APPENDIX O

TRAFFIC IMPACT ANALYSIS

Engineers Planners Surveyors Landscape Architects Environmental Scientists

MASER CONSULTING P. A.

Traffic Impact Study

Bluepoint Conservation Development District
Hudson Valley Wine Village

U.S. Route 9W
Town of Lloyd, New York

Revision Date: December 19, 2013

Prepared For

Gotham Enterprises
17 E. 74th Street
New York, NY 10021

Prepared By

Maser Consulting P.A.
11 Bradhurst Avenue
Hawthorne, NY 10532
914.347.7500

Philip J. Grealy, Ph.D., P.E., Principal Associate
License No. 59858

MC Project No. 12100041A

www.maserconsulting.com

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SECTION I
INTRODUCTION

This report has been prepared to evaluate the potential traffic impacts on the surrounding roadway network associated with the proposed Hudson Valley Wine Village Development (the Project), which calls for the redevelopment of the Hudson Valley Winery property. The following sections provide a description of the Project and the tasks undertaken in completing our evaluation based on the requirements of the Scoping Document.

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

The Hudson Valley Wine Village Development is a mixed use development which is proposed to consist of approximately 913 residential dwelling units, 103 room hotel/conference center and restaurant space, 50,000 S.F. of new commercial space (office/retail) and 450,000 S.F. of light industrial space and 51,727 of adaptive reuse of the existing winery structure for commercial space. An alternate development plan referred to as the Route 9W Commercial Alternative Plan, which replaces a portion of the residential units with additional commercial space, is also evaluated as presented in Section II–J. The Project will be constructed on property located on the east side of U.S. Route 9W generally south of Bluepoint Road in the Town of Lloyd, New York. As shown on Figure No. 1, access to the site will be provided via two connections to U.S. Route 9W. The southerly location will connect directly to U.S. Route 9W, while the northerly one will be via a reconstruction of a portion of Sam Williams Road creating a new and improved connection to U.S.

Route 9W opposite the recently constructed Paladino Drive. This new access road would also be made available to the existing residences which currently have access to Sam Williams Road. An emergency only connection to Bluepoint Road is also expected to be provided. The Project will be developed in stages over a 10 to 20 year period. A Design Year of 2021 has been utilized in completing the traffic analysis including the various commercial uses and initial residential (440± dwelling units) development and a Design Year of 2031 for the full project build out including the remaining residential units.

B. SCOPE OF STUDY

This study was prepared to evaluate the potential traffic impacts associated with the proposed development on the surrounding roadway network. Traffic counts collected by representatives of Maser Consulting, P.A. (John Collins Engineers, P.C.) were utilized to establish the Existing Traffic Volumes for the study area intersections as required in the Scoping Document for the Project.

The Existing Traffic Volumes were then projected to a Year Design Years to take into account expected increases in traffic due to normal background traffic growth and to account for other potential development traffic in the area.

Estimates of the traffic to be generated by the Hudson Valley Wine Village Development were then made based on information published by the Institute of Transportation Engineers. These volumes were added to the No-Build Traffic Volumes to obtain the Design Year Build Traffic Volumes.

Based on the procedures contained in the *2010 Highway Capacity Manual*, the traffic volumes were then compared to roadway capacities to determine existing and future Levels of Service and operating conditions. Recommendations for improvements were then made where necessary.

SECTION II

TRAFFIC IMPACT ANALYSIS FOR EXISTING AND FUTURE TRAFFIC CONDITIONS

A. DESCRIPTION OF EXISTING ROADWAYS/PUBLIC TRANSPORTATION SERVICES

(Figure No. 1 and Appendix "F")

As shown on Figure No. 1, the Hudson Valley Wine Village Development project will be served by several area roadways including U.S. Route 9W, Chapel Hill Road (C.R. 11) and Bluepoint Road. The following is a brief description of each of these roadways. Copies of the capacity analysis which include lane widths, number of lanes, and traffic control are contained in Appendix "C" of this study for each of the individual intersections studied.

1. U.S. Route 9W

U.S. Route 9W is a major arterial throughout Ulster County that generally traverses in a north/south direction. In the vicinity of the site, the roadway generally consists of one lane in each direction with paved shoulders. North of Macks Lane, the roadway has two travel lanes in each direction and separate turning movement lanes at several intersections. The roadway has a posted speed limit of 55 MPH south of Marie Road and a posted speed limit of 40 MPH to the north. The pavement along this section of U.S. Route 9W is generally in fair to good condition. New York State Department of Transportation (NYSDOT) has completed widening and repaving of the U.S. Route 9W at the Macks Lane/Chapel Hill Road intersection in the past year or so.

2. Chapel Hill Road (C.R. 11)

Chapel Hill Road is a County road which originates at a four-way signalized intersection with U.S. Route 9W and aligns with Macks Lane. Chapel Hill Road travels in an east/west direction as a two lane road. Chapel Hill Road has a posted speed limit of 40 MPH. The pavement is generally in good condition.

3. Bluepoint Road

Bluepoint Road is a Town road which originates at an unsignalized "T" intersection with U.S. Route 9W. Bluepoint Road travels in an easterly direction and is a dead-end street. Bluepoint Road will provide an emergency vehicle connection to the site. In the immediate vicinity of the site the roadway consists of one lane per direction.

PUBLIC TRANSPORTATION SERVICES

Public transportation services in the area include the Ulster County Area Transit (UCAT) System which operates along the U.S. Route 9W corridor. UCAT Route G (Kingston – Marlboro) runs along the Route 9W site frontage. Bus service is also available from Bridgeview Plaza to the Poughkeepsie Train Station. Metro-North (MTA) train services are available at the Poughkeepsie Station via the Hudson River Line which is located approximately 4.5 miles east of the site (see further discussions on Page 21). Copies of the various bus routes and train schedules are presented in Appendix "F".

Note that the Poughkeepsie Train Service (Metro-North) is available weekdays with all day service. Note that during the two hour period between 6AM and 8AM, a total of 8 trains with headways between 15 and 30 minutes operate southbound and the total trip time is one hour and half to one hour and 45 minutes between Poughkeepsie and Grand Central Station. Also, note that during the period between 4PM and 7PM there are a total of 7 trains northbound with headways between 20 and 30 minutes and the total trip time is one hour and half to one hour and 45 minutes between Grand Central Station and Poughkeepsie. Copies of the complete train schedules are contained in Appendix "F".

B. YEAR 2011 EXISTING TRAFFIC VOLUMES (Figures No. 2 and 3)

Turning movement traffic counts were conducted by representatives of Maser Consulting P.A. (formerly John Collins Engineers, P.C.) during May 11th, 12th, 17th, and 18th of 2011 as well as September 21st and 22nd of 2011 in the vicinity of the site to identify current traffic conditions. These data were supplemented with traffic counts obtained from the NYSDOT as well as previous count data collected by our office for the area roadways. Together this information was utilized to establish the Year 2011 Existing Traffic Volumes for the Weekday Peak AM and Weekday Peak PM at the intersections listed below as required in the Scoping Document. Note that the AM School Peak generally coincides with the Weekday Peak AM Highway Hour while the afternoon School Peak occurs prior to the PM Peak Highway Hour of traffic on the area roadways.

- U.S. Route 9W and Chapel Hill Road (C.R. 11)/Macks Lane
- U.S. Route 9W and Bluepoint Road
- U.S. Route 9W and Sam Williams Road

- U.S. Route 9W and Sam Williams Road/Mackey Road
- U.S. Route 9W and Argent Drive
- U.S. Route 9W and Mayer Drive
- U.S. Route 9W and Tillson Avenue/Haviland Road
- Vineyard Avenue and Chapel Hill Road

In addition, the ramps to and from U.S. Route 9W to the Mid-Hudson Bridge were also evaluated as discussed in Section I.

The resulting Year 2011 Existing Traffic Volumes for each of the study intersections are shown on Figures No. 2 and 3 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

C. ACCIDENT DATA (Table A and Appendix "E")

All available accident data were obtained from NYSDOT for the last three (3) year period. The data is summarized in Table A and copies of the data are contained in Appendix "E."

D. FUTURE NO-BUILD CONDITIONS TRAFFIC VOLUMES (Figures No. 4, 4a, 5 and 5a)

The Year 2011 Existing Traffic Volumes were increased by a growth factor of 0.5% per year to the 2021 and 2031 Design Years to account for other traffic growth in the area. In addition, traffic volumes for the proposed Mountainside Woods development were also accounted for in the No-Build volumes. The resulting Year No-Build Traffic Volumes are shown on Figures No. 4, 4a, 5 and 5a for each of the Weekday Peak AM and Weekday Peak PM Hours, respectively.

E. SITE GENERATED TRAFFIC VOLUMES (Table No. 1)

Estimates of the amount of traffic to be generated by the Project during each of the peak hours were developed based on data published by the Institute of Transportation Engineers (ITE) as contained in their publication entitled, Trip Generation, 9th Edition, 2012. Table No. 1 provides the Hourly Trip Generation Rates and Anticipated Site Generated Traffic Volumes for each of the Peak Hours for the various components of the Project. Note that for the retail portion of the site, a trip credit of 25% is indicated to account for pass-by and diverted link trips and a 10% internal trip credit to account for the mixed use nature of the project. See also Section J for discussion of the U.S. Route 9W Commercial Alternative.

F. ARRIVAL/DEPARTURE DISTRIBUTION (Figures No. 6 and 7)

An arrival and departure distribution was established based on a review of the Existing Traffic Volumes and in consideration of the locations of the nearby major highways in order to assign the site generated traffic volumes to the roadway network. The resulting Arrival and Departure Distributions are shown on Figures No. 6 and 7, respectively.

G. FUTURE BUILD CONDITIONS TRAFFIC VOLUMES

(Figures No. 8, 8a, 9, 9a, 10, 10a, 11 and 11a)

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 are shown on Figures No. 8 and 9 for each of the Peak Hours for the partially completed development (Year 2021) and Figures No. 8a and 9a for the full development (Year 2031). These Site Generated Traffic Volumes were added to the specific No-Build Traffic Volumes resulting in the Year 2021 and 2031 Build Traffic Volumes which are shown on Figures No. 10, 10a, 11 and 11a for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

H. 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:

- Signalized Intersection Capacity Analysis

  The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the *2010 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.

- 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 *2010 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.

I. RESULTS OF TRAFFIC ANALYSIS (Tables No. 2 and 2A)

Capacity analyses were performed at each of the study area intersections utilizing the procedures described above to evaluate current and future operating conditions. Summarized below is a brief

description of the exiting geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each location.

Table No. 2 also summarizes the results of the capacity analysis (Levels of Service and delays) for the Year 2011 Existing, No-Build and Build Conditions for both 2021 and 2031. Copies of the capacity analysis for each of the individual intersections are contained in Appendix "C" of this report.

1. U.S. Route 9W and Chapel Hill Road (C.R. 11)/Macks Lane

Chapel Hill Road/Macks Lane intersects with U.S. Route 9W at a four-way signalized intersection. Chapel Hill Road consists of two lanes formed by a single left turn lane and one shared left/through/right turn lane. The westbound Macks Lane is a single lane approach. U.S. Route 9W northbound consists of two through lanes with a shared right and a separate left turn lane. U.S. Route 9W southbound approach consists of a through lane and a separate left turn lane.

Capacity analyses were conducted at this intersection utilizing the 2011 Existing Traffic Volumes. The results indicate that the intersection currently operates at an overall Level of Service "C" during the AM and PM Peak hours. Capacity analysis conducted using the 2021 No-Build operates at an overall Level of Service "C" during the AM and "D" during the PM Peak Hours. Note that the Level of Service "D" is considered acceptable for peak hour

conditions and represents conditions with average vehicle delays of 35 to 55 seconds for signalized intersections.

The capacity analysis conducted using the 2021 Build condition at an overall Level of Service "F" during the AM and PM Peak Hours. To improve this condition and to obtain an overall Level of Service "D" or better, signal phasing and timing improvements will be required. Also, Macks Lane would have to be widened to provide two lanes approaching U.S. Route 9W. Also, to accommodate growth and traffic conditions for the Year 2031, an additional southbound through lane may be required on Route 9W.

2. U.S. Route 9W and Bluepoint Road

Bluepoint Road intersects U.S. Route 9W to form an unsignalized "Stop" controlled "T" shaped intersection. U.S. Route 9W and Bluepoint Road consist of one lane in each direction. Bluepoint Road has varying vertical and horizontal alignment changes.

Capacity analysis conducted utilizing the Year 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "B" during the AM Peak Hour and PM Peak Hour.

Capacity analysis conducted utilizing the No-Build Traffic Volumes indicates that the intersection will operate at an overall Level of Service "B" during the AM Peak Hour and a "C" during the PM Peak Hour.

Under the 2021 and 2031 Build Traffic Volumes conditions it can be expected that the intersection will operate at an overall Level of Service "C" during AM and PM Peak Hours.

3. U.S. Route 9W and Sam Williams Road (North Leg)

Sam Williams Road intersects with U.S. Route 9W to form an unsignalized, "T" shaped intersection. The intersection approaches currently consists of one lane.

Capacity analysis conducted utilizing the Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "C" or better during each of the Peak Hours. Reanalyzing the intersection with the 2021 No-Build Traffic Volumes will continue to operate at a Level of Service "C" during each of the peak hours.

The analysis conducted with the 2021 Build Traffic Volumes indicates that the intersection will experience a Level of Service "C" during the AM and PM Peak Hours. Under 2031 conditions this will be reduced to a Level of Service "D". These levels will be improved as a result of the proposed access configuration, which will provide turning lanes and signalization.

4. U.S. Route 9W and Proposed Site Access Connections

The site will have two access locations, which will both provide access from U.S. Route 9W to the site. The north access driveway will intersect with U.S. Route 9W by reconstructing

and realigning a portion of Sam Williams Road to form a full movement intersection with U.S. Route 9W aligned opposite Paladino Drive. Note that as part of this new roadway connection, the existing residences along Sam Williams Road will be provided the opportunity to access the new road. The south access driveway is approximately 2,000 feet south of Sam Williams Road on U.S. Route 9W. Both intersection connections should have the same general design. When constructed, the northbound approach should consist of a separate through lane and a separate right turn lane. The southbound approach consists of a separate through lane and separate left turn lanes. The site's westbound approach should consist of a separate left and separate right turn lane. A traffic signal should be installed at both locations.

Capacity analysis conducted utilizing the 2021 and 2031 Build Traffic Volumes indicates that the intersection is currently operating at an overall Level of Service "C" during the AM Peak Hour and PM Peak Hour.

5. U.S. Route 9W and Sam Williams Road/Mackey Road

Sam Williams Road/Mackey Road intersects with U.S. Route 9W forming an offset full movement unsignalized intersection. All approaches consist of one lane approach per direction. The construction of a separate left turn lane on U.S. Route 9W would improve the intersection function.

The capacity analysis conducted at this location utilizing the 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "E" or better during each of the peak hours.

The capacity analysis conducted utilizing the 2021 and 2031 No-Build Traffic Volumes indicates that the intersection will operate at a Level of Service "E" during the AM and PM Peak Hours for traffic exiting the side road. It should also be noted that with the signalization of the proposed site access connections to U.S. Route 9W, additional gaps in the traffic steam will be provided which will allow left turn vehicles to exit more efficiently.

Capacity analysis conducted utilizing the 2021 and 2031 Build Traffic Volumes indicates that as a result of the improvements at the north access a Level of Service "C" will be experienced.

6. U.S. Route 9W and Argent Drive

Argent Drive intersects with U.S. Route 9W at a signalized "T" shaped intersection. Argent Drive consists of two left turns and a separate right turn lane. U.S. Route 9W northbound consists of two through lanes and a channelized right turn lane. The southbound approach has a separate left turn lane and two through lanes.

The capacity analysis conducted utilizing the 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "C" during each of the peak hours.

The capacity analysis conducted utilizing the 2021 No-Build Traffic Volumes indicates that the intersection will continue to operate at an overall Level of Service "C" during the AM and PM Peak Hours. The analysis of the Build scenario with the 2021 and 2031 Build Traffic Volumes indicates that signal timing improvements will be required to maintain an overall Level of Service "C" or better.

7. U.S. Route 9W and Mayer Drive

Mayer Drive intersects U.S. Route 9W at an unsignalized, "T" shaped intersection. Mayer Drive has a shared left/right lane. U.S. Route 9W northbound consists of two through lanes with a shared left turn. U.S. Route 9W southbound consists of two through lanes and a shared right turn.

The capacity analysis conducted utilizing the 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "C" or better during each of the peak hours. The Level of Service will remain the same for the No-Build Scenario.

The capacity analysis utilizing the 2021 and 2031 Build Traffic Volumes indicates that the intersection will continue to operate at a Level of Service "C" during the AM Peak Hour and a Level of Service of "D" during the PM Peak Hour for traffic exiting from Mayer Drive.

8. U.S. Route 9W and Tillson Avenue/Haviland Road

Tillson Avenue/Haviland Road intersects U.S. Route 9W at a four-way signalized intersection. Tillson Avenue/Haviland Road both consist of two lanes; a left/through lane and a separate right turn lane. U.S. Route 9W northbound and southbound both consist of a separate left turn lane and two through lanes with a shared right turn lane.

Capacity analysis conducted utilizing the Year 2011 Existing Traffic Volumes indicates that this intersection is currently operating at an overall Level of Service "C" during the AM Peak Hour and PM Peak Hour.

The analysis of the 2021 and 2031 No-Build and Build Traffic Volumes indicates that the intersection will continue to operate at the same overall Level of Service "C" during the AM and PM Peak Hours.

9. Vineyard Avenue and Chapel Hill Road

Chapel Hill Road intersects with Vineyard Avenue at a "Stop" sign controlled intersection. All approaches consist of a single lane. The capacity analysis indicates that traffic exiting

Chapel Hill Road turning left at the intersection currently operates at a Level of Service "F" during the PM Peak Hour.

The capacity analysis for the 2021 No-Build condition indicates Levels of Service "F" for this movement. In order to improve this, the installation of a traffic signal would be required. With signalization, a Level of Service "C" or better will be experienced during peak hours.

The analyses were recomputed using the 2021 and 2031 Build Traffic Volumes assuming signalization. The results indicate Levels of Service similar to the No-Build condition will be experienced.

