5	6	
	Move	ement	1 Ն	ረ ጥ	R	i	L		T	R	
			11	*		,					
				343	32		95		361		
Volume		DUE	•	0.77	0.77		0.77	7	0.77		
Peak-Hour Fact	or,	arp Eur		445	41		123		468		
Hourly Flow Ra	ite,	HEK					2				
Percent Heavy	veni	cies	Undiv	i ded			/				
Median Type/St	corag	е	Oligia	Idea			•	•		•	
RT Channelized	1?			1 (	1		(	0	1		
Lanes				TF				LT			
Configuration					`				No		
astream Signa	al?			No					_		
<i>F</i> :					3			Sout	hboun	d	
Minor Street:	App	roach		rthbound		- 1	10	004.	11	12	
112114	Mov	rement	7	8	9	1	L		T	R	
			${f L}$	T	R	1	ъ		-		
					120					· · · · · · · · · · · · · · · · · · ·	
Volume			34		138						
Peak Hour Fac	tor,	PHF	0.77		0.77						
Hourly Flow R	ate,	HFR	44		179						
Percent Heavy	Veh	icles	2		2				Λ		
Percent Grade	(%)			0					0		/
Flared Approa	ch.	Exists?	storag	е	No		/				,
			Ō		0						
Lanes				LR							
Configuration	ı										

Approach Movement Lane Config	_Delay, EB 1	Queue WB 4 LT	Le   	ngtl 7	n, and Leve Northbound 8 LR	of 9	Ser   	vice	outhbour 11	nd 12
v (vph) C(m) (vph) v/c 95% queue length Control Delay OS Approach Delay Approach LOS		123 107 0.1 0.3 8.8 A	1 9		223 416 0.54 3.07 23.2 C 23.2					

••	~						
	TWO-WAY S	TOP CONTR	OL SUMMA	KY			
alyst:	2010 BUILD	PM PEAK	HOUR				
ency/Co.:							
CL- Daufarmadi	JANUARY 20	07					
Analysis Time Period:	2010 BUILD	PM PEAK	HOUR				
Intersection:	MAILER ROA	D & NYS F	ROUTE 218	3			
Jurisdiction:	,						
Units: U. S. Customar	·v				<u>-</u>	•	
	4			•			
Analysis Year: Project ID: 173BDPM6							
	NYS ROUTE	218					•
East/West Street:	MAILER ROA	.D					
North/South Street:			Stud	dy period	i (hrs):	0.25	i
Intersection Orientat	,1011						
	Vehicle Vo	lumes and	d Adjustr	ments			
7,000		astbound	-	Wes	stbound		
Major Street: Approa		2	3	1 4	5	6 .	
Modeme	enc ± L	Tr	R	L	${f T}$	R	
	יו	•		•			
		401	45	69	404		,
Volume	<b>-</b>	0.77	0.77	0.77	0.77		
Peak-Hour Factor, PH		520	58	89	524		
Hourly Flow Rate, HF	K	320		2			
Percent Heavy Vehicle	es Und:	ivided		/			
Median Type/Storage	Ond.	LVIACA	·-				
RT Channelized?		1	0	0	1		
Lanes			'R	L			
				_			
Configuration			, IX				
Configuration  order  ostream Signal?		No	.10	•	No		
( )stream Signal?		No		So	No	d	
( )stream Signal?  Minor Street: Appro		No Northbour	nd		No uthboun		
( )stream Signal?	ent 7	No Northbour 8	nd 9	10	No uthboun 11	d 12 R	
( )stream Signal?  Minor Street: Appro		No Northbour	nd		No uthboun	12	· ·
Minor Street: Appro Movem	ent 7	No Northbour 8	nd 9 R	10	No uthboun 11	12	
Minor Street: Appro Movem  Volume	ent 7 L	No Northbour 8 T	nd 9 R 85	10	No uthboun 11	12	
Minor Street: Appro Movem  Volume Peak Hour Factor, PH	ent 7 L 22 F 0.7	No Northbour 8 T	9 R 85 0.77	10	No uthboun 11	12	
Minor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF	ent 7 L 22 F 0.7 R 28	No Northbour 8 T	9 R 85 0.77 110	10	No uthboun 11	12	
Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl	ent 7 L 22 F 0.7 R 28	No Northbour 8 T	9 R 85 0.77	10	No uthboun 11 T	12	
Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl	ent 7 L 22 F 0.7 R 28 es 2	No Northbour 8 T 7	9 R 85 0.77 110 2	10	No uthboun 11	12	
Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl	ent 7 L 22 F 0.7 R 28 es 2	No Northbour 8 T 7	9 R 85 0.77 110 2 No	10	No uthboun 11 T	12	/
Ninor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes	ent 7 L 22 F 0.7 R 28 es 2	No Northbour 8 T 7 0 ge 0	9 R 85 0.77 110 2	10	No uthboun 11 T	12	/
Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex	ent 7 L 22 F 0.7 R 28 es 2	No Northbour 8 T 7	9 R 85 0.77 110 2 No	10	No uthboun 11 T	12	/
Ninor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes	ent 7 L 22 F 0.7 R 28 es 2	No Northbour 8 T 7 0 ge 0	9 R 85 0.77 110 2 No	10	No uthboun 11 T	12	/
Minor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration	ent 7 L 22 F 0.7 R 28 es 2	No Northbour 8 T 7 0 ge 0 LR	85 0.77 110 2 No	10   L	No uthboun 11 T	12	/
Winor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration	ent 7 L  22 F 0.7 R 28 es 2 ists?/Stora	No Northbour 8 T 7 0 ge 0 LR	9 R 85 0.77 110 2 No 0	10   L	No uthboun 11 T	12 R	
Minor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration	ent 7 L  22 F 0.7 R 28 es 2 ists?/Stora	No Northbour 8 T 7 0 ge 0 LR Length,	9 R 85 0.77 110 2 No 0	10   L         of Serv	No uthboun 11 T  0	12 R	/
Winor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration	ent 7 L  22 F 0.7 R 28 es 2 sists?/Stora	No Northbour 8 T 7 0 ge 0 LR	9 R 85 0.77 110 2 No 0	10   L	No uthboun 11 T	12 R	
Winor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De	ent 7 L  22 F 0.7 R 28 es 2 ists?/Stora	No Northbour 8 T 7 0 ge 0 LR Length,	9 R 85 0.77 110 2 No 0	10   L         of Serv	No uthboun 11 T  0	12 R	
Winor Street: Appromovem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De Approach Movement Lane Config	ent 7 L  22 F 0.7 R 28 es 2 ists?/Stora  elay, Queue EB WB 1 4 LT	No Northbour 8 T 7 0 ge 0 LR Length,	9 R 85 0.77 110 2 No 0	10   L         of Serv	No uthboun 11 T  0	12 R	
Winor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De Approach Movement	ent 7 L  22 F 0.7 R 28 es 2 ists?/Stora  elay, Queue EB WB 1 4 LT	No Northbour 8 T 7 0 ge 0 LR Length,	9 R 85 0.77 110 2 No 0	10   L         of Serv	No uthboun 11 T  0	12 R	
Winor Street: Appromovem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De Approach Movement Lane Config	ent 7 L  22 F 0.7 R 28 es 2 ists?/Stora  elay, Queue EB WB 1 4 LT  89 996	No Northbour 8 T 7 0 ge 0 LR Length, No	9 R 85 0.77 110 2 No 0 and Level rthbound 8 LR	10   L         of Serv	No uthboun 11 T  0	12 R	
Minor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De Approach Movement Lane Config  V (Vph)	ent 7 L  22 F 0.7 R 28 es 2 sists?/Stora  elay, Queue EB WB 1 4 LT  89 996 0.09	No Northbour 8 T 7 0 ge 0 LR Length, No	9 R 85 0.77 110 2 No 0 and Level rthbound 8 LR 138 376 0.37	10   L         of Serv	No uthboun 11 T  0	12 R	
Minor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De Approach Movement Lane Config  V (vph) C(m) (vph)	ent 7 L  22 F 0.7 R 28 es 2 sists?/Stora  elay, Queue EB WB 1 4 LT  89 996 0.09 0.29	No Northbour 8 T 7 0 ge 0 LR Length, No	9 R 85 0.77 110 2 No 0 and Level rthbound 8 LR 138 376 0.37 1.65	10   L         of Serv	No uthboun 11 T  0	12 R	
Minor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De Approach Movement Lane Config  V (vph) C(m) (vph) v/c	ent 7 L  22 F 0.7 R 28 es 2 sists?/Stora  elay, Queue EB WB 1 4 LT  89 996 0.09 0.29 9.0	No Northbour 8 T 7 0 ge 0 LR Length, No	9 R 85 0.77 110 2 No 0 and Level rthbound 8 LR 138 376 0.37 1.65 20.0	10   L         of Serv	No uthboun 11 T  0	12 R	
Minor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De  Approach Movement Lane Config  V (vph) C(m) (vph) v/c 95% queue length	ent 7 L  22 F 0.7 R 28 es 2 sists?/Stora  elay, Queue EB WB 1 4 LT  89 996 0.09 0.29	No Northbour 8 T 7 0 ge 0 LR Length, No	9 R 85 0.77 110 2 No 0 and Level rthbound 8 LR 138 376 0.37 1.65 20.0 C	10   L         of Serv	No uthboun 11 T  0	12 R	
Winor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De Approach Movement Lane Config  V (vph) C(m) (vph) v/c 95% queue length Control Delay	ent 7 L  22 F 0.7 R 28 es 2 sists?/Stora  elay, Queue EB WB 1 4 LT  89 996 0.09 0.29 9.0	No Northbour 8 T 7 0 ge 0 LR Length, No	9 R  85 0.77 110 2  No 0  and Level rthbound 8 LR  138 376 0.37 1.65 20.0 C 20.0	10   L         of Serv	No uthboun 11 T  0	12 R	
Minor Street: Appro Movem  Volume Peak Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration  De  Approach Movement Lane Config  V (vph) C(m) (vph) v/c 95% queue length Control Delay	ent 7 L  22 F 0.7 R 28 es 2 sists?/Stora  elay, Queue EB WB 1 4 LT  89 996 0.09 0.29 9.0	No Northbour 8 T 7 0 ge 0 LR Length, No	9 R 85 0.77 110 2 No 0 and Level rthbound 8 LR 138 376 0.37 1.65 20.0 C	10   L         of Serv	No uthboun 11 T  0	12 R	