10. U.S. Route 9W and Ramps to Mid-Hudson Bridge

Access to and from U.S. Route 9W to the Mid-Hudson Bridge is provided via a directional interchange connection. Traffic arriving to the Project from the Mid-Hudson Bridge will traverse via the loop ramp connection to U.S. Route 9W southbound while traffic leaving the Project and destined to the bridge will exit from U.S. Route 9W as a right turn movement onto a ramp traveling toward the bridge. See Appendix "A" for the volumes at each of these locations.

J. CONSIDERATION OF POTENTIAL ALTERNATE DEVELOPMENT PLAN (U.S. ROUTE 9W COMMERCIAL ALTERNATIVE PLAN – SEE APPENDIX G)

The Project calls for approximately 913 total residential dwelling units. An alternative development, herein referred to as the U.S. Route 9W Commercial Alternative Plan, replaces a portion of the residential development with additional commercial space, reducing the residential total of 847 units and increasing the new commercial space to 103, 105 S.F. Table No. 1A in Appendix "G" shows the change of this residential component to additional retail/commercial space. This will result in some additional peak hour trips as can be seen in Table 1A. The effect of these additional trips was evaluated at the intersection of Sam Williams Road and U.S. Route 9W as well as the U.S. Route 9W southerly access was found to be able to be accommodated with the same level of improvements, i.e., turning lanes and signalization as was identified for the Project. There would also be some additional trips experienced at the other intersections along U.S. Route 9W but the net difference in trips are expected to be minimal changes from the number of trips analyzed for the Project at these other locations. As presented in Appendix "G" each location was analyzed and the results summarized in Table No. 2B, which indicates that the results are similar to those of the Proposed Project.

K. SUMMARY OF RECOMMENDED IMPROVEMENTS

Based on the analysis contained herein, the Project is expected to be completed over a 10 to 20 year period and the following is a summary of improvements recommended to accommodate future traffic conditions. Note that the access related improvements including provision of turning lanes and signalization will be undertaken by the Applicant. Other traffic signal timing improvements which are identified will also be coordinated by the Applicant with the NYSDOT as part of the Highway Work Permit process.

1. Based on the analysis, the provision of left and right turn lanes at the two Project entrance connections to U.S. Route 9W will be required during the early phases of development to accommodate turning movements to and from U.S. Route 9W. In addition, prior to the completion of the 2021 design period, signalization of the south access connection will also be required. The evaluation of the full build out indicates that the northerly access via the reconstructed Sam Williams Road connection to Route 9W opposite Paladino Drive will also have to be signalized. Other off-site intersections will require the improvements as previously discussed above in Section I.

2. The sight distances at the proposed access connections to U.S. Route 9W are shown on Table SD-1. The distances shown also include the improvements and are compared to the American Association of State Highway and Transportation Officials (AASHTO)

intersection sight distances for a 55 MPH roadway. Note that with the completion of the improvements the required AASHTO sight distances will be obtained.

3. Since the development will be completed in phases, it will be important to provide emergency access to the site. It is anticipated that the development will commence on the southerly most parcel and will proceed in a northerly direction. The construction of a spine road connecting to either the existing Bluepoint Road or to Sam Williams Road should be completed to provide emergency access once any significant development occurs or the access road extends more than 1500± feet.

4. It is recommended that a Construction Management Plan be developed as well a Maintenance and Protection of Traffic Plan during the construction of the access connections to U.S. Route 9W. This will be completed by the Applicant and coordinated with New York State Department of Transportation as part of the Highway Work Permit process. Relative to the on-site Construction Management Plan, it would be beneficial to schedule construction deliveries outside of peak hours, i.e., morning and afternoon peak hours. Also, construction activities should be coordinated such that construction workers would arrive prior to the typical morning peak hour and depart the site before the afternoon peak hour of the adjacent roadway system. This will lessen any impact on adjacent intersections during the construction period. It is anticipated that the construction of the Project will be completed over approximately 20 year period, therefore, this type of construction management is important to minimize any impacts on the surrounding roadway system.

5. Bus service to the Poughkeepsie Train Station is available at Bridgeview Plaza north of the Project site. UCAT Bus Route G provides service along Route 9W between Marlboro and Kingston. Consideration of providing a shuttle service for residents from the Project to Bridgeview Plaza to access this service or eventually extending service to the Project site would help reduce the peak hour trip generation of the Project.

6. At the intersection of Chapel Hill Road and Vineyard Avenue, signalization will be required in the future even without the Project as a result of other traffic growth in the area.

7. The offsite roadway improvements including turn lanes and signalization will have to be coordinated with the NYSDOT as part of the Highway Work Permit process.

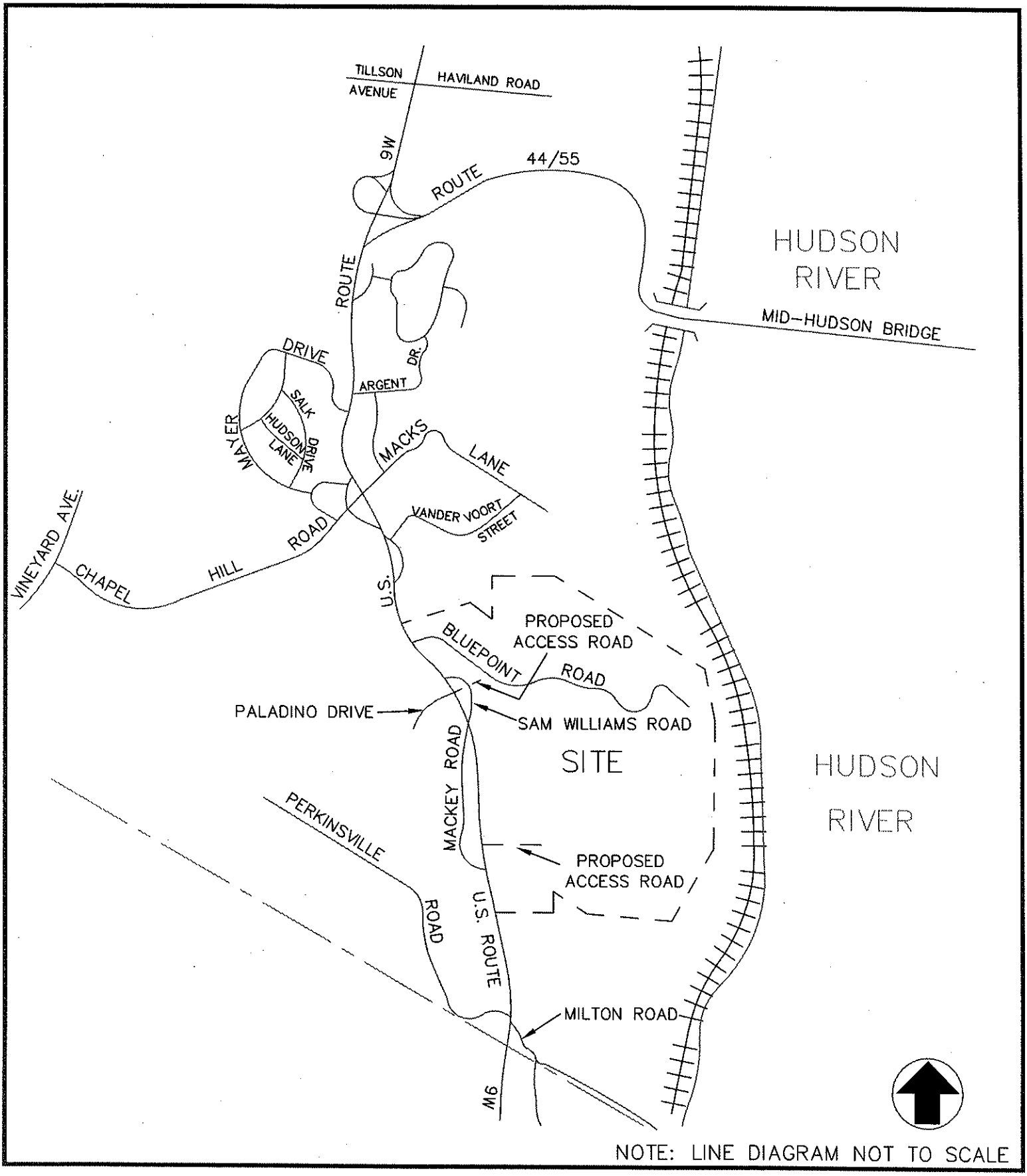
8. Additional improvements will be necessary at the intersection of U.S. Route 9W and Macks Lane to accommodate future traffic growth. These improvements would include signal timing/phasing improvements as well as two approach lanes on U.S. Route 9W. An additional southbound through lane on U.S. Route 9W may also be necessary based on future background traffic increases. These type of potential improvements would be part of regional conditions and would be expected to be completed in the future if and when required. Since they are not specific to the proposed development, other than the signal timing improvements, these are not proposed by the Applicant.

L. SUMMARY AND CONCLUSION

As summarized in this report, with the completion of the recommended access and signal improvements, the traffic generated by the Hudson Valley Wine Village Development can be accommodated on the roadway system in the vicinity of the site at acceptable Levels of Service. It is expected that the Project will be developed in stages and the access connections and improvements should be built to accommodate this accordingly.

APPENDIX "A"

FIGURES



HUDSON VALLEY WINERY REDEVELOPMENT

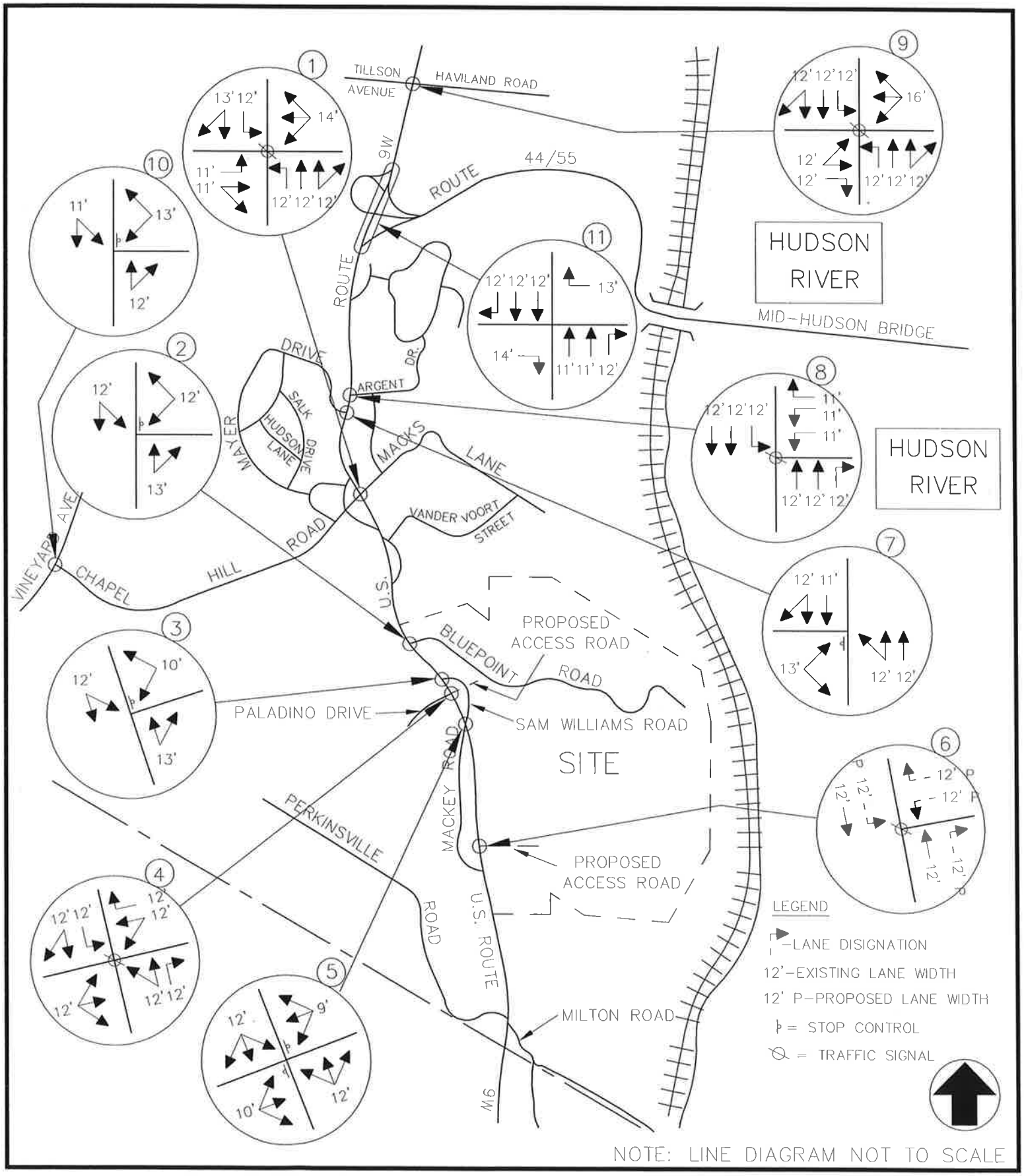
LLOYD, NEW YORK

SITE LOCATION MAP

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

PROJECT NO. 1711 DATE: OCTOBER 2012

FIG. NO. 1

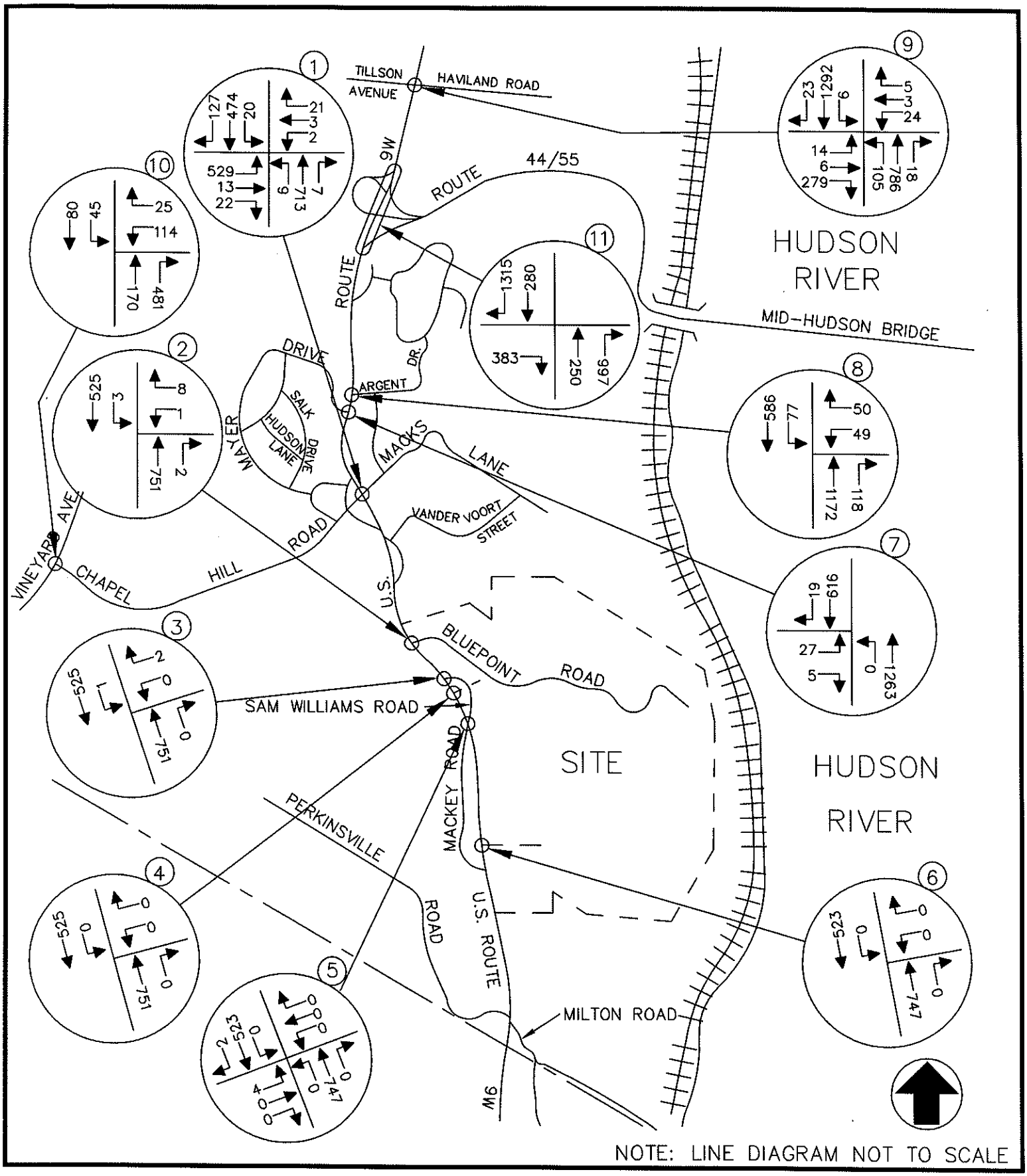


HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

INTERSECTION GEOMETRY & TRAFFIC CONTROL

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

PROJECT NO. 1711 DATE: DECEMBER 2013 FIG. NO. 1A

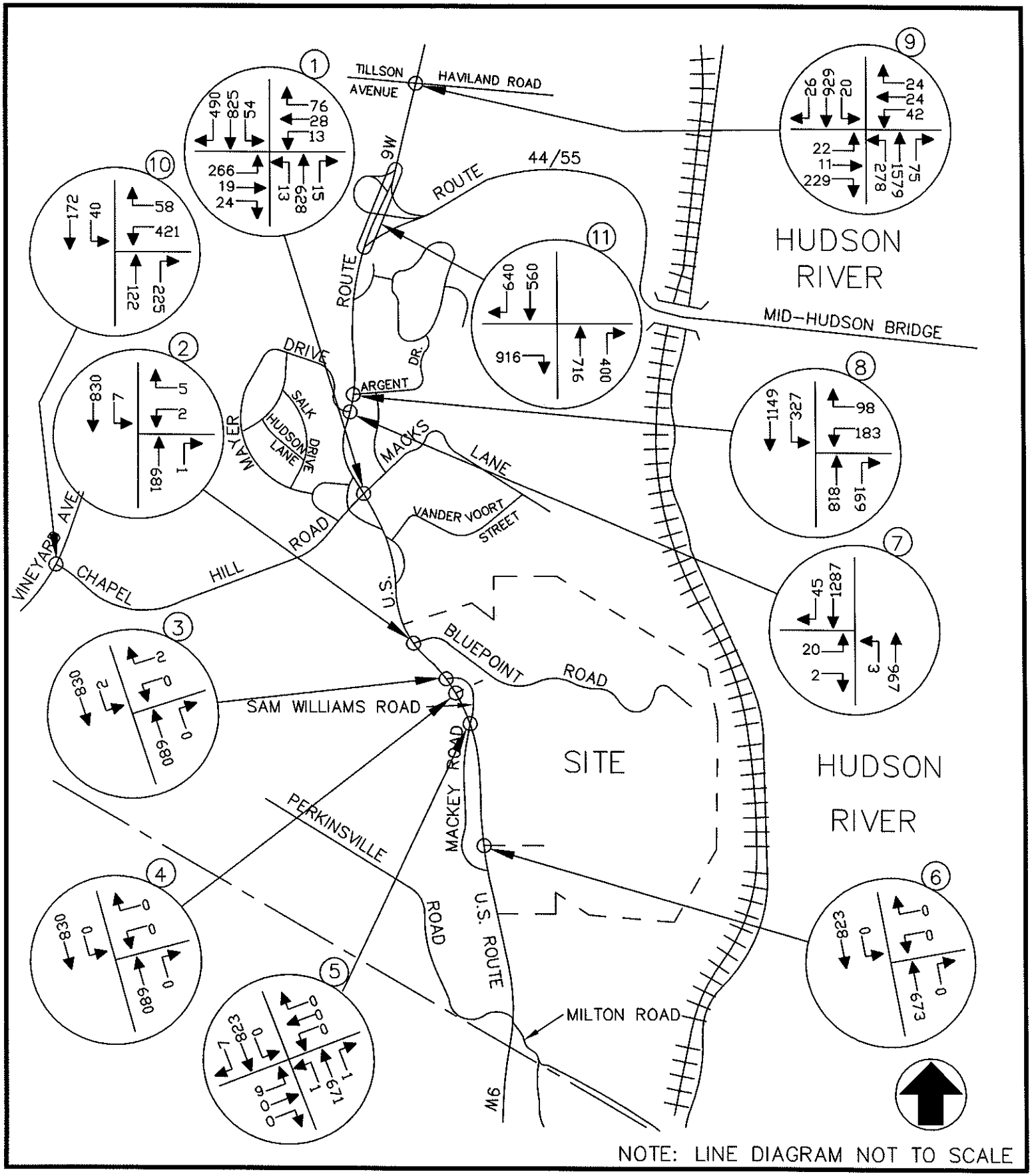


HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

2011 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

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

PROJECT NO. 1711 DATE: OCTOBER 2012 FIG. NO. 2

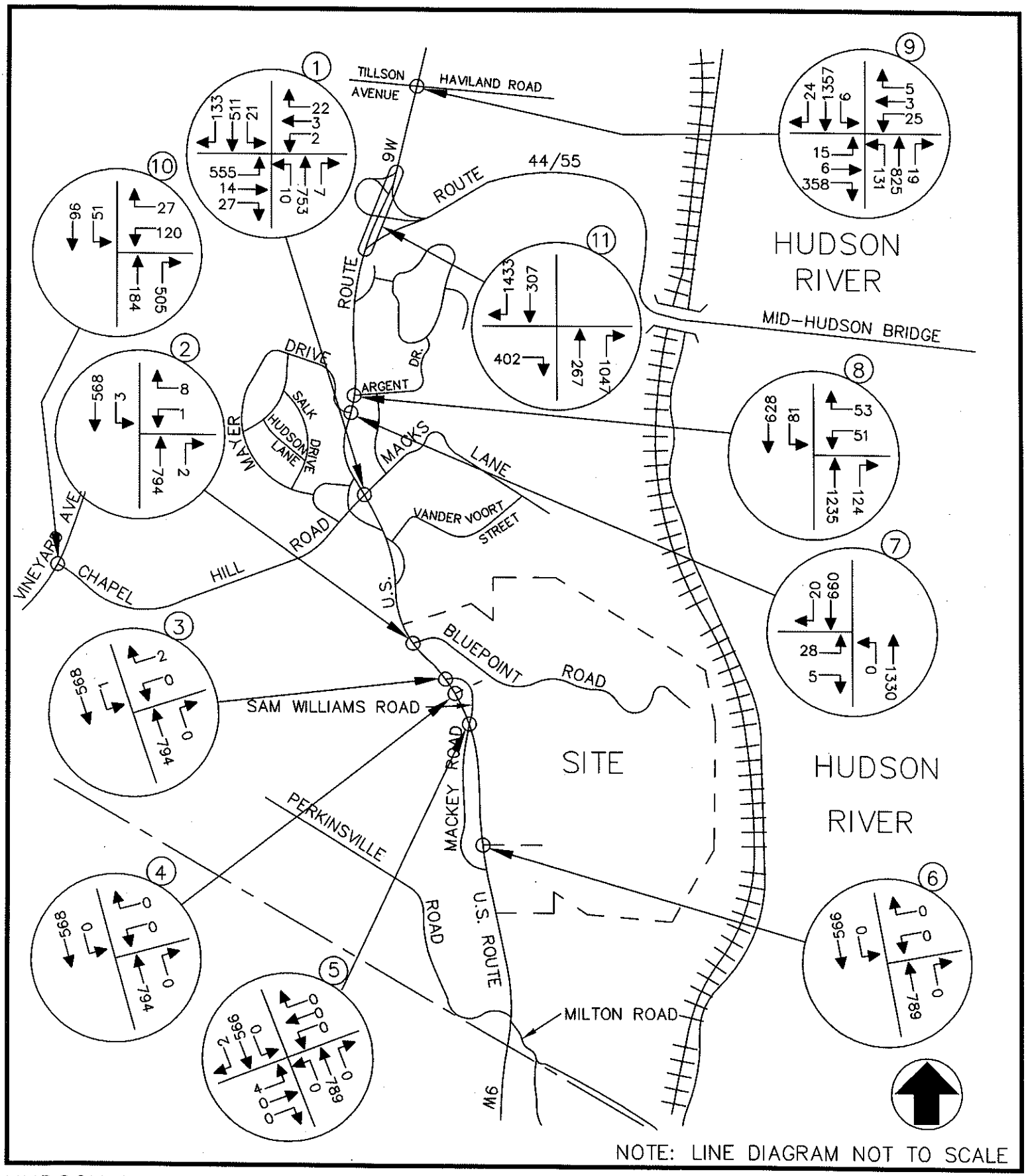


HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

2011 EXISTING TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

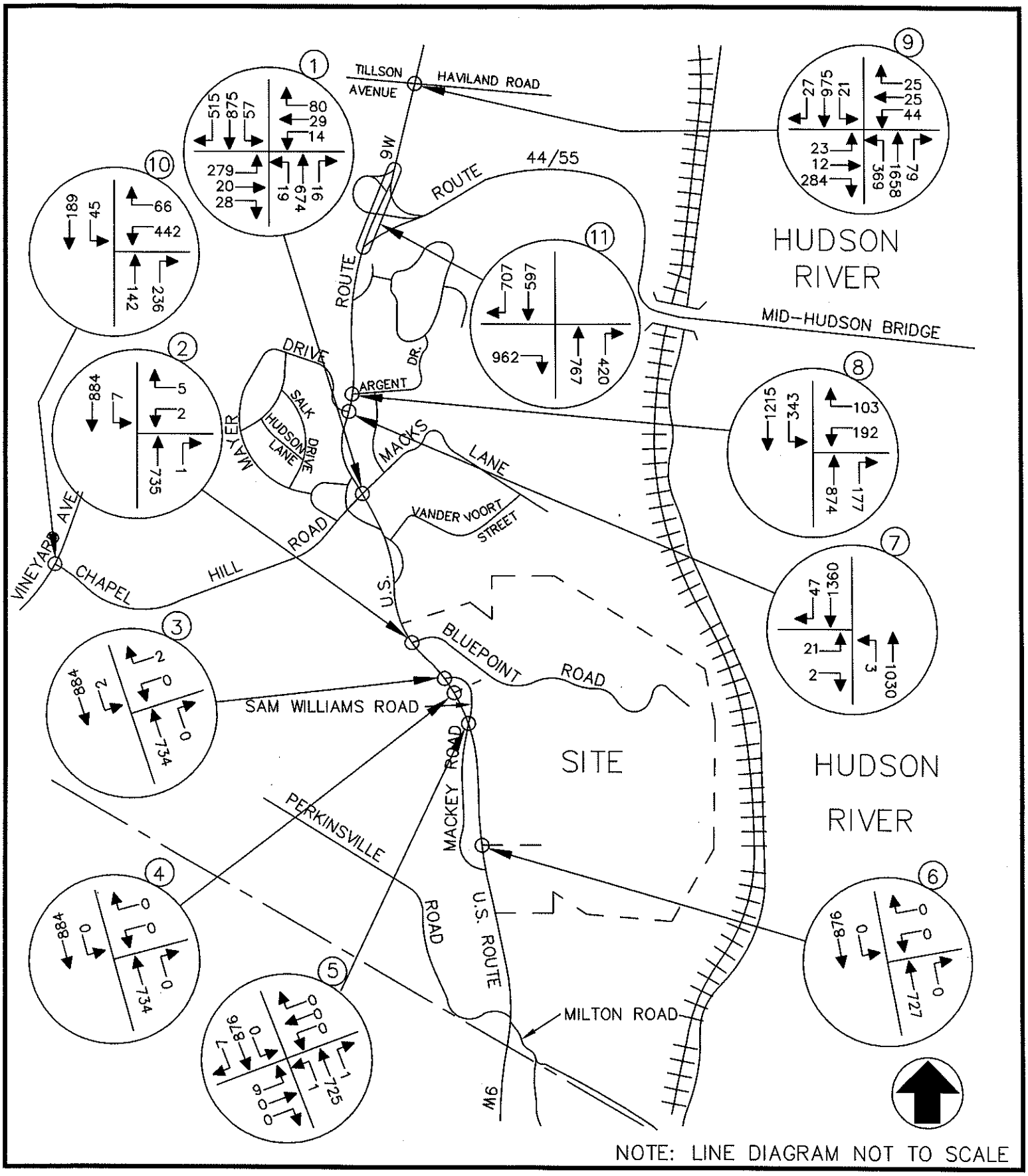
JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 1711 DATE: OCTOBER 2012 FIG. NO. 3



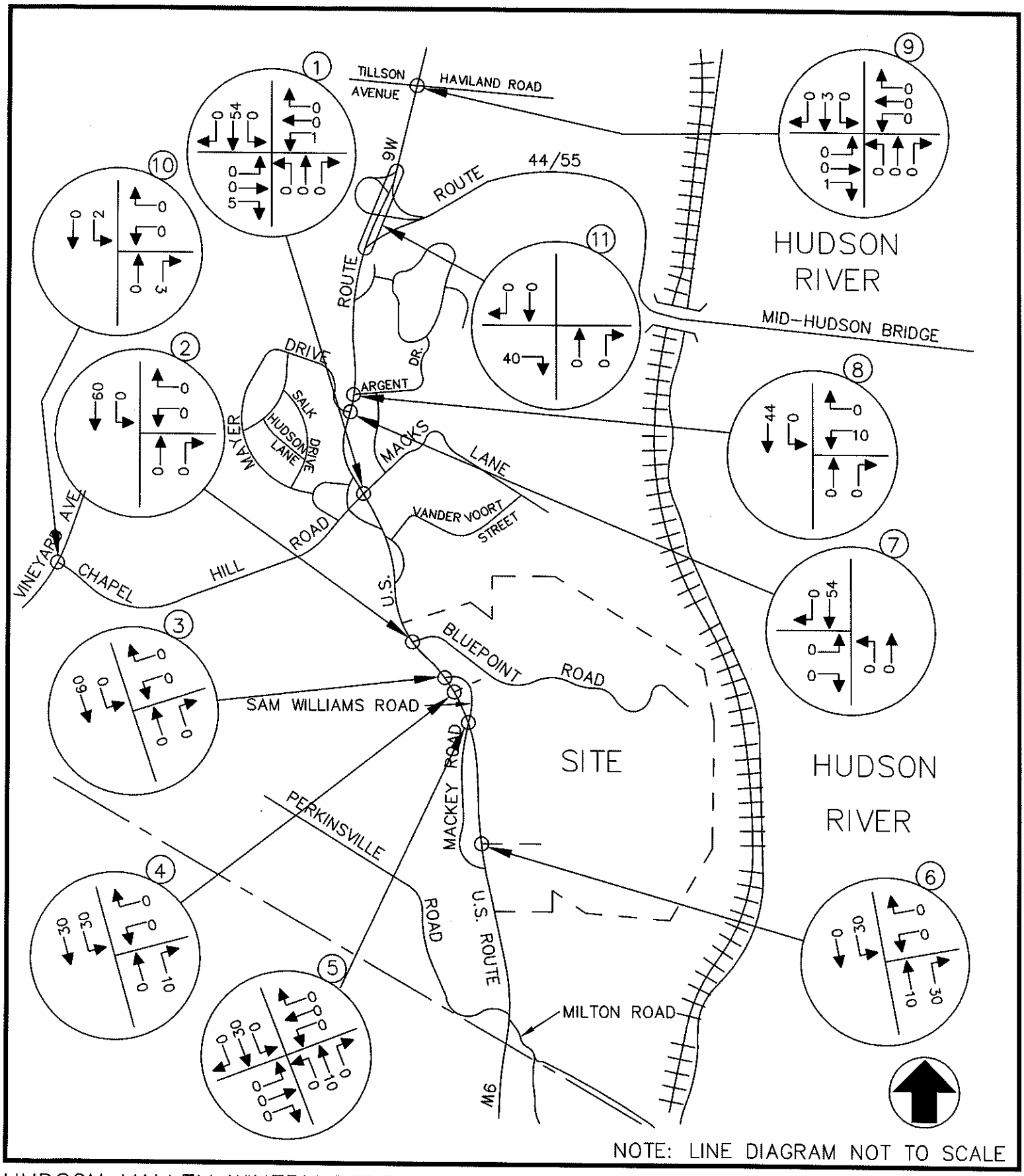
HUDSON VALLEY WINERY REDEVELOPMENT 2021 NO-BUILD TRAFFIC VOLUMES
LLOYD, NEW YORK WEEKDAY PEAK AM HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK PROJECT NO. 1711 DATE: OCTOBER 2012 FIG. NO.4



HUDSON VALLEY WINERY REDEVELOPMENT 2021 NO-BUILD TRAFFIC VOLUMES
LLOYD, NEW YORK WEEKDAY PEAK PM HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK PROJECT NO. 1711 DATE: OCTOBER 2012 FIG. NO. 5

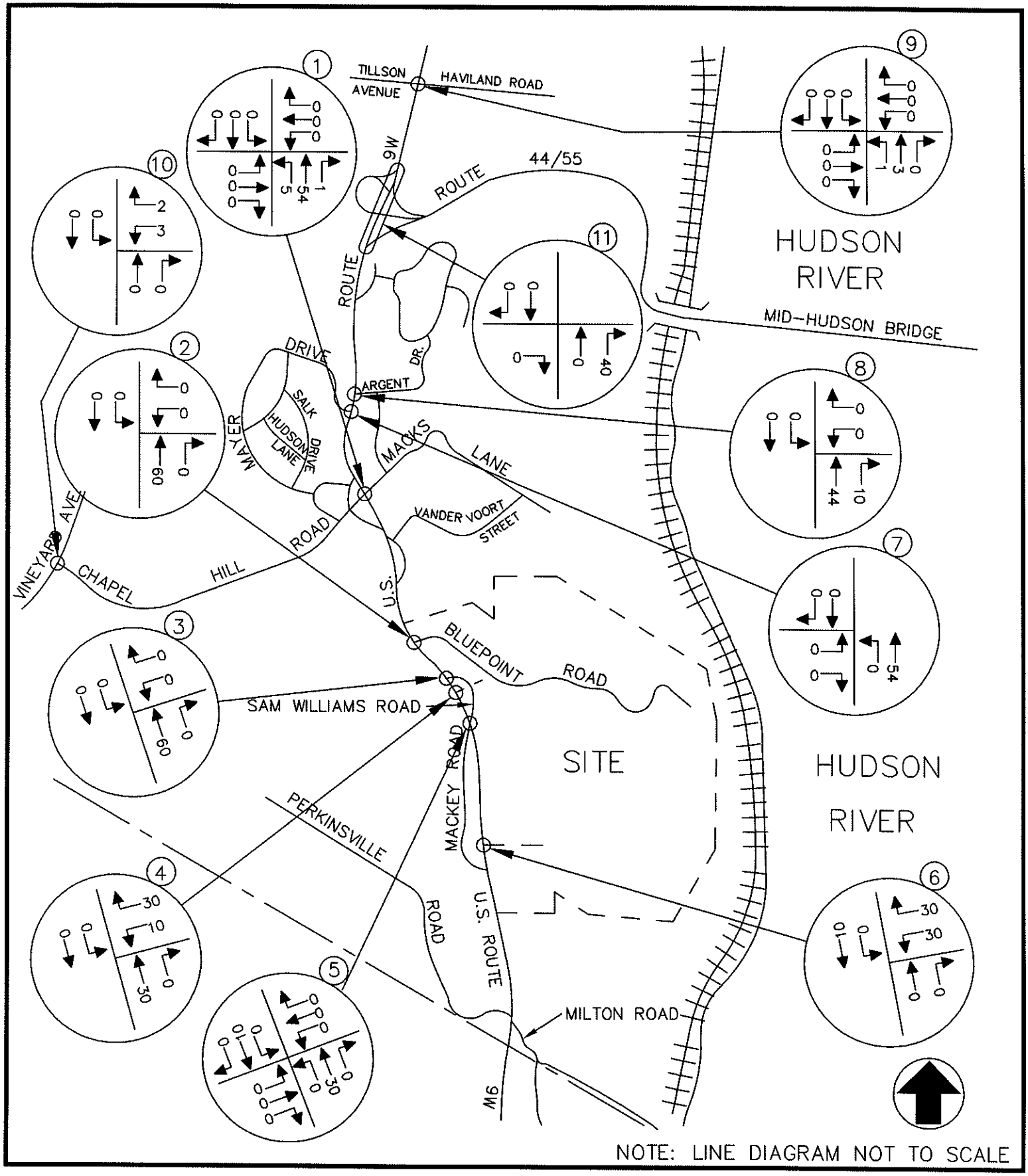


HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

ARRIVAL DISTRIBUTION
(ALL VALUES EXPRESSED AS A %)