\lyst:

2006 EXISTING AM PEAK HOUR

\_&ncy/Co.:

Date Performed:

JANUARY 2007

Analysis Time Period: 2006 EXISTING AM PEAK HOUR MAIN ST/FACULTY RD & RT 218 Intersection:

Jurisdiction:

Units: U. S. Customary

Analysis Year:

173EXAM7 Project ID:

NYS ROUTE 218 East/West Street:

MAIN STREET / FACULTY ROAD

North/South Street: Study period (hrs): 0.25 Intersection Orientation: EW

Vehicle Volumes and Adjustments Westbound Eastbound Approach Major Street: 5 . 6 4 3 2 Movement R L R T L 259 87 218 180 8 0.67 0.67 Volume 0.67 0.67 0.67 0.67 Peak-Hour Factor, PHF 129 386 325 268 11 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles Undivided Median Type/Storage RT Channelized? 0 1 0 0 1 0 LTR Lanes LTR Configuration No No pstream Signal? Southbound Northbound Minor Street: Approach 12 11 10 9 7 8 Movement R Т L R Т L 9 3 27 4 107 0.67 0.67 0.67 Volume 0.67 0.67 Peak Hour Factor, PHF 0.67 1.3 4 2 40 5 159 Hourly Flow Rate, HFR 2 2 2 2 Percent Heavy Vehicles Percent Grade (%) No Flared Approach: Exists?/Storage Νo 0 1 1 LTR Lanes LTR Configuration

Approach Movement Lane Config	Delay, EB 1 LTR	Queue I WB 4 LTR	ength, N 7	and Level orthbound 8 LTR	of 9	Service   10 	Southbound 11 LTR	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay )LOS Approach Delay Approach LOS	11 1165 0.01 0.03 8.1 A	129 983 0.13 0.45 9.2 A		204 181 1.13 10.30 157.9 F 157.9			19 304 0.06 0.20 17.6 C 17.6	

2006 EXISTING PM PEAK HOUR

alyst: ency/Co.:

Date Performed:

JANUARY 2007

Analysis Time Period: 2006 EXISTING PM PEAK HOUR

Intersection: MAIN ST/FACULTY RD & RT 218

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173EXPM7

East/West Street: NYS ROUTE 218
North/South Street: MAIN STREET / FACULTY ROAD

Intersection Orientation: EW

	Vehic1	le Volum	mes and	d Adjust	me	nts			
			tbound	,		Wes	tbound		
Major Street:	Approach		2	3	1	4	5	6	
	Movement	1	T	R	1	L	T	R	
		L	1	IX.	'	ببد	•		
			000	100		14	239	10	
Volume		31	232	122			0.67	0.67	
Peak-Hour Fact	or, PHF	0.67	0.67	0.67		0.67			
Hourly Flow Ra		46	346	182		20 .	356	14	
Percent Heavy	Vehicles	2				2			
Median Type/St	orage	Undivi	ded			/		•	
RT Channelized									
	A 5	0	1	0		0	1	0	
Lanes		LT	_			LT	R		
Configuration	10		No				No		
rstream Signa	11?		NO						
\ <u> </u>		NT 0 70	thhous	4		Sou	thbour	nd	
Minor Street:	Approach		thboun		1	10	11	12	
	Movement	7	8	9	- !		T	R	
		${f L}$	${f T}$	R	ı	L	1	K	
							6	34	
Volume		90	4	16		4			
Peak Hour Fact	tor, PHF	0,67	0.67	0.67		0.67	0.67	0.67	
Hourly Flow Ra	ate. HFR	134	5	23		5	8	50	
Percent Heavy	Vehicles	2	2	2		2	2	2	
Percent Grade	(%)		0				1		
		torage		No	,	/		No	/
Flared Approa	CII. EVISCS:\c	0	1	0		0	1	0	
Lanes		Ü	LTR	•			LTR		
Configuration			TITI						

The same of the sa	_Delay, 	Queue Le	ngth, and Level of Northbound	Southbound
Approach Movement Lane Config	1 LTR	4   LTR	7 8 9 LTR	10 11 12   LTR
(smb)	46	20	162	63
v (vph)	1189	1039	223	472
C(w) (Abp)	0.04	0.02	0.73	0.13
v/c	0.12	0.06	4.86	0.46
95% queue length	8.1	8.5	54.8	13.8
Control Delay		A	F	В
)os	A	A	54.8	13.8
Approach Delay Approach LOS			F	В

alyst: ency/Co.:

2010 NO-BUILD AM PEAK HOUR

Date Performed:

JANUARY 2007

Analysis Time Period: 2010 NO-BUILD AM PEAK HOUR MAIN ST/FACULTY RD & RT 218

Intersection: Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173NBAM7

East/West Street:

NYS ROUTE 218

North/South Street: MAIN STREET / FACULTY ROAD

Intersection Orientation: EW

Study period (hrs): 0.25

	ehicle Volu	tbound			Wes	tbound		
ajor Street: Approach	_	2	3	Į	4	5	6	
Movement	Ĺ	T	R	İ	L	T	R	
	9	197	237		94	280	6	
olume	0.67	0.67	0.67		0.67	0.67	0.67	
eak-Hour Factor, PHF		294	353		140	417	8	
ourly Flow Rate, HFR	13 2	237			2			
Percent Heavy Vehicles	Z Undivi	dod			/			
Median Type/Storage	Ondivi	ueu			<b>'</b> .	•		
T Channelized?	0	1 (	١		0	1	0	
anes	Lī		,		LT	R.		
Configuration	זיו	No.				No		
ostream Signal?		NO						
)	Nor	thbound	1		Sou	thboun	id	
Minor Street: Approach	·•	8	9	- 1	10	11	12	
Movement	L / L	Ť	R	i	L	T	Ř	
* 3	116	4	29		2	3	10	
Volume	0.67	0.67	0.67		0.67	0.67	0.67	
Peak Hour Factor, PHF	173	5	43		2	4	14	
Hourly Flow Rate, HFR	_	2	2		2	2	2	
Percent Heavy Vehicles	<del></del>	0				1		,
Percent Grade (%) Flared Approach: Exis	ts?/Storage		No		/		Νο	/
	0	1	0		0	1	0	
Lanes Configuration	•	LTR				LTR		

Approach Movement Lane Config	_Delay, EB 1 LTR	Queue Le WB 4   LTR	ngth, and Level of Northbound 7 8 9 LTR	Service Southbound 10 11 12 LTR
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	13 1134 0.01 0.03 8.2 A	140 939 0.15 0.52 9.5 A	221 150 1.47 14.57 300.6 F 300.6 F	20 270 0.07 0.24 19.4 C 19.4

yalyst:

2010 NO-BUILD PM PEAK HOUR

jency/Co.:

Date Performed:

JANUARY 2007

Intersection:

Analysis Time Period: 2010 NO-BUILD PM PEAK HOUR MAIN ST/FACULTY RD & RT 218

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173NBPM7

NYS ROUTE 218

East/West Street: North/South Street:

MAIN STREET / FACULTY ROAD

Intersection Orientation: EW

	Vehicl	e Volum	nes and	Adjust	me	nts	bound		
Movem	ent	East 1 L	bound 2 T	3 R	 	4 L	5 T	6 R	_
Volume Peak-Hour Factor, PH Hourly Flow Rate, HF Percent Heavy Vehicl Median Type/Storage	r R es	33 0.67 49 2 Undivi	252 0.67 376  ded	133 0.67 198		15 0.67 22 2	258 0.67 385	11 0.67 16	
RT Channelized? Lanes Configuration  pstream Signal?		0 LT	1 0 R No			O LT	R No	0	
1		Nor	thbound			Sou	thboun	d	
Minor Street: Appro Move	nent	7 L	8 T	9 R	1	10 L	11 T	12 R	
Volume Peak Hour Factor, Pi Hourly Flow Rate, H Percent Heavy Vehic Percent Grade (%) Flared Approach: E Lanes Configuration	FR	97 0.67 144 2 torage 0	4 0.67 5 2 0	17 0.67 25 2 No		4 0.67 5 2	6 0.67 8 2 1 1 LTR	37 0.67 55 2 No 0	/

Approach Movement Lane Config	Delay, EB 1 LTR	Queue Le WB 4   LTR	ngth, and Level of Northbound 7 8 9 LTR	10 11 12   LTR
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	49 1158 0.04 0.13 8.2 A	22 999 0.02 0.07 8.7 A	174 193 0.90 6.98 91.3 F 91.3	68 445 0.15 0.54 14.5 B 14.5

alyst:

2010 BUILD AM PEAK HOUR

ency/Co:

Date Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD AM PEAK HOUR MAIN ST/FACULTY RD & RT 218

Intersection:

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDAM7

East/West Street:

NYS ROUTE 218 North/South Street: MAIN STREET / FACULTY ROAD

Intersection Orientation: EW

- Characte	Approach	cle Volu Eas	tbound	_		Wes	tbound		
Major Street:	Movement	1	2	3	j	4	5	6	
	Movemenc	Ĺ	T	R	١	L	T	R	
			000	250		94	313	6	
/olume	- <del></del>	9	222	0.67		0.67	0.67	0.67	
Peak-Hour Fact	or, PHF	0.67	0.67			140	467	8	
Hourly Flow Ra	te, HFR	13	331	373		2			
Percent Heavy	Vehicles	2				,2	·		
edian Type/St	corage	Undivi	.ded	, ,		<i>'</i> .	•	••	
RT Channelized	1?	0	1	0		0	1	0	
anes		•	_	·		Lī	'R		
Configuration		LI					No		
ostream Signa	al?		No			•			
)		<u> </u>	1 1 1			SOL	ithboun	id	
Minor Street:	Approach		thboun			10	11	12	
	Movement	7	8	9	}		T	R	
•		L	T	R	1	L	r	**	
		132	4	29		2	3	10	
Volume		0.67	0.67	0.67		0.67	0.67	0.67	
Peak Hour Fac	tor, PHF		5	43		2	4	14	
Hourly Flow R	ate, HFR	197		2		2	2	2	
Percent Heavy	Vehicles	2	2	4		_	1		
Descent Grade	(%)		0	No		/	-	No	1
Flared Approa	ch: Exists?	/Storage		No		′ o	1	0	•
Lanes		0	*	0		U	LTR	•	
Configuration			LTR				TITI	ů.	