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

PROJECT NO. 1711 DATE: OCTOBER 2012 FIG. NO. 6

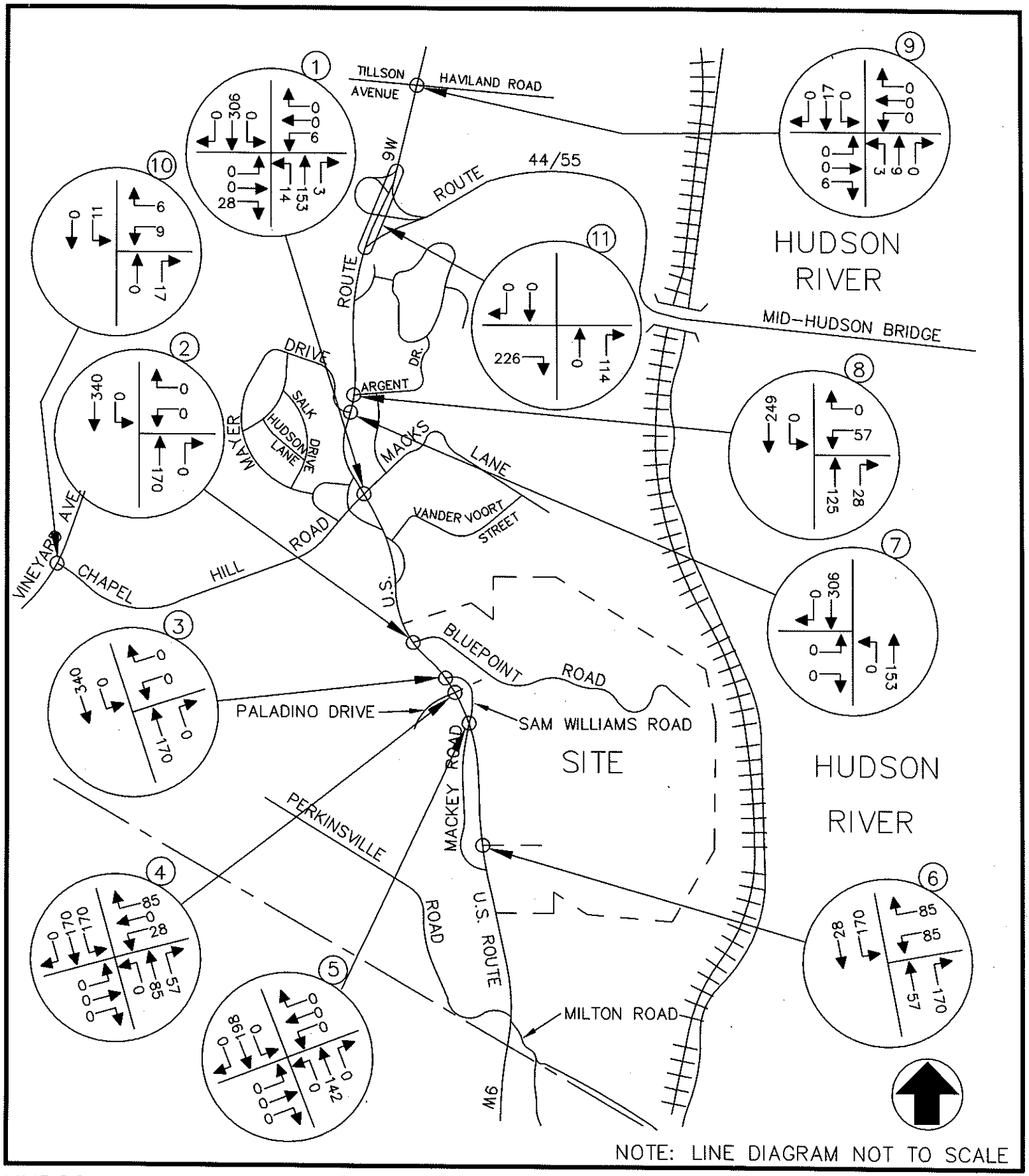


HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

DEPARTURE DISTRIBUTION
(ALL VALUES EXPRESSED AS A %)

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

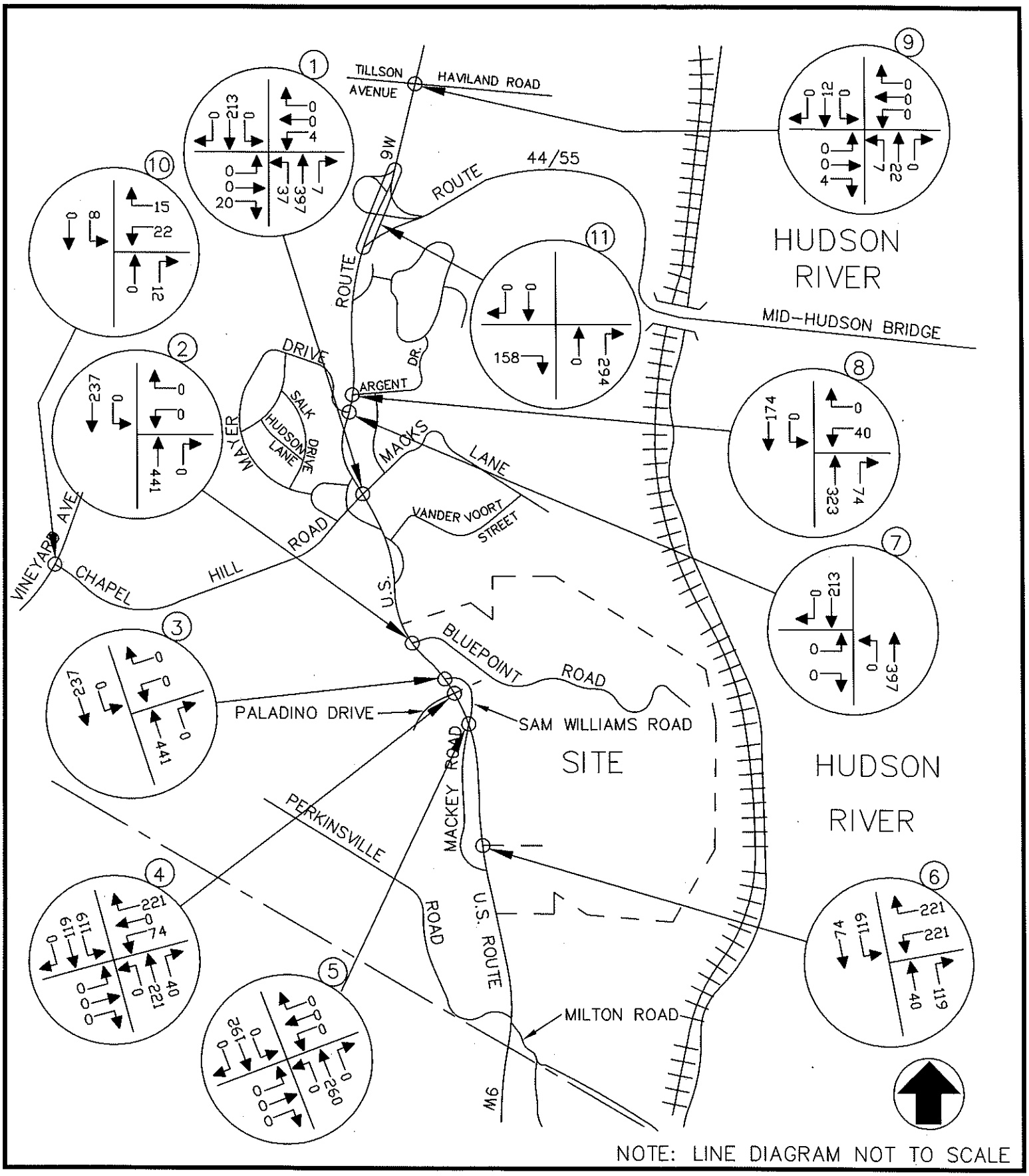
PROJECT NO. 1711 DATE: OCTOBER 2012 FIG. NO.7



HUDSON VALLEY WINERY REDEVELOPMENT SITE GENERATED TRAFFIC VOLUMES
LLOYD, NEW YORK
WEEKDAY PEAK AM HOUR

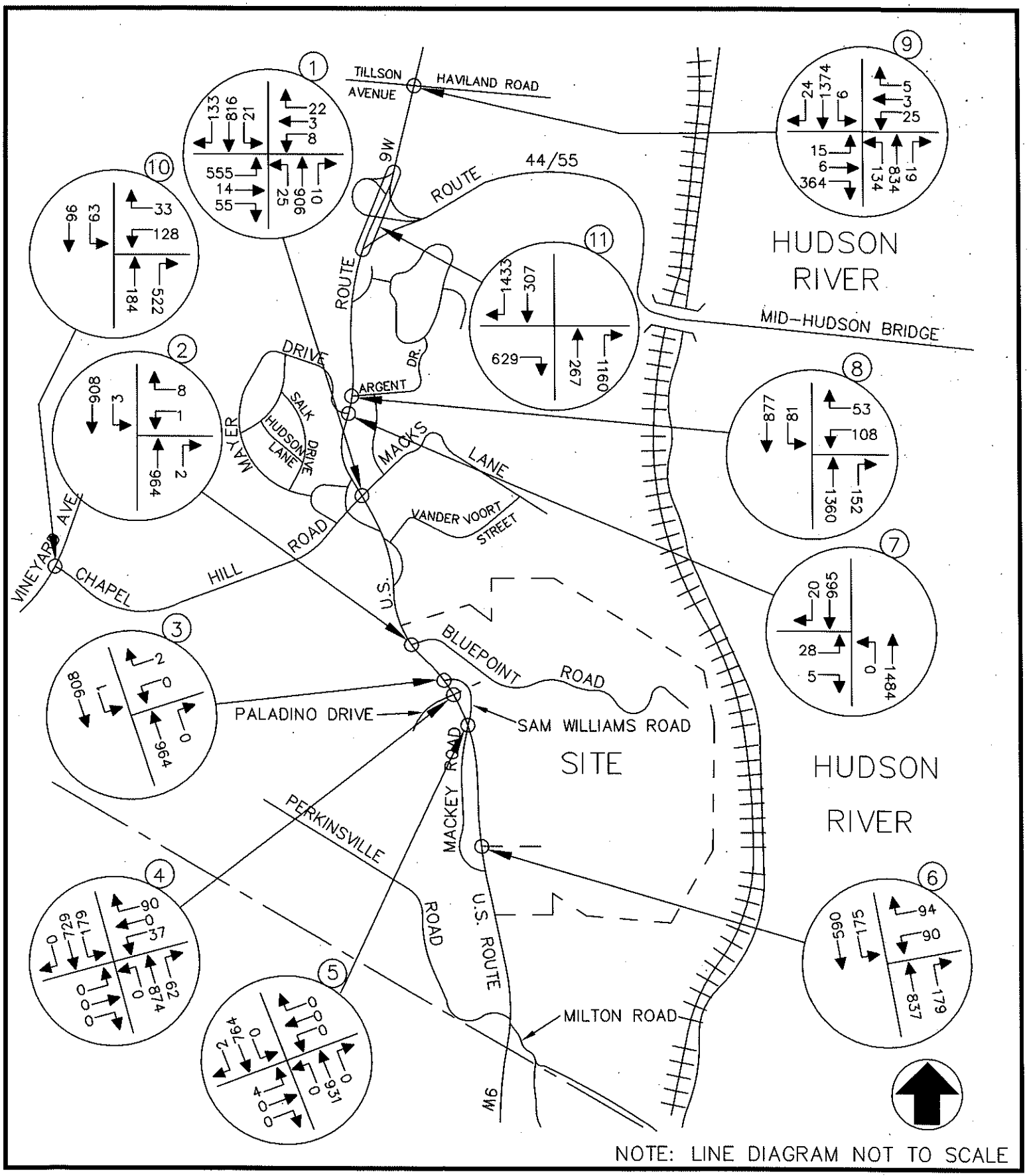
JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 8



HUDSON VALLEY WINERY REDEVELOPMENT SITE GENERATED TRAFFIC VOLUMES
LLOYD, NEW YORK WEEKDAY PEAK PM HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO.9

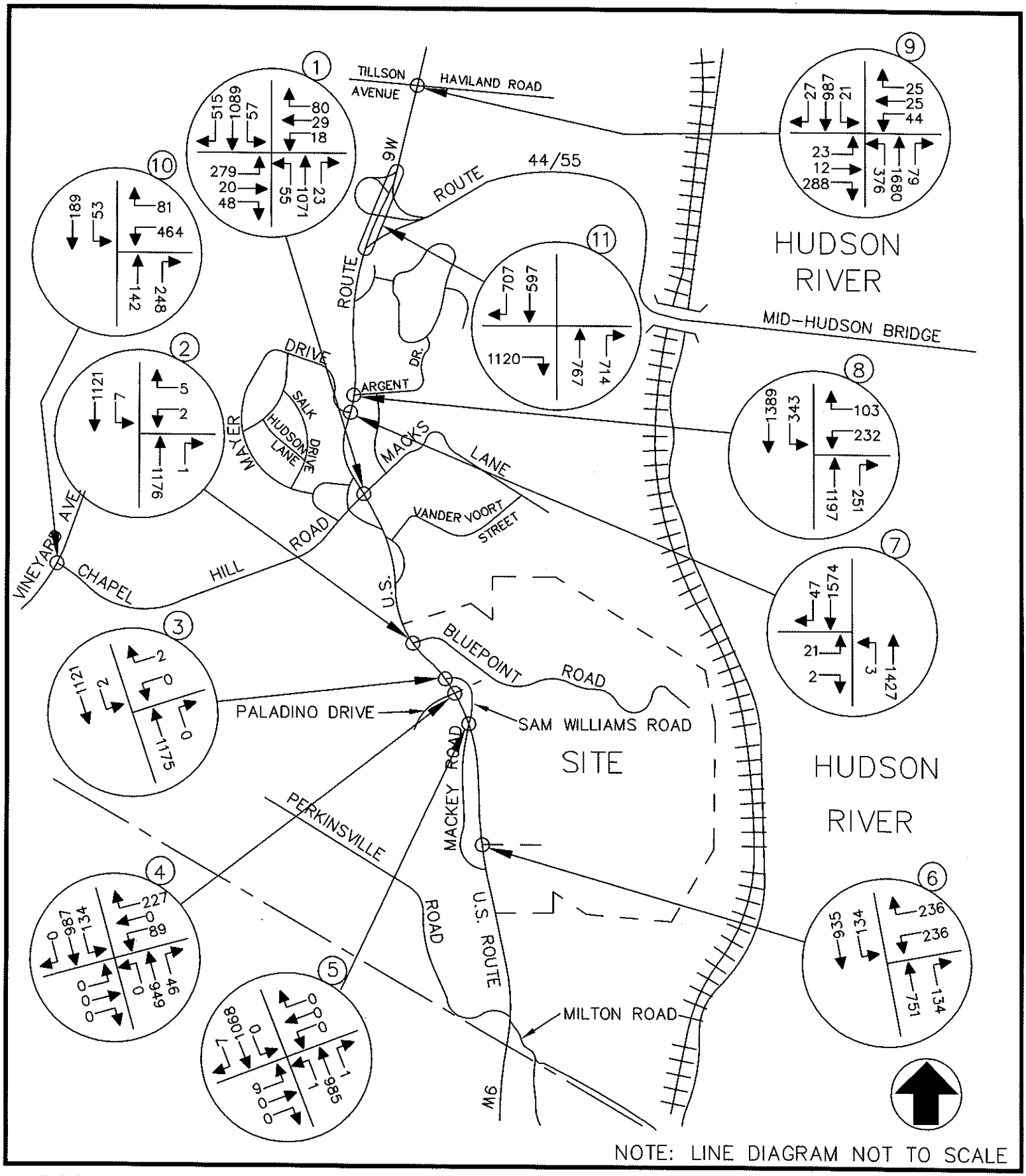


HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

2021 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

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

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 10



HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

2021 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

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

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 11

APPENDIX "B"

TABLES

TABLE 1 (PHASE 1 2021 BUILD)

PROPOSED DEVELOPMENT PLAN
HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

HUDSON VALLEY WINE VILLAGE LLOYD,NY	ENTRY			EXIT		
	HTGR*	VOLUME	NEW TRIPS	HTGR*	VOLUME	NEW TRIPS
LIGHT INDUSTRIAL (450,000 S.F.)						
PEAK AM HOUR	0.86	389	350	0.12	53	48
PEAK PM HOUR	0.13	58	52	0.95	428	385
HOTEL W/CONFERENCE CENTER (103 ROOMS)						
PEAK AM HOUR	0.25	26	26	0.16	17	17
PEAK PM HOUR	0.31	32	32	0.28	29	29
OFFICE (50,000 S.F.)						
PEAK AM HOUR	1.93	97	87	0.26	13	12
PEAK PM HOUR	0.46	23	21	2.23	112	101
RETAIL (51,727 S.F.)						
PEAK AM HOUR	0.96	50	38	0.59	31	23
PEAK PM HOUR	2.86	148	111	3.10	160	120
SINGLE FAMILY (25 DWELLING UNITS)						
PEAK AM HOUR	0.22	6	6	0.67	17	17
PEAK PM HOUR	0.71	18	18	0.42	11	11
APARTMENT (251 DWELLING UNITS)						
PEAK AM HOUR	0.10	25	25	0.40	100	100
PEAK PM HOUR	0.38	95	95	0.20	50	50
TOWNHOME (124 DWELLING UNITS)						
PEAK AM HOUR	0.07	9	9	0.35	43	43
PEAK PM HOUR	0.33	41	41	0.16	20	20
HIGH TURNOVER SIT-DOWN RESTAURANT (140 SEATS)						
PEAK AM HOUR	0.24	34	26	0.23	32	24
PEAK PM HOUR	0.23	33	25	0.18	25	19
PEAK AM HOUR	-		566	-		284
PEAK PM HOUR	-		395	-		735

NOTES:

1) TRIP GENERATION RATES FOR LAND USE 110 - LIGHT INDUSTRIAL, 310 - HOTEL, 932 - HIGH TURNOVER RESTAURANT, 710 - OFFICE, 820 - SHOPPING CENTER, 210- SINGLE FAMILY HOME, 220 - APARTMENT, 230 - TOWNHOME, AND 932 - HIGH TURNOVER SIT-DOWN RESTAURANT BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 8TH EDITION, 2008.