Approach Movement Lane Config	Delay, ( EB 1 LTR	Queue Ler WB 4   LTR	ngth, and Level of Northbound 7 8 9 LTR	Service Southbound 10 11 12 LTR
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	13 1087 0.01 0.04 8.4 A	140 894 0.16 0.55 9.8 A	245 124 1.98 19.77 525.7 F 525.7	20 233 0.09 0.28 21.9 C 21.9

2010 BUILD PM PEAK HOUR

nalyst: |ency/Co.:

Date Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD PM PEAK HOUR MAIN ST/FACULTY RD & RT 218

Intersection: Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDPM7

East/West Street: NYS ROUTE 218

North/South Street: MAIN STREET / FACULTY ROAD

Intersection Orientation: EW

Vehic	cle Volum	nes and	Adjust	ments	thound		
Major Street: Approach Movement	East	tbound 2	3	wes	tbound 5	6	
110 volues 13	L	T	R	$I \rightarrow \mathbf{P}$	Ť	R	
Volume Peak-Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Median Type/Storage RT Channelized? Lanes Configuration {pstream Signal?	33 0.67 49 2 Undivi 0 LT	1 0	156 0.67 232	15 0.67 22 2 / 0 LT	302 0.67 450  1 0	11 0.67 16	
)	Nor	thbound			thbound		
Minor Street: Approach Movement	7 L	8 T	9 R	10   L	11 T	12 R	·
Volume Peak Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Percent Grade (%) Flared Approach: Exists?/ Lanes Configuration	119 0.67 177 2 /Storage 0	4 0.67 5 2 0	17 0.67 25 2 No	4 0.67 5 2 /	6 0.67 8 2 1 LTR	37 0.67 55 2 No	/

Approach Movement	ЕВ 1	WB 4	ength, and Level of Northbound 7 8 9	Service Southbound 10 11 12 LTR	
V (vph) C(m) (vph) v/c 95% queue length	49 1095 0.04 0.14	22 916 0.02 0.07	207 146 1.42 13.41 280.4	68 379 0.18 0.65 16.6	
Control Delay LOS Approach Delay Approach LOS	8.4 A	9.0 A	F 280.4 F	C 16.6 C	

Analyst: MAB

Agency: CORNWALL/NEW WINDSOR

JANUARY 2007

riod: 2010 NO-BUILD PEAK AM

Inter.: MAIN ST./FACULTY RD. & RT 218

Area Type: All other areas

Jurisd: Year :

E/W St: NYS ROUTE	AM7 218		N/S	St: MAIN	STREET/E	ACULT	Y ROAD	
<b>_</b> ,		እነአ፣ ተወድቦ	TNTERSEC	CTION SUMM	IARY			
l Eas	tbound	Westbo		Northbo	und		hbound	1
l L	T R	r t	Ŗ	L T	R	L	T R	! <b>i</b>
No. Lanes   0	1 0	0 1		0 1 LT	1 R	0	1 0 LTR	   
LGConfig	LTR	94 280	LTR ) 6	116 4	29	2 3		i
	197 237   12.0	12.		12.0	•		2.0	1
Lane Width   RTOR Vol	0		0	ĺ	0 1		0	
					<del></del>			
Duration 0.25	Area T	'ype: Al. Signa	l other a	areas ions			. <del> </del>	
Phase Combination	1 2	3	4	5	6	7	8	
EB Left	A		NB	Left A				
Thru	A		l l	Thru A Right A				
Right	A		1	Peds				
Peds WB Left	A		, SB	Left A				
WB Left Thru	A	•	į	Thru A		•	**	
Right	Α .			Right A				
Peds				Peds				
B Right	•		ÉB   WB	Right Right				
, B Right	30.0		,	15	.0		•	
Green				3.0	)			
Yellow	3.0							
Yellow All Red	3.0 2.0			2.0	כ	ath. 5	55 A	secs
Yellow All Red	2.0	ation De	rformanc	2.0 C:	) ycle Len	gth: 5	55.0	secs
All Red	2.0 Intersed			2.0	) ycle Len	gth: 5	55.0	secs
All Red Appr/ Lane	2.0	ction Pe Rati	os	2.0 Cr e Summary Lane Gro	ycle Len up App	roach	55.0	secs
All Red	2.0 Intersec Adj Sat			2.0 C: e Summary	ycle Len up App		55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity	Intersection Adj Sat	Rati	os	2.0 Cr e Summary Lane Gro	ycle Len up App	roach	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound	Intersection Adj Sat	Rati	os	2.0 Cr e Summary Lane Gro	ycle Len up App S Dela	roach	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound  LTR 931	Intersection Adj Sat Flow Rate (s)	Rati v/c	os g/C	e Summary Lane Gro	ycle Len up App S Dela	roach y LOS	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound	Intersection Adj Sat Flow Rate (s)	Rati v/c	os g/C	2.0 Cree Summary Lane Groot Delay Lo	ycle Len up App Dela	y LOS	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound  LTR 931	Intersection Adj Sat Flow Rate (s)	Rati v/c	os g/C 0.55	2.0 Cree Summary Lane Groot Delay Lo	ycle Len up App Dela	y LOS	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound  LTR 931  Westbound	Intersection Adj Sat Flow Rate (s)	0.71	os g/C 0.55	2.0 Cree Summary Lane Groot Delay Lo	ycle Len up App S Dela 11.8	y LOS B	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound  LTR 931  Westbound  LTR 741  Northbound	Intersection Adj Sat Flow Rate (s)	0.71 0.77	0.55 0.55	2.0 Cree Summary Lane Groot Delay Local 11.8 B	ycle Len up App S Dela 11.8	y LOS B	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound  LTR 931  Westbound  LTR 741  Northbound	Intersection Adj Sat Flow Rate (s)  1707	0.71	0.55 0.55	2.0 Cree Summary Lane Groot Delay Lo.  11.8 B	ycle Len up App S Dela 11.8	y LOS B	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound  LTR 931  Westbound  LTR 741  Northbound  LT 366	Intersection Adj Sat Flow Rate (s)  1707  1359	0.71 0.77	0.55 0.55	2.0 Cree Summary Lane Groot Delay Local 11.8 B	ycle Len up App S Dela 11.8	y LOS B	55.0	secs
All Red  Appr/ Lane Lane Group Grp Capacity  Eastbound  LTR 931  Westbound  LTR 741  Northbound  LT 366 R 434	Intersection Adj Sat Flow Rate (s)  1707  1359	0.71 0.77	0.55 0.55	2.0 Cree Summary Lane Groot Delay Local 11.8 B	ycle Len up App S Dela 11.8	B B	55.0	secs

Agency: CORNWALL/NEW WINDSOR

Tate: JANUARY 2007
Priod: 2010 NO-BUILD PEAK PM

Inter.: MAIN ST./FACULTY RD. & RT 218

Area Type: All other areas

Jurisd: Year :

( \riod: 2010	NO-BUILD	PEAK PM		Year	:					
roject ID:	173NBPM7									
E/W St: NYS	ROUTE 218			N/S	St: MA	in stre	EET/FAG	CULTY RO	OAD	
E/W SC. MIS	ROOLD 21				•					
		STGNAL	IZED I	NTERSEC'	TION S	UMMARY				
	Eastbour		estbou		Nort	hbound		Southbo	und	ŀ
	•	RL	T	R I	L '	r R	L	<b>T</b>	• R	İ
	י די ילן	1, 1, 2	<del></del>	i			ſ			1
_	!	<del>-</del> 0	0 1	0 i	0	1 1	I	0 1	0	1
No. Lanes	0 1	•	LI	•	•		a i	LT	R	1
LGConfig	LTP				97 4		4	6	37	İ
Volume	133 252	133   15	258	•		2.0 12	•	12,0		i
Lane Width	12.0	ļ.	12.0		Τ.	0	. 0	22,0	0	i
RTOR Vol	1	0		0 ]		U	. 1		O	,
Duration	0.25	Area Type	: All	other a	reas					
Daracro		\$	Signal	Operati	ons			<u> </u>		<del></del>
Phase Combi	nation 1	2 3				5	6	7	8	
	P P			NB	Left	P			•	
	P			ĺ	Thru	P				
Thru	P			í	Right	Þ				
Right	F				Peds					
Peds	_				Left	P				
WB Left	P .			1 52	Thru	P	•			
Thru	P			1	Right	P				
Right	P			1	_	Ľ				
Peds		•		!	Peds					
B Right				EB	Right					
( ) Right				WB	Right					
Green	. 30.0			•		15.0				
Yellow	3.0					3.0				
All Red	2.0					2.0				
WIT Ven						Cycle	Lengt	h: 55.0	s	secs
	т.	ntersection	on Per	formance	s Summa	ry				
7		j Sat	Ratio		Lane G	roup	Appro	ach		
Appr/ Lar	- · · · · · · · · · · · · · · · · · · ·	w Rate _		_		-				
	1		/c	g/C	Delay	LOS	Delay	LOS		
Grp Cap	pacity	(s) v	, .	9,0			•			
						···—·				
Eastbound										
	. =		4.0	0.55	9.6	Α	9.6	A		
LTR 93	33 17	10 0	.49	0.55	9.0	Α.	J. 0	••		
Westbound										
						_	~ -	•		
LTR 9	79 17	94 0	.32	0.55	7.7	A	7.7	A		
D11/										
Northbound										
MOTCHDOGHA										
-m ^	55 13	302 0	.31	0.27	18.2	В	17.7	В		
<del></del> -				0.27	14.9	В				
	<del>-</del> -	,,,,		<del></del> -						
Southbound										
	_	4	. 10	0.27	15.6	В	15.6	В		
LTR 4	46 16	534 0	1.12	0.21	10.0	٠	10.0	_		
1			40.4	1 m c m 1	h\ *	nterco	ation 1	Los = B		
( ) I	ntersection	n Delay =	10.4	(sec/ve	11) T	HICETOE	- + TOTT 1	ם בייטיב		