2) "NEW" TRIPS REFLECT A 25% PASS-BY IS USED FOR RETAIL PORTION OF THE DEVELOPMENT AND A 10% INTERNAL TRIP CREDIT FOR LIGHT INDUSTRIAL & OFFICE AS INTERPLAY WITH RESIDENTIAL AND OTHER ON SITE USES AS PER ITE PROCEDURES.

3) OFFICE AND RETAIL TOTALS SHOWN ABOVE, ALSO ACCOUNT FOR THE ADAPTIVE REUSE OF THE 51,727 S.F. WINERY BUILDING.

TABLE NO. 2

LEVEL OF SERVICE SUMMARY TABLE
(PROPOSED DEVELOPMENT PLAN PHASE 1)

			2011 EXISTING		2021 NO-BUILD		2021 BUILD	
			AM	PM	AM	PM	AM	PM
1	U.S. ROUTE 9W &	**SIGNALIZED**						
	CHAPEL HILL ROAD/	EB	C[34.2]	E[75.8]	D[36.2]	F[87.7]	D[37.4]	F[106.8]
	MACKS LANE	WB	D[39.7]	E[63.3]	D[39.8]	E[70.7]	D[40.1]	E[75.7]
		NB	B[16.3]	A[7.8]	B[16.6]	A[8.1]	B[18.3]	A[9.9]
		SB	C[33.6]	C[32.5]	D[38.9]	D[42.2]	F[208.2]	F[120.3]
		OVERALL	C[26.9]	C[32.9]	C[29.1]	D[39.4]	F[88.7]	E[70.8]
	WITH SIGNAL TIMING &	EB	-	-	-	-	D[45.1]	F[106.8]
	PHASING IMPROVEMENTS	WB	-	-	-	-	D[40.1]	E[75.7]
		NB	-	-	-	-	B[16.6]	A[9.9]
		SB	-	-	-	-	D[40.2]	F[120.3]
		OVERALL	-	-	-	-	C[32.3]	E[70.8]
	W/ GEOMETRIC IMPROVEMENTS	EB	-	-	-	-	D[45.1]	F[106.8]
	ON MACK'S LANE	WB	-	-	-	-	D[40.0]	D[43.9]
		NB	-	-	-	-	B[15.9]	A[8.9]
		SB	-	-	-	-	C[30.6]	F[83.4]
		OVERALL	-	-	-	-	C[28.7]	D[53.7]
2	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	BLUEPOINT ROAD	WB	B[13.7]	B[14.9]	B[14.2]	C[15.8]	C[17.1]	C[24.9]
		SB	A[9.6]	A[9.3]	A[9.8]	A[9.6]	B[10.7]	B[12.0]
3	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	SAM WILLIAMS ROAD	WB	C[15.7]	B[14.5]	C[16.4]	C[15.4]	C[20.0]	C[24.6]
	(NORTH LEG)	SB	A[9.6]	A[9.3]	A[9.8]	A[9.5]	B[10.6]	B[11.9]
4	U.S. ROUTE 9W &	**SIGNALIZED**						
	SITE ACCESS DRIVEWAY	EB	-	-	-	-	C[34.7]	C[34.7]
	(NORTH)	WB	-	-	-	-	C[29.8]	C[34.2]
		NB	-	-	-	-	B[18.3]	C[32.1]
		SB	-	-	-	-	A[8.8]	B[11.4]
		OVERALL	-	-	-	-	B[14.7]	C[22.8]
5	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	SAM WILLIAMS ROAD/	EB	D[32.9]	E[49.4]	E[37.1]	F[59.4]	F[64.0]	F[144.8]
	MACKEY ROAD	WB	C[15.3]	B[14.2]	C[16.0]	B[15.0]	C[18.7]	C[20.0]
		NB	A[8.7]	A[9.9]	A[8.8]	B[10.2]	A[9.6]	B[11.3]
		SB	A[9.6]	A[9.2]	A[9.7]	A[9.5]	B[10.4]	B[10.8]
	WITH IMPROVEMENTS ON	EB	-	-	-	-	C[23.0]	C[24.7]
	ROUTE 9W AT SITE ACCESS	WB	-	-	-	-	C[18.7]	C[20.0]
		NB	-	-	-	-	A[9.6]	B[11.3]
		SB	-	-	-	-	B[10.4]	B[10.8]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

2) SEE APPENDIX "D" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

3) INCLUDES TURN LANES AND SIGNAL IMPROVEMENTS AT SITE ACCESS CONNECTION TO ROUTE 9W.

TABLE NO. 2 (CONTINUED)

LEVEL OF SERVICE SUMMARY TABLE
(PROPOSED DEVELOPMENT PLAN PHASE 1)

			2011 EXISTING		2021 NO-BUILD		2021 BUILD	
			AM	PM	AM	PM	AM	PM
6	U.S. ROUTE 9W &	**SIGNALIZED**						
	SITE ACCESS DRIVEWAY	WB	-	-	-	-	C[27.1]	C[33.0]
	(SOUTH)	NB	-	-	-	-	C[25.5]	C[26.3]
		SB	-	-	-	-	B[16.4]	B[15.3]
		OVERALL	-	-	-	-	C[22.1]	C[22.8]
7	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	MAYER DRIVE	EB	C[15.3]	C[19.2]	C[16.2]	C[20.7]	C[21.4]	D[26.4]
		NB	A[9.1]	B[13.3]	A[9.3]	B[14.0]	B[10.8]	C[16.1]
8	U.S. ROUTE 9W &	**SIGNALIZED**						
	ARGENT DRIVE	WB	C[27.0]	C[32.8]	C[27.0]	C[33.0]	C[31.8]	C[34.8]
		NB	D[40.9]	C[29.5]	D[46.2]	C[30.6]	E[67.2]	D[42.7]
		SB	B[10.1]	B[15.3]	B[10.1]	C[21.9]	B[10.1]	C[21.7]
		OVERALL	C[29.6]	C[22.0]	C[32.7]	C[25.9]	D[42.8]	C[30.7]
	WITH SIGNAL TIMING	WB	-	-	-	-	C[34.5]	C[33.4]
	IMPROVEMENTS	NB	-	-	-	-	C[30.9]	D[48.0]
		SB	-	-	-	-	A[9.5]	B[18.6]
		OVERALL	-	-	-	-	C[22.9]	C[30.9]
9	U.S. ROUTE 9W &	**SIGNALIZED**						
	TILLSON AVENUE/	EB	C[25.8]	C[24.5]	C[28.2]	C[25.4]	C[28.4]	C[25.4]
	HAVILAND ROAD	WB	D[42.0]	D[44.2]	D[42.0]	D[44.4]	D[42.0]	D[44.4]
		NB	B[14.0]	C[23.0]	B[14.8]	C[27.0]	B[14.9]	C[28.1]
		SB	C[34.0]	C[26.2]	D[38.6]	C[27.1]	D[40.3]	C[27.4]
		OVERALL	C[26.0]	C[24.7]	C[28.9]	C[27.4]	C[29.7]	C[28.1]
10	VINEYARD AVENUE &	**UNSIGNALIZED**						
	CHAPEL HILL ROAD	WB	C[15.6]	F[52.2]	C[17.1]	F[87.1]	C[18.7]	F[124.6]
		SB	A[9.4]	A[8.2]	A[9.6]	A[8.4]	A[9.8]	A[8.4]
	WITH SIGNALIZATION	WB	-	-	C[22.3]	C[29.4]	C[22.5]	C[33.7]
		NB	-	-	C[25.3]	B[16.5]	C[27.5]	B[16.8]
		SB	-	-	B[10.6]	B[14.5]	B[11.1]	B[14.8]
		OVERALL	-	-	C[22.7]	C[21.9]	C[24.2]	C[24.2]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

2) SEE APPENDIX "D" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

3) INCLUDES TURN LANES AND SIGNAL IMPROVEMENTS AT SITE ACCESS CONNECTION TO ROUTE 9W.

JOB NO. 1711

12/27/2012

TABLE SD-1

SIGHT DISTANCE SUMMARY TABLE
HUDSON VALLEY WINE VILLAGE

	EXISTING SIGHT DISTANCE	AASHTO RECOMMENDED SIGHT DISTANCES FOR 60 MPH DESIGN SPEED	
		STOPPING SIGHT DISTANCE	INTERSECTION SIGHT DISTANCE
U.S. ROUTE 9W & NORTH ACCESS			
LOOKING NORTH (RIGHT)	1000+ FT.	570 FT.	665 FT.
LOOKING SOUTH (LEFT)	815 FT.	570 FT.	665 FT.
LEFT TURN ENTRY	1000+ FT.	570 FT.	490 FT.
U.S. ROUTE 9W & SOUTH ACCESS			
LOOKING NORTH (RIGHT)	1000+ FT.	570 FT.	665 FT.
LOOKING SOUTH (LEFT)	950+ FT.	570 FT.	665 FT.
LEFT TURN ENTRY	1000+ FT.	570 FT.	490 FT.
U.S. ROUTE 9W & BLUE POINT ROAD			
LOOKING NORTH (RIGHT)[2]	400± FT.	570 FT.	665 FT.
LOOKING SOUTH (LEFT)	745 FT.	570 FT.	665 FT.
LEFT TURN ENTRY	700+ FT.	570 FT.	490 FT.
U.S. ROUTE 9W & SAM WILLIAMS DRIVE (NORTH)[3]			
LOOKING NORTH (RIGHT)	700 FT.	570 FT.	665 FT.
LOOKING SOUTH (LEFT)	1000+ FT.	570 FT.	665 FT.
LEFT TURN ENTRY	1000+ FT.	570 FT.	490 FT.
U.S. ROUTE 9W & SAM WILLIAMS DRIVE (SOUTH)[3]			
LOOKING NORTH (RIGHT)	850 FT.	570 FT.	665 FT.
LOOKING SOUTH (LEFT)	720 FT.	570 FT.	665 FT.
LEFT TURN ENTRY	650 FT.	570 FT.	490 FT.

NOTES:

1) AASHTO RECOMMENED SIGHT DISTANCES ASSUME AN 85TH PERCENTILE SPEED OF 60 MPH ALONG U.S. ROUTE 9W. THE POSTED SPEED LIMIT ALONG U.S. ROUTE 9W IS 55 MPH.

2) SIGHT DISTANCE LOOKING TO THE RIGHT (NORTH) FROM BLUE POINT ROAD IS CONTROLLED BY EXISTING GRADE AND VEGETATION LOCATED OUTSIDE THE RIGHT-OF-WAY ALONG THE EAST SIDE OF U.S. ROUTE 9W. WITH CLEARING AND GRADING OF THIS AREA THE SIGHT DISTANCE COULD BE INCREASED TO OVER 600 FT.

3) SAM WILLIAMS DRIVE INTERSECTS U.S. ROUTE 9W AT A SKEWED ANGLE AT BOTH THE NORTH AND SOUTH ENDS OF THE ROADWAY, WHICH IMPACTS THE PERCEIVED SIGHT DISTANCES DUE TO EXITING VEHICLE ALIGNMENT AT THE INTERSECTION.

APPENDIX "C"

CAPACITY ANAYLSIS

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMEX1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2011 EXISTING TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	529	13	22	2	3	21	9	713	7	20	474	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	25.0					7.0	31.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	462	1662	0.76	0.28	37.2	D		
LTR	460	1655	0.59	0.28	30.2	C	34.2	C
Westbound								
LTR	133	1710	0.21	0.08	39.7	D	39.7	D
Northbound								
L	240	1702	0.04	0.48	15.8	B		
TR	1627	3406	0.49	0.48	16.3	B	16.3	B
Southbound								
L	221	643	0.10	0.34	20.2	C		
T	654	1898	0.81	0.34	34.1	C	33.6	C

Intersection Delay = 26.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMEX1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2011 EXISTING TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	266	19	24	13	28	76	13	628	15	54	825	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	0.91	0.11	80.8	F		
LTR	183	1649	0.86	0.11	70.4	E	75.8	E
Westbound								
LTR	156	1751	0.79	0.09	63.3	E	63.3	E
Northbound								
L	212	1702	0.07	0.63	16.1	B		
TR	2153	3399	0.31	0.63	7.6	A	7.8	A
Southbound								
L	363	725	0.16	0.50	12.4	B		
T	949	1898	0.91	0.50	33.9	C	32.5	C

Intersection Delay = 32.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMNB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2021 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	555	14	27	2	3	22	10	753	7	21	511	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	25.0					7.0	31.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	462	1662	0.80	0.28	39.9	D		
LTR	459	1653	0.64	0.28	31.5	C	36.2	D
Westbound								
LTR	133	1709	0.22	0.08	39.8	D	39.8	D
Northbound								
L	212	1702	0.05	0.48	16.6	B		
TR	1627	3406	0.52	0.48	16.6	B	16.6	B
Southbound								
L	212	615	0.11	0.34	20.3	C		
T	654	1898	0.87	0.34	39.6	D	38.9	D

Intersection Delay = 29.1 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMNB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2021 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	279	20	28	14	29	80	19	674	16	57	875	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	0.95	0.11	91.8	F		
LTR	183	1646	0.92	0.11	83.5	F	87.7	F
Westbound								
LTR	156	1752	0.83	0.09	70.7	E	70.7	E
Northbound								
L	212	1702	0.09	0.63	17.9	B		
TR	2153	3399	0.34	0.63	7.8	A	8.1	A
Southbound								
L	346	691	0.17	0.50	12.6	B		
T	949	1898	0.97	0.50	44.1	D	42.2	D

Intersection Delay = 39.4 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	555	14	55	8	3	22	25	906	10	21	816	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	25.0					7.0	31.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	462	1662	0.80	0.28	39.9	D		
LTR	455	1637	0.71	0.28	34.4	C	37.4	D
Westbound								
LTR	135	1735	0.27	0.08	40.1	D	40.1	D
Northbound								
L	212	1702	0.13	0.48	18.5	B		
TR	1627	3405	0.63	0.48	18.3	B	18.3	B
Southbound								
L	162	470	0.14	0.34	20.7	C		
T	654	1898	1.39	0.34	212.9	F	208.2	F

Intersection Delay = 88.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	279	20	48	18	29	80	55	1071	23	57	1089	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	0.95	0.11	91.8	F		
LTR	181	1628	1.05	0.11	120.6	F	106.8	F
Westbound								
LTR	156	1754	0.86	0.09	75.7	E	75.7	E
Northbound								
L	212	1702	0.27	0.63	19.1	B		
TR	2153	3400	0.53	0.63	9.4	A	9.9	A
Southbound								
L	227	454	0.26	0.50	13.6	B		
T	949	1898	1.21	0.50	125.9	F	120.3	F

Intersection Delay = 70.8 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1 (WITH IMPROVEMENTS)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	555	14	55	8	3	22	25	906	10	21	816	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A			
Thru		A				Thru	A			
Right		A				Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	23.0					45.0			
Yellow	3.0	3.0					3.0			
All Red	2.0	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	425	1662	0.87	0.26	49.6	D		
LTR	418	1637	0.78	0.26	40.0	D	45.1	D
Westbound								
LTR	135	1735	0.27	0.08	40.1	D	40.1	D
Northbound								
L	80	159	0.35	0.50	16.3	B		
TR	1703	3405	0.60	0.50	16.6	B	16.6	B
Southbound								
L	179	357	0.13	0.50	12.3	B		
T	949	1898	0.96	0.50	40.9	D	40.2	D

Intersection Delay = 32.3 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1 (WITH IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	279	20	48	18	29	80	55	1071	23	57	1089	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	0.95	0.11	91.8	F		
LTR	181	1628	1.05	0.11	120.6	F	106.8	F
Westbound								
LTR	156	1754	0.86	0.09	75.7	E	75.7	E
Northbound								
L	212	1702	0.27	0.63	19.1	B		
TR	2153	3400	0.53	0.63	9.4	A	9.9	A
Southbound								
L	227	454	0.26	0.50	13.6	B		
T	949	1898	1.21	0.50	125.9	F	120.3	F

Intersection Delay = 70.8 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1 (WITH GEOMETRY IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	1	2	0	1	1	0
LGConfig	L	LTR			LT	R	L	TR		L	T	
Volume	555	14	55	8	3	22	25	906	10	21	816	
Lane Width	11.0	11.0			12.0	12.0	12.0	12.0		12.0	13.0	
RTOR Vol			0			10			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A			
Thru		A				Thru	A			
Right		A				Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	23.0					46.0			
Yellow	3.0	3.0					3.0			
All Red	2.0	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	425	1662	0.87	0.26	49.6	D		
LTR	418	1637	0.78	0.26	40.0	D	45.1	D
Westbound								
LT	116	1744	0.10	0.07	39.9	D	40.0	D
R	103	1538	0.13	0.07	40.1	D		
Northbound								
L	80	156	0.35	0.51	15.7	B		
TR	1740	3405	0.59	0.51	15.9	B	15.9	B
Southbound								
L	187	365	0.12	0.51	11.8	B		
T	970	1898	0.94	0.51	31.1	C	30.6	C

Intersection Delay = 28.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1 (WITH GEOMETRY IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	1	2	0	1	1	0
LGConfig	L	LTR			LT	R	L	TR		L	T	
Volume	279	20	48	18	29	80	55	1071	23	57	1089	
Lane Width	11.0	11.0			12.0	12.0	12.0	12.0		12.0	13.0	
RTOR Vol			0			30			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	10.0					6.0	48.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	0.95	0.11	91.8	F		
LTR	181	1628	1.05	0.11	120.6	F	106.8	F
Westbound								
LT	118	1776	0.42	0.07	42.8	D	43.9	D
R	103	1538	0.51	0.07	45.0	D		
Northbound								
L	193	1702	0.30	0.66	20.2	C		
TR	2229	3400	0.52	0.66	8.3	A	8.9	A
Southbound								
L	242	454	0.25	0.53	11.8	B		
T	1012	1898	1.13	0.53	87.1	F	83.4	F

Intersection Delay = 53.7 (sec/veh) Intersection LOS = D

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: JUNE 2011
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711AMEX2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		751	2	3	525	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		834	2	3	583	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1		8			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	1		8			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		9				
C(m) (vph)		785		424				
v/c		0.00		0.02				
95% queue length		0.01		0.06				
Control Delay		9.6		13.7				
LOS		A		B				
Approach Delay				13.7				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: JUNE 2011
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711PMEX2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		681	1	7	830	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		756	1	7	922	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	2		5			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	2		5			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		7				
C(m) (vph)		841		371				
v/c		0.01		0.02				
95% queue length		0.03		0.06				
Control Delay		9.3		14.9				
LOS		A		B				
Approach Delay				14.9				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		794	2	3	568	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		882	2	3	631	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1		8			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	1		8			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		9				
C(m) (vph)		753		400				
v/c		0.00		0.02				
95% queue length		0.01		0.07				
Control Delay		9.8		14.2				
LOS		A		B				
Approach Delay				14.2				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		735	1	7	884	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		816	1	7	982	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	2		5			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	2		5			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		7				
C(m) (vph)		798		341				
v/c		0.01		0.02				
95% queue length		0.03		0.06				
Control Delay		9.6		15.8				
LOS		A		C				
Approach Delay				15.8				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		964	2	3	908	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1071	2	3	1008	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1		8			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	1		8			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		9				
C(m) (vph)		638		307				
v/c		0.00		0.03				
95% queue length		0.01		0.09				
Control Delay		10.7		17.1				
LOS		B		C				
Approach Delay				17.1				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1176	1	7	1121	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1306	1	7	1245	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	2		5			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	2		5			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		7		7				
C(m) (vph)		520		188				
v/c		0.01		0.04				
95% queue length		0.04		0.12				
Control Delay		12.0		24.9				
LOS		B		C				
Approach Delay				24.9				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: JUNE 2011
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711AMEX3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		751	0	1	525	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		834	0	1	583	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		2				
C(m) (vph)		786		339				
v/c		0.00		0.01				
95% queue length		0.00		0.02				
Control Delay		9.6		15.7				
LOS		A		C				
Approach Delay				15.7				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: JUNE 2011
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711PMEX3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		680	0	2	830	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		755	0	2	922	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		0	1
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		2		2				
C(m) (vph)		842		379				
v/c		0.00		0.01				
95% queue length		0.01		0.02				
Control Delay		9.3		14.5				
LOS		A		B				
Approach Delay				14.5				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		794	0	1	568	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		882	0	1	631	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		2				
C(m) (vph)		754		317				
v/c		0.00		0.01				
95% queue length		0.00		0.02				
Control Delay		9.8		16.4				
LOS		A		C				
Approach Delay				16.4				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		734	0	2	884	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		815	0	2	982	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		2		2				
C(m) (vph)		799		348				
v/c		0.00		0.01				
95% queue length		0.01		0.02				
Control Delay		9.5		15.4				
LOS		A		C				
Approach Delay				15.4				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		964	0	1	908	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1071	0	1	1008	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		2				
C(m) (vph)		640		242				
v/c		0.00		0.01				
95% queue length		0.00		0.02				
Control Delay		10.6		20.0				
LOS		B		C				
Approach Delay				20.0				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1175	0	2	1121	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1305	0	2	1245	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		2		2				
C(m) (vph)		521		186				
v/c		0.00		0.01				
95% queue length		0.01		0.03				
Control Delay		11.9		24.6				
LOS		B		C				
Approach Delay				24.6				
Approach LOS				C				

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB4
E/W St: SITE ACCESS (NORTH)/PALADINO D

Inter.: U.S. ROUTE 9W & SITE ACCESS N
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	1	1	1	0
LGConfig		LTR			LT	R		LT	R	L	TR	
Volume	0	0	1	37	0	90	0	874	62	179	729	0
Lane Width		12.0			12.0	12.0		12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru	A					Thru		A		
	Right	A					Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A	A		
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right	A			
Green		11.0						7.0	57.0		
Yellow		3.0						3.0	3.0		
All Red		2.0						2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	191	1565	0.01	0.12	34.7	C	34.7	C
Westbound								
LT	161	1315	0.25	0.12	36.6	D	29.8	C
R	393	1538	0.25	0.26	27.0	C		
Northbound								
LT	1146	1810	0.85	0.63	19.2	B	18.3	B
R	974	1538	0.07	0.63	6.4	A		
Southbound								
L	279	1719	0.71	0.77	24.0	C		
TR	1388	1810	0.58	0.77	5.1	A	8.8	A

Intersection Delay = 14.7 (sec/veh) Intersection LOS = B

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB4
E/W St: SITE ACCESS (NORTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS N
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	1	1	1	0
LGConfig		LTR			LT	R		LT	R	L	TR	
Volume	0	0	1	89	0	227	0	949	46	134	987	0
Lane Width		12.0			12.0	12.0		12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru	A					Thru		A		
	Right	A					Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A	A		
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right	A			
Green		11.0						9.0	55.0		
Yellow		3.0						3.0	3.0		
All Red		2.0						2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	191	1565	0.01	0.12	34.7	C	34.7	C
Westbound								
LT	161	1315	0.61	0.12	44.3	D	34.2	C
R	427	1538	0.59	0.28	30.2	C		
Northbound								
LT	1106	1810	0.95	0.61	33.3	C	32.1	C
R	940	1538	0.05	0.61	7.1	A		
Southbound								
L	253	1719	0.59	0.77	26.4	C		
TR	1388	1810	0.79	0.77	9.4	A	11.4	B

Intersection Delay = 22.8 (sec/veh) Intersection LOS = C

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: JUNE 2011
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711AMEX5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	747	0	0	523	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	830	0	0	581	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	977	789		349			133	
v/c	0.00	0.00		0.00			0.03	
95% queue length	0.00	0.00		0.01			0.09	
Control Delay	8.7	9.6		15.3			32.9	
LOS	A	A		C			D	
Approach Delay				15.3			32.9	
Approach LOS				C			D	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: JUNE 2011
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711PMEX5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	671	1	0	823	7
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	745	1	0	914	7
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	9	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	10	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			10	
C(m) (vph)	729	849		392			91	
v/c	0.00	0.00		0.00			0.11	
95% queue length	0.00	0.00		0.01			0.36	
Control Delay	9.9	9.2		14.2			49.4	
LOS	A	A		B			E	
Approach Delay				14.2			49.4	
Approach LOS				B			E	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	789	0	0	566	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	876	0	0	628	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	938	758		327			116	
v/c	0.00	0.00		0.00			0.03	
95% queue length	0.00	0.00		0.01			0.11	
Control Delay	8.8	9.7		16.0			37.1	
LOS	A	A		C			E	
Approach Delay				16.0			37.1	
Approach LOS				C			E	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	725	1	0	876	7
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	805	1	0	973	7
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	9	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	10	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			10	
C(m) (vph)	693	806		361			76	
v/c	0.00	0.00		0.00			0.13	
95% queue length	0.00	0.00		0.01			0.43	
Control Delay	10.2	9.5		15.0-			59.4	
LOS	B	A		B			F	
Approach Delay				15.0-			59.4	
Approach LOS				B			F	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	931	0	0	764	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	1034	0	0	848	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	775	661		263			65	
v/c	0.00	0.00		0.00			0.06	
95% queue length	0.00	0.00		0.01			0.19	
Control Delay	9.6	10.4		18.7			64.0	
LOS	A	B		C			F	
Approach Delay				18.7			64.0	
Approach LOS				C			F	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	985	1	0	1068	7
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	1094	1	0	1186	7
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	9	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	10	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			10	
C(m) (vph)	575	626		241			35	
v/c	0.00	0.00		0.00			0.29	
95% queue length	0.01	0.00		0.01			0.93	
Control Delay	11.3	10.8		20.0			144.8	
LOS	B	B		C			F	
Approach Delay				20.0			144.8	
Approach LOS				C			F	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB5 (WITH IMPROVEMENT)
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	931	0	0	764	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	1034	0	0	848	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	TWLTL			/ 1		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	775	661		263			204	
v/c	0.00	0.00		0.00			0.02	
95% queue length	0.00	0.00		0.01			0.06	
Control Delay	9.6	10.4		18.7			23.0	
LOS	A	B		C			C	
Approach Delay				18.7			23.0	
Approach LOS				C			C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB5 (WITH IMPROVEMENT)
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	985	1	0	1068	7
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	1094	1	0	1186	7
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	TWLTL			/ 1		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	9	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	10	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			10	
C(m) (vph)	575	626		241			193	
v/c	0.00	0.00		0.00			0.05	
95% queue length	0.01	0.00		0.01			0.16	
Control Delay	11.3	10.8		20.0			24.7	
LOS	B	B		C			C	
Approach Delay				20.0			24.7	
Approach LOS				C			C	

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB6
E/W St: SITE ACCESS (SOUTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS S
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	1	1	1	0
LGConfig				L		R		T	R	L	T	
Volume				90		94		837	179	175	590	
Lane Width				12.0		12.0		12.0	12.0	12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		A		
Right						Right		A		
Peds						Peds				
WB Left	A				SB	Left	A	A		
Thru						Thru	A	A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	A			
Green	17.0						7.0	51.0		
Yellow	3.0						3.0	3.0		
All Red	2.0						2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	325	1719	0.31	0.19	32.0	C		
							27.1	C
R	496	1538	0.21	0.32	22.4	C		
Northbound								
T	1026	1810	0.91	0.57	28.8	C	25.5	C
R	872	1538	0.23	0.57	9.8	A		
Southbound								
L	227	1719	0.85	0.70	48.9	D		
T	1267	1810	0.52	0.70	6.7	A	16.4	B

Intersection Delay = 22.1 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB6
E/W St: SITE ACCESS (SOUTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS S
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	1	1	1	0
LGConfig				L		R		T	R	L	T	
Volume				236		236		751	134	134	935	
Lane Width				12.0		12.0		12.0	12.0	12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		A		
Right						Right		A		
Peds						Peds				
WB Left		A			SB	Left	A	A		
Thru						Thru	A	A		
Right		A				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	A			
Green		18.0					10.0	47.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	344	1719	0.76	0.20	43.6	D		
							33.0	C
R	564	1538	0.46	0.37	22.4	C		
Northbound								
T	945	1810	0.88	0.52	28.9	C	26.3	C
R	803	1538	0.19	0.52	11.5	B		
Southbound								
L	296	1719	0.50	0.69	16.1	B		
T	1247	1810	0.83	0.69	15.2	B	15.3	B

Intersection Delay = 22.8 (sec/veh) Intersection LOS = C

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2011
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711AMEX7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1263			616	19
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	0	1403			684	21
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				27		5
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				30		5
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage				/		No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						35	
C(m) (vph)	869						384	
v/c	0.00						0.09	
95% queue length	0.00						0.30	
Control Delay	9.1						15.3	
LOS	A						C	
Approach Delay							15.3	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2011
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711PMEX7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	967			1287	45
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	1074			1430	50
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				20		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				22		2
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage			/		No	/
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						24	
C(m) (vph)	436						278	
v/c	0.01						0.09	
95% queue length	0.02						0.28	
Control Delay	13.3						19.2	
LOS	B						C	
Approach Delay							19.2	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1330			660	20
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	0	1477			733	22
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				28		5
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				31		5
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage				/		No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						36	
C(m) (vph)	832						358	
v/c	0.00						0.10	
95% queue length	0.00						0.33	
Control Delay	9.3						16.2	
LOS	A						C	
Approach Delay							16.2	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	1030			1360	47
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	1144			1511	52
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				21		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				23		2
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage				/		No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						25	
C(m) (vph)	405						254	
v/c	0.01						0.10	
95% queue length	0.02						0.32	
Control Delay	14.0						20.7	
LOS	B						C	
Approach Delay							20.7	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1484			965	20
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	0	1648			1072	22
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				28		5
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				31		5
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						36	
C(m) (vph)	616						255	
v/c	0.00						0.14	
95% queue length	0.00						0.48	
Control Delay	10.8						21.4	
LOS	B						C	
Approach Delay							21.4	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	1427			1574	47
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	1585			1748	52
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				21		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				23		2
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						25	
C(m) (vph)	326						193	
v/c	0.01						0.13	
95% queue length	0.03						0.44	
Control Delay	16.1						26.4	
LOS	C						D	
Approach Delay							26.4	
Approach LOS							D	

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2011
Period: PEAK AM HOUR
Project ID: 1711AMEX8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2011 EXISTING TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				49		50		1172		77	586	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P	P		
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green		25.0					30.0	50.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.08	0.21	38.5	D		
							27.0	C
R	725	1450	0.08	0.50	15.8	B		
Northbound								
T	1464	3514	0.89	0.42	40.9	D	40.9	D
Southbound								
L	428	1710	0.20	0.25	36.6	D		
T	2428	3428	0.27	0.71	6.6	A	10.1	B

Intersection Delay = 29.6 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2011
Period: PEAK PM HOUR
Project ID: 1711PMEX8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2011 EXISTING TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				183		98		818		237	1149	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left	P				SB	Left	P			
Thru						Thru	P	P		
Right	P					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green	25.0						30.0	50.0		
Yellow	3.0						3.0	3.0		
All Red	2.0						2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.31	0.21	41.4	D		
							32.8	C
R	725	1450	0.15	0.50	16.7	B		
Northbound								
T	1464	3514	0.62	0.42	29.5	C	29.5	C
Southbound								
L	428	1710	0.61	0.25	46.3	D		
T	2428	3428	0.53	0.71	9.0	A	15.3	B

Intersection Delay = 22.0 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMNB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2021 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				51		53		1235		81	628	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P	P		
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green		25.0					30.0	50.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.09	0.21	38.6	D		
							27.0	C
R	725	1450	0.08	0.50	15.9	B		
Northbound								
T	1464	3514	0.94	0.42	46.2	D	46.2	D
Southbound								
L	428	1710	0.21	0.25	36.7	D		
T	2428	3428	0.29	0.71	6.7	A	10.1	B

Intersection Delay = 32.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMNB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2021 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				192		103		874		343	1215	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru		P		
Right					Right				
Peds					Peds				
WB Left	P				SB Left	P			
Thru					Thru	P	P		
Right	P				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	P			
Green	25.0					30.0	50.0		
Yellow	3.0					3.0	3.0		
All Red	2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.33	0.21	41.7	D		
							33.0	C
R	725	1450	0.16	0.50	16.7	B		
Northbound								
T	1464	3514	0.66	0.42	30.6	C	30.6	C
Southbound								
L	428	1710	0.89	0.25	66.6	E		
T	2428	3428	0.56	0.71	9.3	A	21.9	C

Intersection Delay = 25.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				108		53		1360		81	877	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P	P		
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green		25.0					30.0	50.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.18	0.21	39.7	D		
							31.8	C
R	725	1450	0.08	0.50	15.9	B		
Northbound								
T	1464	3514	1.03	0.42	67.2	E	67.2	E
Southbound								
L	428	1710	0.21	0.25	36.7	D		
T	2428	3428	0.40	0.71	7.6	A	10.1	B

Intersection Delay = 42.8 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				232		103		1197		343	1389	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P	P		
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green		25.0					30.0	50.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.39	0.21	42.7	D		
							34.8	C
R	725	1450	0.16	0.50	16.7	B		
Northbound								
T	1464	3514	0.91	0.42	42.7	D	42.7	D
Southbound								
L	428	1710	0.89	0.25	66.6	E		
T	2428	3428	0.64	0.71	10.6	B	21.7	C

Intersection Delay = 30.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB8 (WITH SIGNAL IMPROVEMENTS)
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				108		53		1360		81	877	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		A		
Right						Right				
Peds						Peds				
WB Left		A			SB	Left	A			
Thru						Thru	A	A		
Right		A				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	A			
Green		23.0					22.0	60.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	603	3146	0.20	0.19	40.9	D		
							34.5	C
R	604	1450	0.10	0.42	21.4	C		
Northbound								
T	1757	3514	0.86	0.50	30.9	C	30.9	C
Southbound								
L	314	1710	0.29	0.18	42.7	D		
T	2485	3428	0.39	0.73	6.4	A	9.5	A

Intersection Delay = 22.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB8 (WITH SIGNAL IMPROVEMENTS)
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				232		103		1197		343	1389	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		A		
Right						Right				
Peds						Peds				
WB Left	A				SB	Left	A			
Thru						Thru	A	A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	A			
Green	25.0						32.0	48.0		
Yellow	3.0						3.0	3.0		
All Red	2.0						2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.39	0.21	41.4	D		
							33.4	C
R	749	1450	0.15	0.52	15.3	B		
Northbound								
T	1406	3514	0.95	0.40	48.0	D	48.0	D
Southbound								
L	456	1710	0.84	0.27	54.2	D		
T	2428	3428	0.64	0.71	9.8	A	18.6	B

Intersection Delay = 30.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2011
Period: PEAK AM HOUR
Project ID: 1711AMEX9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2011 EXISTING TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	14	6	279	24	3	5	105	786	18	6	1292	23
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						58.0	11.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	269	1535	0.09	0.17	41.6	D	25.8	C
R	670	1546	0.46	0.43	24.6	C		
Westbound								
LTR	284	1621	0.13	0.17	42.0	D	42.0	D
Northbound								
L	512	1745	0.23	0.74	29.0	C		
TR	2149	3485	0.42	0.62	12.0	B	14.0	B
Southbound								
L	367	1710	0.02	0.57	16.9	B		
TR	1653	3419	0.88	0.48	34.1	C	34.0	C

Intersection Delay = 26.0 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2011
Period: PEAK PM HOUR
Project ID: 1711PMEX9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2011 EXISTING TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	22	11	229	42	24	24	278	1579	75	20	929	26
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						56.0	13.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	255	1460	0.14	0.17	42.1	D	24.5	C
R	696	1546	0.36	0.45	22.0	C		
Westbound								
LTR	290	1658	0.35	0.17	44.2	D	44.2	D
Northbound								
L	613	1745	0.50	0.74	26.3	C		
TR	2142	3473	0.86	0.62	22.4	C	23.0	C
Southbound								
L	203	1710	0.11	0.55	44.8	D		
TR	1593	3414	0.67	0.47	25.8	C	26.2	C

Intersection Delay = 24.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMNB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2021 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	15	6	358	25	3	5	131	825	19	6	1357	24
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						58.0	11.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	267	1525	0.09	0.17	41.6	D	28.2	C
R	670	1546	0.59	0.43	27.4	C		
Westbound								
LTR	282	1614	0.13	0.17	42.0	D	42.0	D
Northbound								
L	512	1745	0.29	0.74	31.2	C		
TR	2149	3485	0.44	0.62	12.2	B	14.8	B
Southbound								
L	352	1710	0.02	0.57	17.5	B		
TR	1653	3419	0.93	0.48	38.7	D	38.6	D