Southbound

LTR

444

Agency: CORNWALL/NEW WINDSOR

Tate: JANUARY 2007

riod: 2010 BUILD PEAK AM

Inter.: MAIN ST./FACULTY RD. & RT 218

14.8 B

14.8 B

Area Type: All other areas

Jurisd: Year :

roject ID: 173BDAM7 E/W St: NYS ROUTE 218		N/S St: MA	IN STREET	/FACULTY	ROAD
Eastbound   L T R	GNALIZED INTE	Nort	UMMARY hbound T R	South	bound   R i
No. Lanes   0 1 0 LGConfig   LTR Volume   9 222 250 Lane Width   12.0 RTOR Vol   0	0 1 (   LTR  94 313 6   12.0	  132 4   1	1 1 LT R 29 2.0 12.0	12 3	1 0   LTR   10   2.0
Duration 0.25 Area	Type: All oth Signal Ope	ner areas			
Phase Combination 1 2	Signal Opt	eracions	5 6	7	8
Phase Combination 1 2 EB Left A Thru A Right A		NB Left Thru Right Peds	A A A		•
Peds WB Left A Thru A Right A Peds		SB Left Thru Right Peds	A A A	٠.	•
B Right B Right Green 30.0 Yellow 3.0	 	EB Right WB Right	15.0 3.0 2.0		
All Red 2.0		_	Cycle Le	ength: 5	5.0 secs
Appr/ Lane Adj Sat	ection Perfor Ratios	mance Summ Lane	aryA	oproach	
Lane Group Flow Rat Grp Capacity (s)	v/c g/0	Delay	LOS De	lay LOS	<u>-</u>
Eastbound		•			
LTR 933 1711	0.77 0.5	55 13.7	в 13	.7 В	
Westbound	•	•			
LTR 736 1349	0.84 0.	55 18.9	в 18	.9 B	
Northbound					
LT 366 1341 R 434 1591	0.55 0. 0.10 0.		В 18 В	.3 В	

0.05 0.27

Intersection Delay = 16.4 (sec/veh) Intersection LOS = B

1628

Agency: CORNWALL/NEW WINDSOR

ate: JANUARY 2007

)riod: 2010 BUILD PEAK PM

Inter.: MAIN ST./FACULTY RD. & RT 218

Area Type: All other areas

Jurisd: Year :

2roject ID: 173BDPM7 E/W St: NYS ROUTE 218		N/S	st: MA	IN STRE	ET/FA	CULTY F	ROAD	
e i	GNALIZED	TNTERSE	CTION SU	UMMARY				
Eastbound	Westbo		Nort	hbound	1	Southbo		
L T R	L T	R	L '	T R	L	$T_{-}$	R	.
1 1	<u> </u>		<u> </u>		!			<del></del> ¦
No. Lanes 0 1 0	0 1		0	1 1	- !	0 1	0	1
LGConfig LTR	•	TR	1	LT P			rr 37	1
Volume  33 297 156	15 302		119 4	17	0 1	6 12.		Ì
Lane Width   12.0	12.		, ,	2.0 12. 0	0	14.	0	i
RTOR Vol   0	l	0	1	U	1		ŭ	,
	Type: All	other	areas					
Duration 0.25 Area	Signal	Operat	ions			,		
Phase Combination 1 2	3	4		5	6	7	8	
EB Left P	•	NB	Left	P				•
Thru P		i	Thru	P				
Right P		1	Right	P				
Peds		• !	Peds	<b>5</b>				
WB Left P		SB	Left	P P		•		
Thru P			Thru Right			•		
Right P		l I	Peds					
Peds		EB	Right		•			
B Right		WB	Right					
B Right Green 30.0		1	<b>,</b>	15.0				•
910011				3.0				
Yellow 3.0 All Red 2.0			÷	2.0			^	
IIII III			_		Leng.	th: 55.	U	secs`
	ection Pe	rforman	ce Summa Lane (	ary_	Appr	oach		
Appr/ Lane Adj Sat	Ratio	os	ране (	310ab	1,551			
Lane Group Flow Rat	e v/c	g/C	Delay	LOS	Delay	LOS		
Grp Capacity (s)	<b>V/</b> • .	<b>5.</b> -	-	· · · · · · · · · · · · · · · · · · ·				
Eastbound								
				5	10 0	В		
LTR 934 1713	0.57	0.55	10.8	В	10.8	Д		
Westbound								
1700	0.37	0.55	8.2	A	8.2	A		
LTR 980 1796	0.37	0,00						•
and the same								
Northbound						_		
LT 355 1300	0.38	0.27	19.3	В	18.8	В		
R 434 1591	0.04	0.27	14.9	В				
Southbound								
		0.07	1 E &	В	15.6	В		
LTR 445 1632	0.12	0.27	15.6	۵	10.0	U		
Intersection Del	a.r 11 3	(sec/s	zeh) T	nterse	ction	Los =	В	
Intersection Del	ay = 11.3	1266/1	· /					

	TWO-WAY STOR	CONTRO	T. SUMM	<del>ARY</del>			
	IMO-HVI DIOI	00112110					
`nalyst:	2006 EXISTING	AM PEA	K HOUR	ι ,		·	
jency/Co.:							
A-to Dorformed.	JANUARY 2007						
Analysis Time Period:	2006 EXISTING	AM PEA	K HOUR	(			
Intersection:	NYS COUNTY RO	OUTE 32	& US R	CT 9W			
Jurisdiction:							
Units: U. S. Customar	У						
Analysis Year:				•			
Project ID: 173EXAM8	AND GOUMY BOT	לב מחד					
East/West Street:	NYS COUTY ROU US ROUTE 9W						
North/South Street:			stu	ady perio	d (hrs):	0.25	•
Intersection Orientat	.1011. E.			<b>.</b> .			
	Vehicle Volu	mes and	Adjust	ments			
Major Street: Approa	<del></del>	tbound		W∈	stbound		
Moveme		2	3	1 4	5_	6	
-	L	T	R	i r	T	R	
					119		
Volume		165	56 0.77	32 0.77	0.77		
Peak-Hour Factor, PHE	י	0.77	72	41	154		
Hourly Flow Rate, HFF	₹	214	72	2			
Percent Heavy Vehicle	es Undivi	dad		1			
Median Type/Storage	Onarvi	aea	•	,		••	
RT Channelized?		1 0		0	1		
Lanes		TR		1	T		
Configuration  Testream Signal?		No			No		
pstream Signar:					<del></del>	<del></del>	
Minor Street: Approx	ach Nor	thbound			outhboun		
Moveme	ent 7	8	9	1 10	11	12 R	
	L	T	R	L	T	K	
	7.4		12				
Volume	14 F 0.77		0.77				
Peak Hour Factor, PH	<u>.</u> .		15				
Hourly Flow Rate, HF	<del>-</del> -		2				
Percent Heavy Vehicle Percent Grade (%)	C5 2	0			0		
Flared Approach: Ex	ists?/Storage		No	/		/	
Lanes	Ő	C	)				
Configuration		LR					
						<u> </u>	
			ad Torro	J of Sar	wice		
	lay, Queue Ler	ngtn, ai Nort	hbound	i or per	Sout	hbound	
Ubbrogo:	EB WB	7	8	9 I	10	11. 12	
Movement	1 4   LT	,	LR	j			
Lane Config	11 1			•			
rr (rmh)	41		33				
v (vph)	1276		618				
A\c C(w) (Abt)	0.03		0.05				
95% queue length	0.10		0.17				
Control Delay	7.9		11.2				
, los	A		В				
Approach Delay			11.2				
Approach LOS			B				
* *							

#### TWO-WAY STOP CONTROL SUMMARY 2006 EXISTING PM PEAK HOUR nalyst: ency/Co.: JANUARY 2007 Date Performed: Analysis Time Period: 2006 EXISTING PM PEAK HOUR NYS COUNTY ROUTE 32 & US RT 9W Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: 173EXPM8 NYS COUTY ROUTE 32 East/West Street: US ROUTE 9W North/South Street: Study period (hrs): Intersection Orientation: EW Vehicle Volumes and Adjustments Westbound Eastbound Approach Major Street: 5 2 1 Movement Т R Т R $\mathbf{L}$ 34 34 147 132 Volume 0.77 0.77 0.77 0.77 Peak-Hour Factor, PHF 44 190 44 171 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles Undivided Median Type/Storage RT Channelized? 1 0 1 Lanes LT TR Configuration No No ostream Signal? Southbound Northbound Approach Minor Street: 12 10 11 Movement Т R L Т R L 37 21 Volume 0.77 0.77 Peak Hour Factor, PHF 48 27 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles Percent Grade (%) No Flared Approach: Exists?/Storage 0 Lanes LŖ Configuration Delay, Queue Length, and Level of Service Southbound Northbound WB EΒ Approach 12 10 11 7 8 4 1 Movement LR LT Lane Config 75 44 v (vph) 700 1355 C(m) (vph) 0.11 0.03 v/c 0.36 0.10 95% queue length 10.8 7.7 Control Delay В Α

10.8

В

iOS

pproach Delay

Approach LOS

alyst:

2010 NO-BUILD AM PEAK HOUR

ancy/Co.:

Date Performed:

JANUARY 2007

Intersection:

Analysis Time Period: 2010 NO-BUILD AM PEAK HOUR NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173NBAM8

NYS COUTY ROUTE 32 East/West Street:

North/South Street: US ROUTE 9W

Intersection Orientation: EW

Study period (hrs): 0.25

. . .