Intersection Delay = 28.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMNB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2021 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	23	12	284	44	25	25	369	1658	79	21	975	27
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						56.0	13.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	256	1464	0.15	0.17	42.2	D	25.4	C
R	696	1546	0.45	0.45	23.3	C		
Westbound								
LTR	289	1652	0.36	0.17	44.4	D	44.4	D
Northbound								
L	599	1745	0.68	0.74	33.9	C		
TR	2142	3473	0.90	0.62	25.6	C	27.0	C
Southbound								
L	203	1710	0.11	0.55	47.3	D		
TR	1593	3414	0.70	0.47	26.7	C	27.1	C

Intersection Delay = 27.4 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	15	6	364	25	3	5	134	834	19	6	1374	24
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						58.0	11.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	267	1525	0.09	0.17	41.6	D	28.4	C
R	670	1546	0.60	0.43	27.6	C		
Westbound								
LTR	282	1614	0.13	0.17	42.0	D	42.0	D
Northbound								
L	512	1745	0.29	0.74	31.5	C		
TR	2149	3485	0.44	0.62	12.3	B	14.9	B
Southbound								
L	349	1710	0.02	0.57	17.6	B		
TR	1653	3419	0.94	0.48	40.4	D	40.3	D

Intersection Delay = 29.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	23	12	288	44	25	25	376	1680	79	21	987	27
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						56.0	13.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	256	1464	0.15	0.17	42.2	D	25.4	C
R	696	1546	0.46	0.45	23.4	C		
Westbound								
LTR	289	1652	0.36	0.17	44.4	D	44.4	D
Northbound								
L	595	1745	0.70	0.74	35.0+	D		
TR	2142	3473	0.91	0.62	26.7	C	28.1	C
Southbound								
L	203	1710	0.11	0.55	47.7	D		
TR	1593	3414	0.71	0.47	26.9	C	27.4	C

Intersection Delay = 28.1 (sec/veh) Intersection LOS = C

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: OCTOBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711AMEX10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		170	481	45	80	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		188	534	50	88	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	114		25			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	126		27			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		50		153				
C(m) (vph)		866		493				
v/c		0.06		0.31				
95% queue length		0.18		1.31				
Control Delay		9.4		15.6				
LOS		A		C				
Approach Delay				15.6				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: OCTOBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2011 EXISTING TRAFFIC VOLUMES
Project ID: 1711PMEX10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		122	225	40	172	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		135	250	44	191	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	421		58			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	467		64			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		44		531				
C(m) (vph)		1157		563				
v/c		0.04		0.94				
95% queue length		0.12		12.25				
Control Delay		8.2		52.2				
LOS		A		F				
Approach Delay				52.2				
Approach LOS				F				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: OCTOBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		184	505	51	96	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		204	561	56	106	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	120		27			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	133		30			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		56		163				
C(m) (vph)		835		460				
v/c		0.07		0.35				
95% queue length		0.22		1.58				
Control Delay		9.6		17.1				
LOS		A		C				
Approach Delay				17.1				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: OCTOBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		142	236	45	189	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		157	262	50	210	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	442		66			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	491		73			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		50		564				
C(m) (vph)		1124		527				
v/c		0.04		1.07				
95% queue length		0.14		17.04				
Control Delay		8.4		87.1				
LOS		A		F				
Approach Delay				87.1				
Approach LOS				F				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		184	522	63	96	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		204	580	70	106	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	128		33			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	142		36			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		70		178				
C(m) (vph)		821		438				
v/c		0.09		0.41				
95% queue length		0.28		1.94				
Control Delay		9.8		18.7				
LOS		A		C				
Approach Delay				18.7				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		142	248	53	189	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		157	275	58	210	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	464		81			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	515		90			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		58		605				
C(m) (vph)		1112		514				
v/c		0.05		1.18				
95% queue length		0.16		21.79				
Control Delay		8.4		124.6				
LOS		A		F				
Approach Delay				124.6				
Approach LOS				F				

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: OCTOBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMNB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd:
Year : 2021 NO-BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				120		27		184	505	51	96	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A			
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	30.0					50.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	596	1787	0.27	0.33	22.3	C	22.3	C
Northbound								
TR	892	1606	0.86	0.56	25.3	C	25.3	C
Southbound								
LT	637	1146	0.26	0.56	10.6	B	10.6	B

Intersection Delay = 22.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: OCTOBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMNB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd:
Year : 2021 NO-BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				442		66		142	236	45	189	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A			
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	36.0					44.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	718	1796	0.79	0.40	29.4	C	29.4	C
Northbound								
TR	798	1632	0.53	0.49	16.5	B	16.5	B
Southbound								
LT	739	1511	0.35	0.49	14.5	B	14.5	B

Intersection Delay = 21.9 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				128		33		184	522	63	96	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	A			
Right						Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru						Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	30.0						50.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	594	1783	0.30	0.33	22.5	C	22.5	C
Northbound								
TR	891	1604	0.88	0.56	27.5	C	27.5	C
Southbound								
LT	561	1010	0.32	0.56	11.1	B	11.1	B

Intersection Delay = 24.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd:
Year : 2021 BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				464		81		142	248	53	189	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	A			
Right						Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru						Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	36.0						44.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 90.0 secs

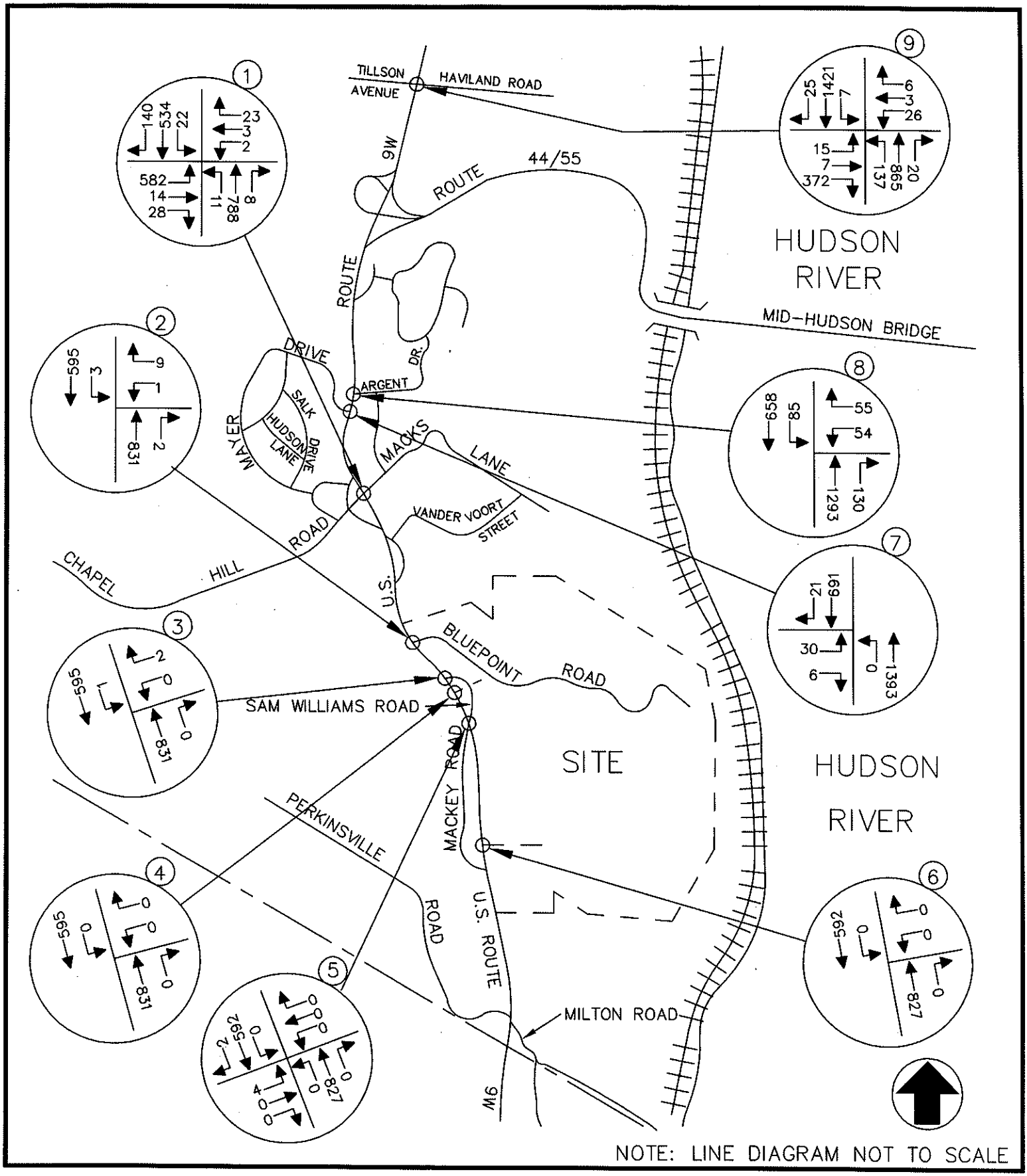
Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	717	1793	0.85	0.40	33.7	C	33.7	C
Northbound								
TR	796	1629	0.55	0.49	16.8	B	16.8	B
Southbound								
LT	713	1459	0.38	0.49	14.8	B	14.8	B

Intersection Delay = 24.2 (sec/veh) Intersection LOS = C

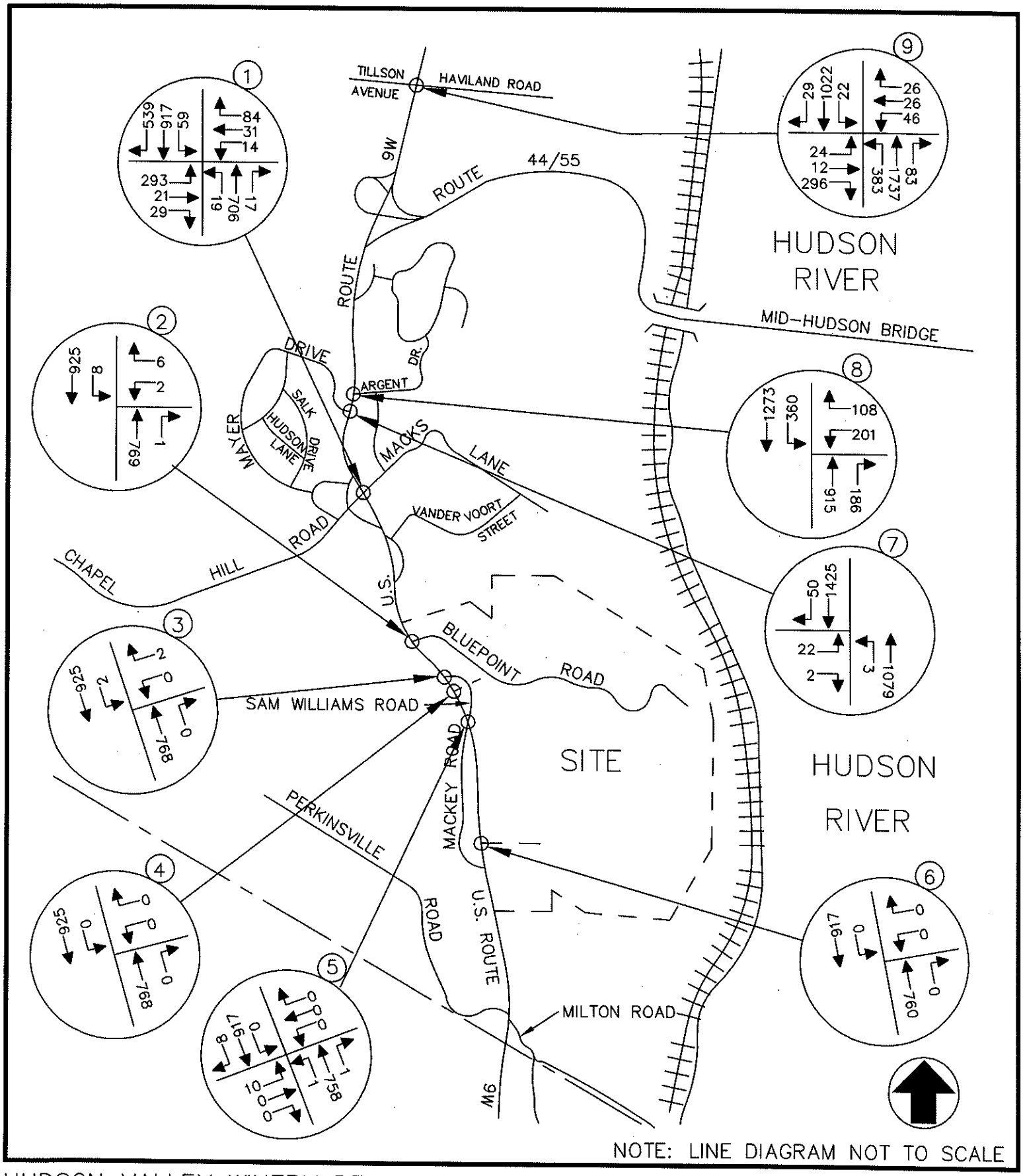
2031

BUILD OUT CONDITIONS



HUDSON VALLEY WINERY REDEVELOPMENT 2031 NO-BUILD TRAFFIC VOLUMES
LLOYD, NEW YORK WEEKDAY PEAK AM HOUR

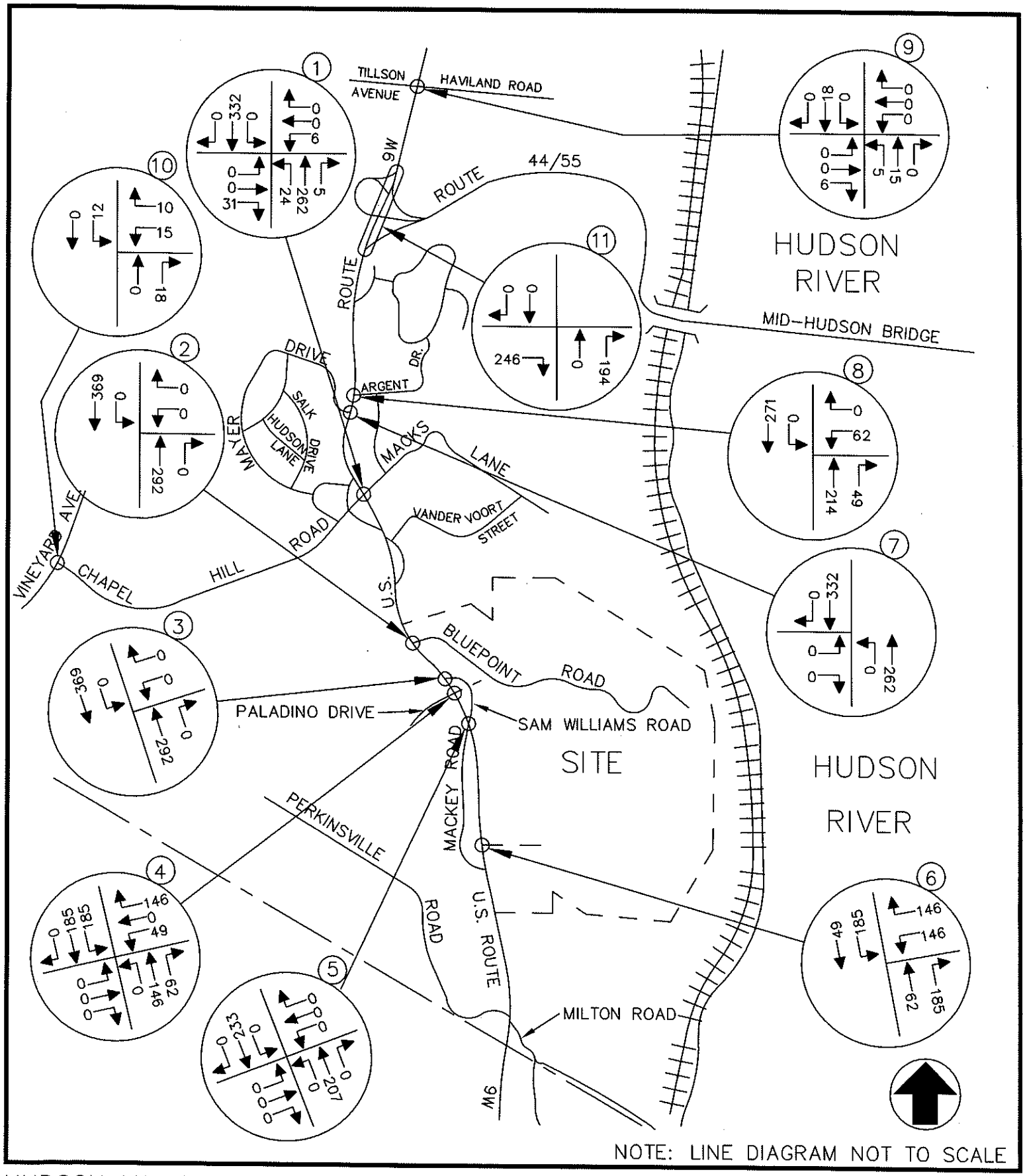
JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK PROJECT NO. 1711 DATE: SEPTEMBER 2012 FIG. NO. 4A