Vehicle Volumes and Adjustments Westbound Eastbound Approach Major Street: б 5 4 3 2 1 Movement Т R L R Т L 35 141 62 184 Volume 0.77 0.77 0.77 0.77 Peak-Hour Factor, PHF 183 45 238 80 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles Undivided Median Type/Storage RT Channelized? 1 0 1 0 Lanes LTTR Configuration No ostream Signal? Southbound Northbound Approach Minor Street: 12 11 10 9 8 7 Movement R T L R  $\mathbf{T}$ L 14 16 Volume 0.77 0.77 Peak Hour Factor, PHF 18 20 Hourly Flow Rate, HFR 2 Percent Heavy Vehicles 0 Percent Grade (%) Flared Approach: Exists?/Storage No 0 Lanes LR Configuration

Approach Movement Lane Config	Delay, EB 1	Queue L WB 4 ! LT !	ength 7	, and Leve Northbound 8 LR	1 of 9	Ser   	vice 10	Southbound 11	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay OS pproach Delay Approach LOS		45 1242 0.04 0.11 8.0 A		38 579 0.07 0.21 11.7 B 11.7					

<sup>-</sup>nalyst:

2010 NO-BUILD PM PEAK HOUR

ency/Co.:

\_dte Performed:

JANUARY 2007

Analysis Time Period: 2010 NO-BUILD PM PEAK HOUR NYS COUNTY ROUTE 32 & US RT 9W

Intersection:

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173NBPM8

East/West Street: NYS COUTY ROUTE 32 North/South Street: US ROUTE 9W

Intersection Orientation: EW

		mes and	_		Mod	tbound		
ajor Street: Approach	Eas	tbound	_				6	
Movement	1	2	3	ļ	4	5		
	L	${f T}$	R	1	L	T	R	
						170		<u>.                                      </u>
olume		146	39		37			-
eak-Hour Factor, PHF		0.77	0.77		0.77	0.77		•
lourly Flow Rate, HFR		189	50		48	220		
Percent Heavy Vehicles					2			•
Median Type/Storage	Undivi	ded			/			
legian Type/Scorage	**				•			•
T Channelized?		1 0			0	1		•
anes		TR			Li			
Configuration		No				No		
estream Signal?		110						
)	No	thbound			Sou	thbound	1	
inor Street: Approach	7	8	9	1	10	11	12	
Movement	-	T	R	i	L	Т	R	
	Ļ	1	10	1	-			
	25	<u> </u>	42					
Volume	0.77		0.77					
Peak Hour Factor, PHF	32		54					
Hourly Flow Rate, HFR			2					•
Percent Heavy Vehicles	2	^	2			. 0		
Percent Grade (%)		0	Ma		,	v		/
Flared Approach: Exists?/	Storage	,	No	•	,	•		•
Lanes	0	`	)					
Configuration		LR						

Approach Movement Lane Config	_Delay, EB 1	Queue WB 4 LT	Le:	ngt 7	h, and Leve Northbound 8 LR	1 of 9	Ser	vice 10	Southbour 11	nd 12
v (vph) C(m) (vph) v/c 95% queue length Control Delay OS pproach Delay Approach LOS		48 1328 0.09 0.11 7.8 A	4	-	86 659 0.13 0.45 11.3 B 11.3					

nalyst:

2010 BUILD AM PEAK HOUR

ency/Co.:

Late Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD AM PEAK HOUR

Intersection:

NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDAM8

East/West Street: NYS COUTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

Major Street:	Vehic Approach Movement	le Volu Eas 1 L	mes and tbound 2 T	Adjust 3 R	cme   	nts <u>Wes</u> 4 L	tbound 5 T	6 R	
Volume Peak-Hour Fact Hourly Flow Ra Percent Heavy Median Type/St RT Channelized Lanes Configuration Upstream Signa	te, HFR Vehicles orage 1?	Undivi	189 0.77 245  ded 1 0 TF			41 0.77 53 2 / 0 LT	141 0.77 183  1		
Minor Street:	Approach Movement	Nor 7 L	thbound 8 T	9 R	 	Sou 10 L	ithbound 11 T	1 12 R	
Volume Peak Hour Fac Hourly Flow R Percent Heavy Percent Grade Flared Approa Lanes Configuration	ate, HFR Vehicles (%) ch: Exists?/	16 0.77 20 2 Storage 0	0 LR	14 0.77 18 2 No		/	0		/

		Queue WB	Le	ngth	, and Leve Northbound	el of l	ser	vice	outhbour	nd
Approach Movement Lane Config	EB 1	4 LT	1	7	8 LR	9		10	11	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS		53 122 0.0 0.1 8.1 A	4		38 558 0.07 0.22 11.9 B					

nalyst:

2010 BUILD PM PEAK HOUR

yency/Co.:

Jate Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD PM PEAK HOUR

Intersection:

NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDPM8

East/West Street: NYS COUTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

		cle Volu	mes and tbound	Aujus		Wes	tbound		
Major Street:	Approach		2	3	1	4	5	6	
,	Movement	1 Ն	T	R	i	Ľ	T	R	
				<u> </u>		45	170		
Volume			155	52 0.77		0.77	0.77		
Peak-Hour Fact	or, PHF		0.77			58	220		
Hourly Flow Ra	ite, HFR	-	201	67		2			
Percent Heavy	Vehicles					2			
Median Type/St	orage	Undivi	.ded			/	•	•	
RT Channelized	ł?		1 0	1		0	1		
Lanes			TF			$\mathbf{L}^{2}$	[		
Configuration Upstream Signa	al?		Ио	`			No		
) pseream zas						SOI	ıthboun	d	
Minor Street:	Approach		thbound		- 1	10	11	12	
1121102	Movement	7	8	9 R	- 1	L	T	R	
		L	T	K	'	<b>.</b>			
<del> </del>	· · · · · · · · · · · · · · · · · · ·	25		42					
Volume	ביי מער	0.77		0.77					
Peak Hour Fac	-r- abb	32		54					
Hourly Flow R	ate, nra	2		2					
Percent Heavy	Aeurcrez	-	0		-		0	•	,
Percent Grade	(8) Designated	/storage		No		/			/
Flared Approa	CU: FXT2C2:	0		0					
Lanes			LR				•		
Configuration	L								

Approach Movement Lane Config	_Delay, EB 1	Queue WB 4 LT	Lei	ngtl 7	n, and Level Northbound 8 LR	of 9	Ser   	vice 10	Southbour 11	nd 12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS		58 129 0.0 0.1 7.9 A	4 4		86 630 0.14 0.47 11.6 B 11.6 B					

rnalyst:

2010 BUILD AM PEAK HOUR

/ ency/Co.:

te Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD AM PEAK HOUR

Intersection: RT 9W & SOUTH END SITE ACCESS

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173AMB9

East/West Street: SOUTH END SITE ACCESS

North/South Street: US ROUTE 9W

North/South St. Intersection O	reet: US : rientation:	NS		S	tudy pe	riod (hr	s): 0.2	5
	Veh:	icle Vol	umes and	l Adju	stments			
Marian Ctmoots	Approach		rthbound			Southbo	und	
Major Street:	Movement	1	2	3 .	1 4	5	6	
	Movement	Ī.	T	R	Ĺ	T	R	
			_					
77 n 1 12m 0			617			880		
Volume Peak-Hour Fact	or PHF		0.90			0.9		
Hourly Flow Ra	to HFR		685			977	257	
Percent Heavy	Vehicles						- <del>-</del>	
Median Type/St	orage	Undiv	rided		/		•	
RT Channelized	12				•	•		
	• •		2			2	0	
Lanes			${f T}$			${f T}$	TR	
Configuration	.12		No			No		
Tostream Signa	11.5							
nor Street:	Approach	₩e	stbound			Eastbou		•
THUOT Street.	Movement	7	8	9	10	11	12	•
	110 10110110	L	T	R	L	${f T}$	R	
		_						
Volume							124	
Peak Hour Fact	or. PHE						0.90	1
Hourly Flow Ra	ate. HER						137	
Percent Heavy	Vehicles						0	
Percent Grade	(%)		0			0		,
Flared Approac	ch: Exists?	/Storage	€		/ /			/
Lanes							1	
Configuration							Ř	
Confidutación								
		Queue L	ength, a	nd Le	neT or :	Service_	astbound	
Approach	NB	SB		tboun			11	12
Movement	1	4	7	8	9	10	1. 1.	R
Lane Config		1				ı		10
		<u> </u>						137
v (vph)								438
C(m) ( $vph$ )								0.31
v/c								1.32
95% queue len	igth							16.9
Control Delay								C
7,0S							16.9	~
proach Dela	ıy						C C	
Approach LOS							Ç	

"nalyst:

2010 BUILD PM PEAK HOUR

ency/Co.:

\_\_te Performed:

JANUARY 2007

Analysis Time Period; 2010 BUILD PM PEAK HOUR

Intersection: RT 9W & SOUTH END SITE ACCESS

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173PMB9

Fast/West Street:

SOUTH END SITE ACCESS

East/West Street:	US ROU		IIE ACC	,E00			4		
North/South Street:				st	udv	perio	d (hrs)	: 0.25	
Intersection Orienta	ciou: wa	•				-			
	Webic'	le Voli	ımes aı	nd Adjus	tmen	ts			
Major Street: Approx		No:	rthbou	nd		So	uthbour	nd	
Major Street: Appro-	açıı ant	1	2	3	1	4	5	6	
Movem	enc	L	T	R	Ì	L	${f T}$	R	
•			_						
			1194				491	304	
Volume	r.		0.90		•		0.90	0.90	
Peak-Hour Factor, PH	TD		1326				545	337	•
Hourly Flow Rate, HF	<b>8</b> 4							<del></del> -	
Percent Heavy Vehicl	C.5	Undiv	ided		/	/			
Median Type/Storage	•	0		•		12	•		
RT Channelized?			2				2	0	
Lanes			$ar{ extbf{T}}$				T :	rr	
Configuration			No				No		
Tostream Signal?			7						
minor Street: Appro	ach	We	stboun	d		Ea	stboun		
minor Street: Appro		7	8	9	1	10	11	12	
Movett	ien c	Ĺ	T	R	1	$\mathbf{L}$	${f T}$	R	
•		_	-						· · · · · · · · · · · · · · · · · · ·
77.3			<del>, ,, , '-</del>					228	
Volume	नः							0.90	
Peak Hour Factor, Ph	* <del>*</del>							253	
Hourly Flow Rate, HE	LAS							0	
Percent Heavy Vehicl	(U)		0				0		
Percent Grade (%)	riete2/S	Storage	3		/				/
Flared Approach: Ex	1200.70	,00249	-					1	
Lanes								Ŕ	
Configuration							·		
De	elav. Ou	aeue Le	ength,	and Lev	el o	f Serv	rice		
Approach	NB	SB	We	stbound	i		Bas	tbound	10
Movement	1	4	7	8	9	ı	10	11	12
Lane Config	_	i		-		1			R
Lane Contra								<del> </del>	252
v (vph)									253 570
C(m) (vph)									0.44
v/c									
95% queue length									2.26
Control Delay									16.3
T <sub>i</sub> OS								400	С
pproach Delay								16.3	
Approach LOS								C	
nnnroach lub								•	

Agency: CORNWALL/NEW WINDSOR

Date:

JANUARY 2007

Period: 2010 BUILD PEAK AM
Project ID: 173BDAM9

Inter.: SOUTHERLY SITE ACCESS & RT 9W

Area Type: All other areas

Jurisd:

Year : SCENARIO 2

	Period: 2010 BUILD	IO							
	Project ID: 173BDAM E/W St: SOUTHERLY S	SITE ACCESS		N/S :	st: US	ROUTE	9W		
	E/W St. Southbras -					D 44 A D V		•	
			IZED I	NTERSEC'	North	bound	I 9	Southbound	
	Easth		lestbou		L I		L	T R	
	L	F R L	. Т	R j	רו יו		i	-	i
	l		0 0		1	2 0	i	0 2 0	1
	No. Lanes   1	0 1	0 0	1	-	T	ĺ	TR	ļ
	LGConfig   L	R		i	166 45		1	880 66	1
	Volume  87	124   12.0			12.0 12		1	12.0	ļ
	Lane Width  12.0	0		i				0	I
	RTOR Vol	·							<del>_</del>
	Duration 1.00	Area Type	e: All	other a	reas				
	Duracion 1.50		Signal	Operati	ons	<u> </u>	6	7 8	
	Phase Combination	1 2	3 4	•	EL	5	A	, 0	
	EB Left	A		NB	Left Thru	A A	A		
	Thru			 	Right	A	71		
	Right	A		}	Peds				
	Peds			l SB	Left				
	WB Left			1 55	Thru		A	••	
	Thru			i	Right		A		
	Right			i	Peds				
	Peds			EB	Right				
ì	NB Right			WB	Right				
Ĵ	SB Right Green 2	25.0				16.0			
	Green	3.0					3.0 2.0		
		2.0						h: 100.0	secs
	1111 110 11		<b>~</b>	farmanc			Denge		
					ո Տորmma				
		Intersecti	on Per	LOTHIANC	e Summa Lane G	roup	Appro	ach	
	Appr/ Lane	Adj Sat	on Per Ratio	S	e Summa Lane G	roup	Appro		
	Lane Group	Adj Sat Flow Rate _	Ratio	s 	Lane G	roup	Appro		
		Adj Sat Flow Rate	Ratio	g/C	Lane G	roup			
	Lane Group Grp Capacity	Adj Sat Flow Rate _	Ratio 7/c	g/C	Delay	LOS			
	Lane Group Grp Capacity Eastbound	Adj Sat Flow Rate (s)	Ratio 7/c	s 	Lane G	roup	Delay	LOS	
	Lane Group Grp Capacity	Adj Sat Flow Rate (s)	Ratio 7/c	g/C 0.25	Delay	LOS			
	Lane Group Grp Capacity Eastbound L 443	Adj Sat Flow Rate (s)	Ratio 7/c 0.21	g/C	Delay	LOS	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396	Adj Sat Flow Rate (s)	Ratio 7/c	g/C 0.25	Delay	LOS	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443	Adj Sat Flow Rate (s)	Ratio 7/c	g/C 0.25	Delay	LOS	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396	Adj Sat Flow Rate (s)	Ratio 7/c	g/C 0.25	Delay	LOS	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound	Adj Sat Flow Rate (s)	Ratio 7/c	g/C 0.25	Delay	LOS	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound  Northbound	Adj Sat Flow Rate (s)  1770  1583	Ratio 7/c 0.21 0.34	g/C 0.25 0.25	Delay	LOS	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound  Northbound L 414	Adj Sat Flow Rate (s)  1770  1583	Ratio 7/c 0.21 0.34	g/C 0.25 0.25	Delay 30.0 31.3	LOS C	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound  Northbound	Adj Sat Flow Rate (s)  1770  1583	Ratio 7/c 0.21 0.34	g/C 0.25 0.25	Delay 30.0 31.3	LOS C	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound  Northbound L 414 T 2317	Adj Sat Flow Rate (s)  1770  1583	Ratio 7/c 0.21 0.34	g/C 0.25 0.25	Delay 30.0 31.3	LOS C	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound  Northbound L 414	Adj Sat Flow Rate (s)  1770  1583  1778  3564	Ratio 7/c 0.21 0.34 0.43 0.21	g/C 0.25 0.25 0.65 0.65	Delay 30.0 31.3	LOS C C B A	30.7	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound  Northbound L 414 T 2317  Southbound	Adj Sat Flow Rate (s)  1770  1583	Ratio 7/c 0.21 0.34	g/C 0.25 0.25	Delay 30.0 31.3	LOS C C B A	Delay	LOS	
	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound  Northbound L 414 T 2317  Southbound  TR 1544	Adj Sat Flow Rate (s)  1770  1583  1778 3564	Ratio 7/c 0.21 0.34 0.43 0.21	g/C 0.25 0.25 0.65 0.65	Delay 30.0 31.3 12.0 7.1	LOS C C C	30.7 8.4 23.3	LOS C	
))	Lane Group Grp Capacity  Eastbound L 443  R 396 Westbound  Northbound L 414 T 2317  Southbound  TR 1544	Adj Sat Flow Rate (s)  1770  1583  1778  3564	Ratio 7/c 0.21 0.34 0.43 0.21	g/C 0.25 0.25 0.65 0.65	Delay 30.0 31.3 12.0 7.1	LOS C C C	30.7 8.4 23.3	LOS C	

Inter.: SOUTHERLY SITE ACCESS & RT 9W

Area Type: All other areas

Agency: CORNWALL, NY

Jurisd:

Tate: JANUARY 2007 riod: 2010 BUILD PEAK PM roject ID: 173BDPM9

Year : SCENARIO 2

7TO 1000	10. 1.000			** ~	AATIME	OTT
E/W St:	SOUTHERLY	SITE ACCESS	N/s st:	ŲS	ROUTE	9W

E/W St: SOU	THERLI	SILE ACCES	5	31,7 -2						
		_sig		INTERSE	CTION S	UMMAR	Y	- 1-1-	1	
	East	tbound	Westbo		•	hboun		South L T	bound R	
••	L	r R I	L T	Ř	<b>L</b>	T	R - {	11 · · · 1		i
No. Lanes	1	0 1	0 (	0	1	-	0 [	0	2 0	ļ
LGConfig	i L	R I	•		L	T	· [		TR	ļ
Volume	159	228				122	}	48		ļ ,
Lane Width	•	12.0			112.0 1	.2.0	ı	12	.0	į
RTOR Vol	1	0			1		1		. 0	ı
Duration	1.00	Area T	ype: Al	l other	areas		<del>,,,,</del>			
				l Operat 4	ions	5	6	7	8	
Phase Comb	ination		3	4     NB	Left	A	A	•	J	
EB Left		A		IND	Thru	A	A			
Thru				l i	Right	41	**			
Right		A		1	Peds					
Peds				I SB	Left					
WB Left		. •	14	46	Thru		Α			
Thru				ļ			A			
Right				l 1	Right Peds		А			
Peds				1						
`™B Right				EB	Right					
B Right	•			WB	Right	10.0	30.0			
Green		45.0				3.0	3.0			
Yellow		3.0				2.0	2.0			
All Red		2.0						gth: 10	0.0	secs
		Interse	ction Pe	rformano	e Summa	-	20119			
<del></del>		Adj Sat	Rati		Lane (	Group	Appı	oach	- 1-	
- E E	ine coup	Flow Rate		. • –		-			_	
	oup pacity	(s)	v/c	g/C	Delay	LOS	Delay	LOS		
Grp Ca	ipacity			.,					<del></del>	
Eastbound	796	1770	0.22	0.45	16.9	В				
L 7	,	1770					17.7	В		
R 7	712	1583	0.35	0.45	18.2	В				
Westbound										
Mescodiia										
والمراجع المرا	a.									
Northbound		1778	0.71	0.45	26.5	C				
_	331 1604	3564	0.76	0.45	25.2	С	25.4	С		
T :	1604	JU 04	27.2							
Southbound	d									
TR	1040	3465	0.60	0.30	30.8	C	30.8	C		
II										
		ction Delay					_	LOS =	_	

~nalyst:

2006 EXISTING AM PEAK HOUR

yency/Co.:

ate Performed:

JANUARY 2007

Analysis Time Period: 2006 EXISTING AM PEAK HOUR

Intersection:

NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173EXAM10

East/West Street: NYS COUNTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

Major Street: Appro	Vehicle ach		tbound			Wes	tbound		
Movem			2	3		4	5 -	6	
	L		T	R	1	L	T	R	
Volume	18	1	170	2		7	92	34	
Peak-Hour Factor, PH			0.74	0.74		0.74	0.74	0.74	
Hourly Flow Rate, HF	-		229	2		9 .	124	45	
Percent Heavy Vehicl			***			2			
Median Type/Storage	Ur	divi	ded	•		/			••
RT Channelized?		0	1 (	)		0	1 (	)	
Lanes		LT	_	•		LT	R		
Configuration Tostream Signal?			No				No .		
)						,,,			
minor Street: Appro	ach	Nor	thbound	i			thbound		
Movem	ent 7		8	9	1	10	11	12	
	L		T	R	-	L	T	R	
Volume	2		3	21		30	5	40	
Peak Hour Factor, PH	F 0	.74	0.74	0.74		0.74	0.74	0.74	
Hourly Flow Rate, HE			4	28		40	.6	54	
Percent Heavy Vehicl	es 2		2	2		2	2	2	
Percent Grade (%)			0				Q		
Flared Approach: Ex	ists?/Sto	rage		No	/			No	/
Lanes		ō	1	0		0		0	
Configuration			LTR				LTR		

Approach Movement Lane Config	EB 1 LTR	WB 4   LTR	ngth, and Level of Northbound 7 8 9 LTR	Southbound   10 11 12   LTR
v (vph)	24	9	34	100
C(m) (vph)	1409	1337	719	645
v/c	0.02	0.01	0.05	0.16
95% queue length	0.05	0.02	0.15	0.55
Control Delay	7.6	7.7	10.3	11.6
	A	A	В	В
OS	A	**	10.3	11.6
pproach Delay Approach LOS			В	В

valyst:

2006 EXISTING PM PEAK HOUR

jency/Co.:

Date Performed:

JANUARY 2007

Analysis Time Period: 2006 EXISTING PM PEAK HOUR Intersection: NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173EXPM10

East/West Street: NYS COUNTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

	Vehic	le Volur	nes and	Adjust	me	nts	tbound		
Major Street:	Approach	East	tbound 2	3	ı	4	5	6	
-	Movement	1 L	T	R	İ	L	T	R	
Volume		7	110	3		10	142	16 0.74	
Peak-Hour Fact	or, PHF	0.74	0.74	0.74		0.74 13	191	21	
Hourly Flow Ra	ite, HFR	9	148	4		2			
Percent Heavy Median Type/St	Vehicles corage	2 Undivi	ded			/			
RT Channelized	l? ·	0	1 (	)		0 LT	1 'R	0	
Configuration Ypstream Signa	al?	LT	No				No		
<i></i>		Nor	thbound	i		Sou	ithbour		
Minor Street:	Approach Movement	7	8	9	1	10	11	12	
	Movemenc	L	T	R	1	L	T	R	
		4	2	16	· <del></del>	41	9	59	
Volume	han DHF	0.74	0.74	0.74		0.74	0.74	0.74	
Peak Hour Fac	ate HFR	5	2	21		55	12	79	
Hourly Flow Repercent Heavy	Vehicles	2	2	2		2	2	2	
Dammont Grade	(%)	Ctorage	0	No		/	U	. No	/
Flared Approa	ch: Exists://	0 0	1	0		0	1	0	
Lanes Configuration			LTR				LTR		
						- £ Corr			

Approach Movement Lane Config	Delay, EB 1 LTR	Queue Ler WB 4   LTR	ngth, and Level of Northbound 7 8 9 LTR	1 10 11 12 LTR	
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	9 1358 0.01 0.02 7.7 A	0.01	28 736 0.04 0.12 10.1 B 10.1 B	146 663 0.22 0.84 12.0 B 12.0	

`nalyst:

2010 NO-BUILD AM PEAK HOUR

jency/Co.:

Late Performed:

JANUARY 2007

Analysis Time Period: 2010 NO-BUILD AM PEAK HOUR NYS COUNTY ROUTE 32 & US RT 9W

Intersection:

Jurisdiction: Units: U. S. Customary

Analysis Year:

Project ID: 173NBAM10

East/West Street: NYS COUNTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

		le Volum	mes and	Adjust	meı	nts	tbound	<del></del>	_,
Major Street:	Approach		tbound	2		_	5	6	
. ,	Movement	1	2	3	1	4 L	T	Ř	
		L	T	R	ı	П	1	1,	
						8	104	45	<del></del>
Volume	·	29	192	2		•	0.74	0.74	
Peak-Hour Fact	or, PHF	0.74	0.74	0.74		0.74		60	
Hourly Flow Ra	te, HFR	39	259	2		10	140	<del></del>	
Percent Heavy	Vehicles	2				,2			
Median Type/St	orage	Undivi	ded			/			
RT Channelized	1?							•	
	••	0	1 0			0	•	) .	
Lanes		LT	R			LT			
Configuration	.12		No				No		
ျာstream Signa	1 <b>-</b>							<del></del>	
<u></u>	Approach	Nor	thbound			Sou	thbound		•
Minor Street:	Movement	7	8	9	1	10	11	12	
	Movemenc	Ĺ	T	R	-	L	T	R	
			_		•				
		2	3	23		32	5	46	
Volume	DUE.	0.74	0.74	0.74		0.74	0.74	0.74	
Peak Hour Fact	cor, Par	2	4	31		43	6	62	
Hourly Flow Ra	ate, Hrk	2	2	2		2	2	2	
Percent Heavy	Vehicles	2	0	-		_	0		
Percent Grade	(%)	a	U	No		,	-	No	/
Flared Approa	ch: Exists?/	storage	1 (	•	′	0	1	0	
Lanes		Ü		,		•	LTR	-	
Configuration			LTR				71 7 7 7		
_		•							

Approach Movement Lane Config	Delay, EB 1 LTR	Queue Ler WB 4   LTR	ngth, and Level of Northbound 7 8 9 LTR	Service Southbound 10 11 12 LTR
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	39 1372 0.03 0.09 7.7 A	0.01	37 680 0.05 0.17 10.6 B 10.6 B	111 588 0.19 0.69 12.5 B 12.5

`nalyst:

2010 NO-BUILD PM PEAK HOUR

gency/Co.:

ate Performed:

JANUARY 2007

Analysis Time Period: 2010 NO-BUILD PM PEAK HOUR

Intersection:

NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173NBPM10

East/West Street:

NYS COUNTY ROUTE 32

North/South Street:

US ROUTE 9W

Intersection Orientation: EW

	ehicle Volu	tbound	, Adjus		Wes	tbound		
Major Street: Approach	_	2	3	t	4	5	6	
Movement		T T	R	í	Ĺ	T	R	
	L	1	10	1	_	_		
	1.4	124	3		11	162	21	
Volume	14 0.74	0.74	0.74		0.74	0.74	0.74	
Peak-Hour Factor, PHF			4		14	218	28	
Hourly Flow Rate, HFR	18	167	4		2			
Percent Heavy Vehicles	2				1			
Median Type/Storage	Undivi	.ded			/			
RT Channelized?	_	_	^		0	1	0	
Lanes	0	_	0		_	_	O .	
Configuration	LI	ìR			LI			
ostream Signal?		No				ИО		
7.						1-1-1	<u> </u>	
minor Street: Approach	Non	thboun				thboun		
Movement	. 7	8	9	- [	10	11	12	
	L	T	R	1	L,	T	R	
	4	2	17		44	10	70	
Volume	0.74	0.74	0.74		0.74	0.74	0.74	
Peak Hour Factor, PHF			. 22		59	13	94	
Hourly Flow Rate, HFR	5	2	2		2	2	2	
Percent Heavy Vehicles	2	2	2		4	0	_	
Percent Grade (%)		0	Ma		/	·	No	1
Flared Approach: Exist	s?/Storage	_	No		0	1	0	•
Lanes	0	1	0		J	LTR	~	
Configuration		LTR	•			דדני		

Approach Movement Lane Config	_Delay, EB 1 LTR	Queue Le WB 4   LTR	ngth, and Level of Northbound 7 8 9 LTR	Service Southbound 10 11 12 LTR
v (vph) C(m) (vph) v/c 95% queue length Control Delay OS pproach Delay Approach LOS	18 1320 0.01 0.04 7.8 A	14 1406 0.01 0.03 7.6 A	29 691 0.04 0.13 10.4 B 10.4 B	166 619 0.27 1.08 12.9 B 12.9

/ \alyst:

2010 BUILD AM PEAK HOUR

ency/Co.:

Date Performed: JANUARY 2007

Analysis Time Period: 2010 BUILD AM PEAK HOUR

Intersection: NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDAM10

East/West Street: NYS COUNTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

	cte Aorn	mes and	Adjust	-1110	Wes	tbound		
Major Street: Approach		tbound	3	1	4	5	6	
Movement	1	2		1	Ţ.	Т	R	
	Г	T	R	,		•		
	·	000	2		8	104	45	
Jolume	29	202	0.74		0.74	0.74	0.74	
Peak-Hour Factor, PHF	0.74	0.74			10	140	60	
Hourly Flow Rate, HFR	39	272	2		2	140		
Percent Heavy Vehicles	2				, 4			
Median Type/Storage	Undivi	.ded			<i>I</i>			•
RT Channelized?			_		0	1	0	
Lanes	0	1	0		0~	_	U	
Configuration	$\Gamma J$	'R			LI			
Stream Signal?		No				ИО		
Stream Signar.								
Minor Street: Approach	Northbound			Southbound				
Minor Street: Approach Movement	7	8	9	1	10	11	12	
Movemente	L	T	R	ļ	L	T	R	
	_							
<u></u>	2	3	23		37	5	54	
Volume	0.74	0.74	0.74		0.74	0.74	0.74	
Peak Hour Factor, PHF	2	4	31		49	6	72	
Hourly Flow Rate, HFR	2	2	2		2	2	2	. •
Percent Heavy Vehicles	۷.	0	-			0		
Percent Grade (%)	/ Clt = ~~ ~ ~	•	No		/		No	/
Flared Approach: Exists?		1	0		0	1	0	
Lanes	0	-	V		•	LTR		
Configuration		LTR						

7ab	_Delay, EB	Queue Le WB	ngth, and Level of Northbound	Doucis	
Approach Movement Lane Config	1 LTR	4   LTR	7 8 9 LTR	10   11	1 12 FR
v (vph) C(m) (vph) v/c 95% queue length Control Delay OS Approach Delay	39 1372 0.03 0.09 7.7 A	10 1289 0.01 0.02 7.8 A	37 667 0.06 0.18 10.7 B 10.7	5: 0 0 1	27 85 .22 .82 2.9 B 2.9

~nalyst:

2010 BUILD PM PEAK HOUR

|ency/Co.:

\_dte Performed:

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Project ID: 173BDPM10

East/West Street: NYS COUNTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

Major Street:	Approach	cle Volu Eas	tbound			Wes	tbound	_	
major bereet.	Movement	1	2	3		4	5	6	
		L	T	R	İ	Ļ	T	R	
		14	137	3		11	162	21	<del></del>
Volume	an DUF	0.74	0.74	0.74		0.74	0.74	0.74	
Peak-Hour Fact	OI, FRE	18	185	4		14	218	28	
Hourly Flow Ra	re, nra	2				2			
Percent Heavy		Undivi	ded			1			
Median Type/St		OHOTAL	·ucu			,	÷		
RT Channelized	13	0	1	0		0	1	0	
Lanes		LI	_	~		LT	'R		•
Configuration	1.0	11	No.				No		
upstream Signa	113	٠	NO						
)	3a a a b	Nor	thboun	d		Sou	thboun	d	
rinor Street:	Approach	7	8	~ 9	1	10	11	12	
	Movement	I.	T	Ř	i	L	T	R	
		T.		••	1	_			
** - 1	<u>'</u>	4	2	17		53	10	84	
Volume	or DHF	0.74	0.74	0.74		0.74	0.74	0.74	
Peak Hour Fact	OT, THE	5	2	22		71	13	113	
Hourly Flow Ra	vehicles	2	2	2		2	2	2	
Percent Heavy	AGIITOTE2	_	0	,		•	0	•	
Percent Grade	(D) -b. Eviete?/	/Storage		No		/		No	/
Flared Approac	TII. EVIDOS:	0	1	0	•	0	1	0	
Lanes		J	LTR				LTR		
Configuration									

Approach Movement Lane Config	Delay, EB 1 LTR	Queue Le WB 4   LTR	ngth, a Noi 7	thbound 8 LTR	9		10	outhbound 11 LTR	i 12
v (vph) C(m) (vph) v/c 95% queue length Control Delay TOS pproach Delay Approach LOS	18 1320 0.01 0.04 7.8 A	14 1385 0.01 0.03 7.6 A		29 665. 0.04 0.14 10.7 B 10.7				197 612 0.32 1.39 13.6 B	

APPENDIX "D"

STANDARDS

## LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. The criteria are given in Exhibit 16-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 16-2

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	CONTROL DELAY PER VEHICLE (S/VEH)
A	≤10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

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

LEVEL OF SERVICE B describes operations with control delay greater than 10 and up to 20 seconds per vehicle (s/veh). 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.

LEVEL OF SERVICE C describes operations with control delay greater than 20 and up to 35 seconds per vehicle (s/veh). These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LEVEL OF SERVICE D describes operations with control delay greater than 35 and up to 55 seconds per vehicle (s/veh). 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 v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LEVEL OF SERVICE E describes operations with control delay greater than 55 and up to 80 seconds per vehicle (s/veh). This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.

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

### LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

The Level of Service (LOS) for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. Control delay is defined as the total elapsed time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. This total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to speed of vehicles in queue. Average control delay for any particular minor movement is a function of the capacity of the approach and the degree of saturation. The Level of Service Criteria are given in Exhibit 17-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 17-2 LEVEL OF SERVICE FOR CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	AVERAGE CONTROL DELAY (S/VEH)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

`nalyst:

2010 NO-BUILD PM PEAK HOUR

lency/Co.:

\_dte Performed:

JANUARY 2007

Analysis Time Period: 2010 NO-BUILD PM PEAK HOUR Intersection: NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173NBPM10

East/West Street: NYS COUNTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

	Vehi	cle Volu	mes and	Adjus	tme	nts			
Change 1	Approach	Eas	tbound	_		Wes	stbound	•	
	Movement	1	2	3	1	4	5	6	
Ľ	10 vement	Ĺ	Ψ̈	R	- i	L	T	R	
•		ы	-		•				
		14	124	3		11	162	21	
/olume	. DUP	0.74	0.74	0.74		0.74	0.74	0.74	
Peak-Hour Factor	c, enr	18	167	4		14	218	28	
fourly Flow Rate	e, HEK	2	107			2			
Percent Heavy Ve	enicles		امداد			,			
Median Type/Sto	rage	Undivi	ueu			′			
RT Channelized?		•				0	1	0	
Lanes		0	1 0			-	-	J	
Configuration		LT				. نيل	rr No		
'pstream Signal'	?		No				No		
7							111	_1	
Minor Street: Approach		Nor	thbound				uthboun		
]	Movement	7	8	9	- 1	10	11	12	
		L	T	R	- 1	${f L}$	T	R	
						4.4			
Volume		4	2	17_		44	10	70	
Peak Hour Facto	r, PHF	0.74	0.74	0.74		0.74	0.74	0.74	4
Hourly Flow Rat	e. HFR	5	2	22		59	13	94	
Percent Heavy V	ehicles	2	2	2		2	2 .	2	
Percent Grade (	&)		0				0		
		/Storage		No	/	<i>'</i>		No	/
ロコー・・・ イ カベややぐってい	· PVTPCD	0	1 (	)		0	1	0	
Flared Approach							LTR		
Flared Approacn Lanes Configuration		ŭ	LTR				אירר		

Approach	_Delay, EB	Queue Le	ength, N	and Leve orthbound	i c	Ser	50	outhboun	d 12
Movement Lane Config	1 LTR	4   LTR	7	8 LTR	9	1	10	11 LTR	
v (vph) C(m) (vph) v/c 95% queue length Control Delay OS pproach Delay Approach LOS	18 1320 0.01 0.04 7.8 A	0.01		29 691 0.04 0.13 10.4 B				166 619 0.27 1.08 12.9 B 12.9	

valyst:

2010 BUILD AM PEAK HOUR

ency/Co.:

Date Performed: JANUARY 2007

Analysis Time Period: 2010 BUILD AM PEAK HOUR

Intersection: NYS COUNTY ROUTE 32 & US RT 9W

Jurisdiction:

Units: U. S. Customary

Analysis Year:

Project ID: 173BDAM10

East/West Street: NYS COUNTY ROUTE 32

North/South Street: US ROUTE 9W

Intersection Orientation: EW

		le Volu	mes and	l Adjust	tme	nts	tbound		<u> </u>
Major Street: Ap Mo	proach vement	Eas 1 L	tbound 2 T	3 R	 	4 L	5 T	6 R	
Volume Peak-Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Median Type/Storage	HFR nicles	29 0.74 39 2 Undivi	202 0.74 272  ded	2 0.74 2		8 0.74 10 2	104 0.74 140	45 0.74 60 	·
RT Channelized? Lanes Configuration pstream Signal?		O LT	_	0		O LT	No	0	
Minor Street: Ap	oproach ovement	Nor 7 L	thboun 8 T	d 9 R		Sou 10 L	thbour 11 T	12 R	
Volume Peak Hour Factor Hourly Flow Rate Percent Heavy Ve Percent Grade (% Flared Approach;	, HFR hicles )		3 0.74 4 2 0	23 0.74 31 2 No		37 0.74 49 2	5 0.74 6 2 0	54 0.74 72 2 No	/
Lanes Configuration			1 LTR				LTR		

Approach Movement Lane Config	_Delay, EB 1 LTR	Queue Le WB 4   LTR	ngth, and Level of Northbound 7 8 9 LTR	Service Southbound 10 11 12 LTR
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	39 1372 0.03 0.09 7.7 A	10 1289 0.01 0.02 7.8 A	37 667 0.06 0.18 10.7 B 10.7 B	127 585 0.22 0.82 12.9 B 12.9

NYS COUNTY ROUTE 32 & US RT 9W

Analyst:

2010 BUILD PM PEAK HOUR

gency/Co.:

ite Performed:

JANUARY 2007

Analysis Time Period: 2010 BUILD PM PEAK HOUR

Intersection: Jurisdiction:

Units: U. S. Customary

Analysis Year:

Movement

v (vph)

v/c

ZO.T

Lane Config

C(m) (vph)

95% queue length

bproach Delay

Control Delay

Approach LOS

Project ID: 173BDPM10

East/West Street:

NYS COUNTY ROUTE 32

North/South Street:

US ROUTE 9W

LTR

18

1320

0.01

0.04

7.8

Α

1

4

14

1385

0.01

0.03

7.6

Α

LTR

7 . .

8 9

LTR

29

665

0.04

0.14

10.7

В

10.7

В

Intersection Orientation: EW

Study period (hrs): 0.25

10

11

LTR

197

612

0.32

1.39

13.6

13.6

В

₿

12

Major Street: Approach		stbound	d Adjus		Wes	stbound	l	
Movement	1	2	3	- 1	4	5	6	
	L	T	R	I	L	T	R	
Volume	14	137	3		11	162	21	<del></del>
Peak-Hour Factor, PHF	0.74	0.74	0.74		0.74	0.74	0.74	
ourly Flow Rate, HFR	18	. 185	4 .		14	218	28	
ercent Heavy Vehicles	2		'		2		<del></del>	
edian Type/Storage	Undiv	ided	٠.		/			
T Channelized?					•	•	•	
anes	-	· <del>-</del>	0		0	1	0	
onfiguration	L'	ľR			L'	ΓR		
pstream Signal?		No	-			No		
) Annuagh	No	rthboun	d		Soi	uthbour	nd	
inor Street: Approach	7	8	9	1	10	11	12	
Movement	L L	T	R	İ	L	T	R	
		2	17		53	10	84	<del></del>
olume	4	_			0.74	0.74	0.74	
eak Hour Factor, PHF	0.74	0.74				13	113	
ourly Flow Rate, HFR	5	2	22		71		2	
ercent Heavy Vehicles	2	2	2		2	2	۷ .	
ercent Grade (%)		0				0		,
lared Approach: Exists?	/Storage		No	/			No	/
• •	0	1	0		0	1	0	
anes		LTR				LTR		

APPENDIX "D"
STANDARDS

#### LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period. The criteria are given in Exhibit 16-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

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LEVEL OF SERVICE (LOS)	CONTROL DELAY PER VEHICLE (S/VEH)
A	≤10
j B	>10-20
l c	>20-35
D	>35-55
E	>55-80
F	>80

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

LEVEL OF SERVICE B describes operations with control delay greater than 10 and up to 20 seconds per vehicle (s/veh). 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.

LEVEL OF SERVICE C describes operations with control delay greater than 20 and up to 35 seconds per vehicle (s/veh). These higher delays may result from only fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

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#### LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

The Level of Service (LOS) for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. Control delay is defined as the total elapsed time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. This total elapsed time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to speed of vehicles in queue. Average control delay for any particular minor movement is a function of the capacity of the approach and the degree of saturation. The Level of Service Criteria are given in Exhibit 17-2 from the 2000 Highway Capacity Manual published by the Transportation Research Board.

EXHIBIT 17-2

LEVEL OF SERVICE FOR CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE (LOS)	AVERAGE CONTROL DELAY (S/VEH)
· A	0-10
В	>10-15
С	>15-25
D	>25-35
E	>35-50
F	>50

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.