NOTE: LINE DIAGRAM NOT TO SCALE

HUDSON VALLEY WINERY REDEVELOPMENT 2031 NO-BUILD TRAFFIC VOLUMES
LLOYD, NEW YORK WEEKDAY PEAK PM HOUR

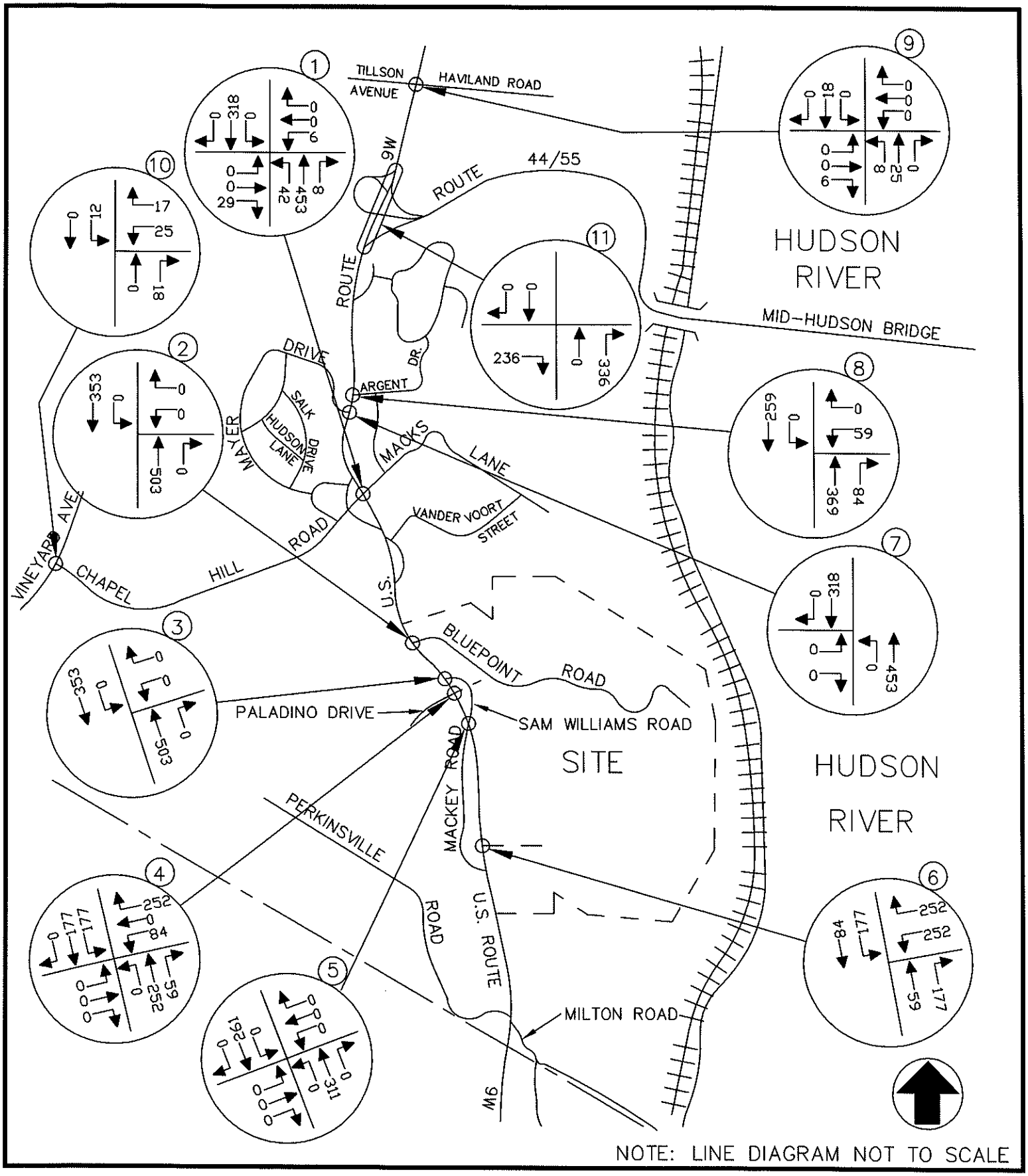
JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK PROJECT NO. 1711 DATE: SEPTEMBER 2012 FIG. NO. 5A



HUDSON VALLEY WINERY REDEVELOPMENT SITE GENERATED TRAFFIC VOLUMES
LLOYD, NEW YORK
WEEKDAY PEAK AM HOUR

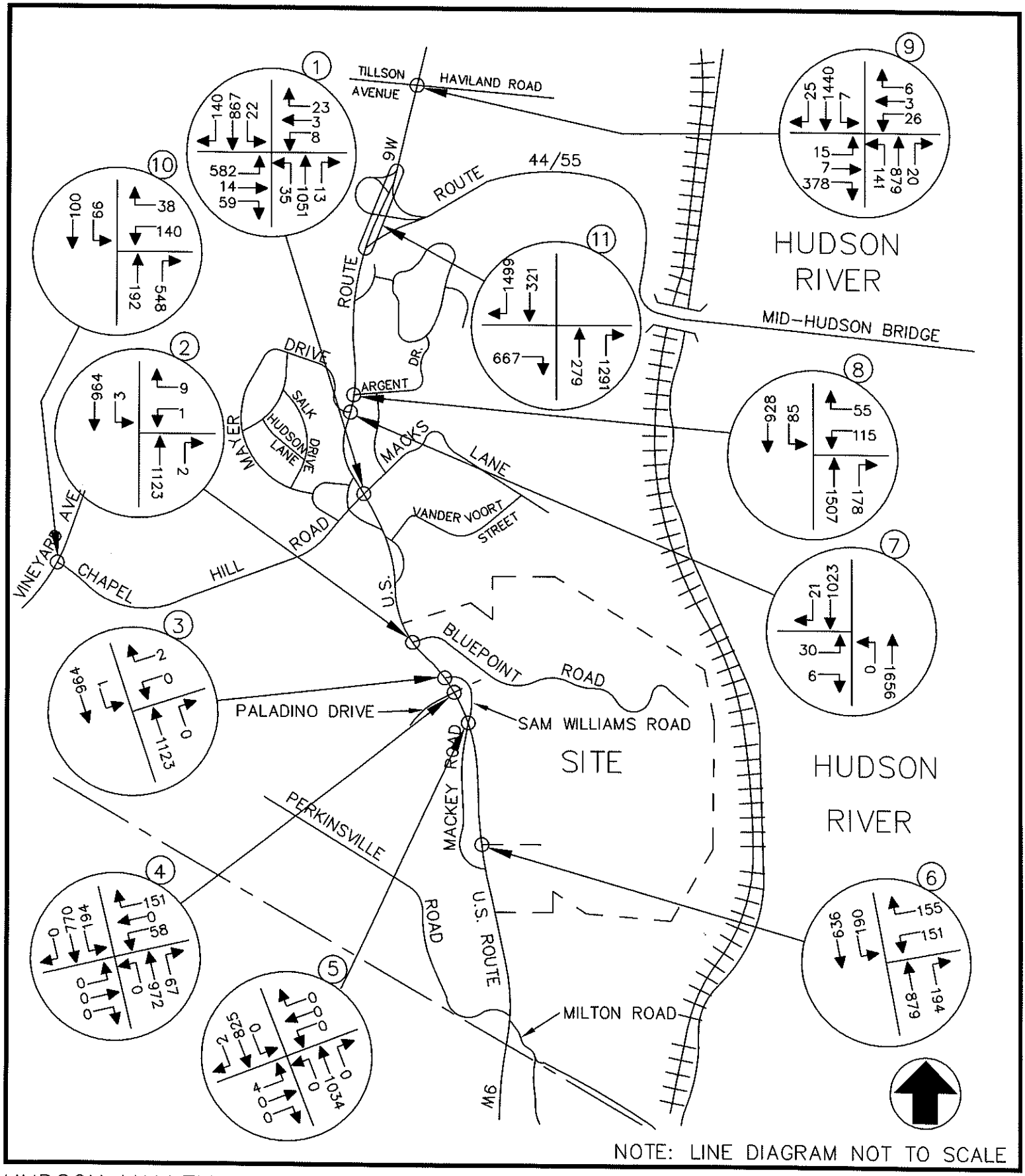
JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 8A



HUDSON VALLEY WINERY REDEVELOPMENT SITE GENERATED TRAFFIC VOLUMES
LLOYD, NEW YORK WEEKDAY PEAK PM HOUR

JOHN COLLINS ENGINEERS, P.C.
HAWTHORNE , NEW YORK PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 9A

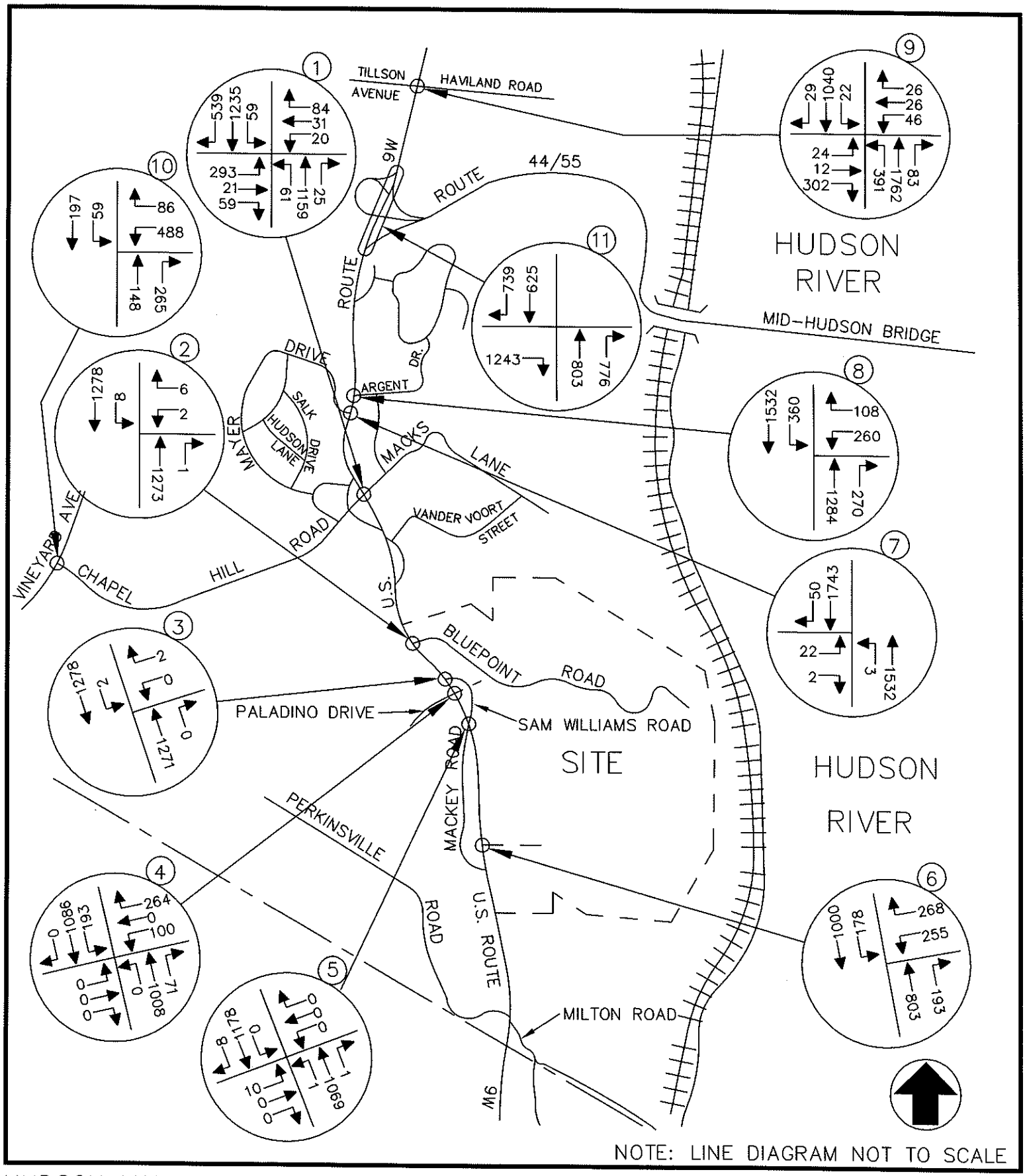


HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

2031 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR

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

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 10A



HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

2031 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

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

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 11A

TABLE 1-BD (2031 BUILD OUT)

PROPOSED DEVELOPMENT PLAN
HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

HUDSON VALLEY WINE VILLAGE LLOYD,NY	ENTRY			EXIT		
	HTGR*	VOLUME	NEW TRIPS	HTGR*	VOLUME	NEW TRIPS
LIGHT INDUSTRIAL (450,000 S.F.)						
PEAK AM HOUR	0.86	389	350	0.12	53	48
PEAK PM HOUR	0.13	58	52	0.95	428	385
HOTEL W/CONFERENCE CENTER (103 ROOMS)						
PEAK AM HOUR	0.25	26	26	0.16	17	17
PEAK PM HOUR	0.31	32	32	0.28	29	29
OFFICE (50,000 S.F.)						
PEAK AM HOUR	1.93	97	87	0.26	13	12
PEAK PM HOUR	0.46	23	21	2.23	112	101
RETAIL (51,727 S.F.)						
PEAK AM HOUR	0.96	50	38	0.59	31	23
PEAK PM HOUR	2.86	148	111	3.10	160	120
SINGLE FAMILY (47 DWELLING UNITS)						
PEAK AM HOUR	0.23	11	11	0.68	32	32
PEAK PM HOUR	0.71	34	34	0.42	20	20
APARTMENT (584 DWELLING UNITS)						
PEAK AM HOUR	0.10	58	58	0.40	232	232
PEAK PM HOUR	0.38	220	220	0.20	119	119
TOWNHOME (282 DWELLING UNITS)						
PEAK AM HOUR	0.07	20	20	0.35	98	98
PEAK PM HOUR	0.33	94	94	0.16	46	46
HIGH TURNOVER SIT-DOWN RESTAURANT (140 SEATS)						
PEAK AM HOUR	0.24	34	26	0.23	32	24
PEAK PM HOUR	0.23	33	25	0.18	25	19
PEAK AM HOUR	-		615	-		486
PEAK PM HOUR	-		589	-		839

NOTES:

1) TRIP GENERATION RATES FOR LAND USE 110 - LIGHT INDUSTRIAL, 310 - HOTEL, 932 - HIGH TURNOVER RESTAURANT, 710 - OFFICE, 820 - SHOPPING CENTER, 210- SINGLE FAMILY HOME, 220 - APARTMENT, 230 - TOWNHOME, AND 932 - HIGH TURNOVER SIT-DOWN RESTAURANT BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 8TH EDITION, 2008.

2) "NEW" TRIPS REFLECT A 25% PASS-BY IS USED FOR RETAIL PORTION OF THE DEVELOPMENT AND A 10% INTERNAL TRIP CREDIT FOR LIGHT INDUSTRIAL & OFFICE AS INTERPLAY WITH RESIDENTIAL AND OTHER ON SITE USES AS PER ITE PROCEDURES.

3) OFFICE AND RETAIL TOTALS SHOWN ABOVE, ALSO ACCOUNT FOR THE ADAPTIVE REUSE OF THE 51,727 S.F. WINERY BUILDING.

TABLE NO. 2A

LEVEL OF SERVICE SUMMARY TABLE
(PROPOSED DEVELOPMENT BUILD OUT)

			2011 EXISTING		2031 NO-BUILD		2031 BUILD	
			AM	PM	AM	PM	AM	PM
1	U.S. ROUTE 9W &	**SIGNALIZED**						
	CHAPEL HILL ROAD/	EB	C[34.2]	E[75.8]	D[38.7]	F[100.8]	D[40.3]	F[131.0]
	MACKS LANE	WB	D[39.7]	E[63.3]	D[39.9]	E[78.4]	D[40.3]	F[87.3]
		NB	B[16.3]	A[7.8]	B[17.0]	A[8.2]	C[20.4]	B[10.4]
		SB	C[33.6]	C[32.5]	D[43.6]	D[53.4]	F[244.8]	F[187.4]
		OVERALL	C[26.9]	C[32.9]	C[31.4]	D[47.0]	F[100.0]	F[103.8]
	WITH SIGNAL TIMING &	EB	-	-	-	-	D[50.3]	F[131.0]
	PHASING IMPROVEMENTS	WB	-	-	-	-	D[40.3]	F[87.3]
		NB	-	-	-	-	B[18.5]	B[10.4]
		SB	-	-	-	-	D[54.4]	F[187.4]
		OVERALL	-	-	-	-	D[38.5]	F[103.8]
	W/ GEOMETRIC IMPROVEMENTS	EB	-	-	-	-	D[50.3]	F[131.0]
	ON MACK'S LANE	WB	-	-	-	-	D[40.0]	D[48.3]
		NB	-	-	-	-	B[17.6]	A[9.1]
		SB	-	-	-	-	D[42.7]	F[132.7]
		OVERALL	-	-	-	-	C[34.2]	E[78.5]
2	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	BLUEPOINT ROAD	WB	B[13.7]	B[14.9]	B[14.6]	C[16.1]	C[19.7]	D[28.5]
		SB	A[9.6]	A[9.3]	A[10.0]	A[9.7]	B[11.6]	B[12.8]
3	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	SAM WILLIAMS ROAD	WB	C[15.7]	B[14.5]	C[17.1]	C[16.0]	C[24.4]	D[27.8]
	(NORTH LEG)	SB	A[9.6]	A[9.3]	A[10.0]	A[9.7]	B[11.6]	B[12.6]
4	U.S. ROUTE 9W &	**SIGNALIZED**						
	SITE ACCESS DRIVEWAY	EB	-	-	-	-	C[34.7]	C[34.7]
	(NORTH)	WB	-	-	-	-	C[31.3]	D[38.0]
		NB	-	-	-	-	C[28.4]	D[45.1]
		SB	-	-	-	-	C[23.0]	B[18.2]
		OVERALL	-	-	-	-	C[26.3]	C[31.5]
5	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	SAM WILLIAMS ROAD/	EB	D[32.9]	E[49.4]	E[41.0]	F[69.0]	F[84.9]	F[233.7]
	MACKEY ROAD	WB	C[15.3]	B[14.2]	C[16.7]	B[15.5]	C[21.1]	C[22.1]
		NB	A[8.7]	A[9.9]	A[8.9]	B[10.4]	A[9.9]	B[12.0]
		SB	A[9.6]	A[9.2]	A[9.9]	A[9.6]	B[11.0]	B[11.2]
	WITH IMPROVEMENTS ON	EB	-	-	-	-	D[25.6]	D[27.6]
	ROUTE 9W AT SITE ACCESS	WB	-	-	-	-	C[21.1]	C[22.1]
		NB	-	-	-	-	A[9.9]	B[12.0]
		SB	-	-	-	-	B[11.0]	B[11.2]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

2) SEE APPENDIX "D" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

3) INCLUDES TURN LANES AND SIGNAL IMPROVEMENTS AT SITE ACCESS CONNECTION TO ROUTE 9W.

TABLE NO. 2A (CONTINUED)

LEVEL OF SERVICE SUMMARY TABLE (PROPOSED DEVELOPMENT BUILD OUT)

			2011 EXISTING		2031 NO-BUILD		2031 BUILD	
			AM	PM	AM	PM	AM	PM
6	U.S. ROUTE 9W & SITE ACCESS DRIVEWAY (SOUTH)	**SIGNALIZED**						
		WB	-	-	-	-	C[28.9]	D[36.0]
		NB	-	-	-	-	C[31.4]	C[32.7]
		SB	-	-	-	-	C[25.2]	C[21.7]
		OVERALL	-	-	-	-	C[28.7]	C[28.5]
7	U.S. ROUTE 9W & MAYER DRIVE	**UNSIGNALIZED**						
		EB	C[15.3]	C[19.2]	C[16.8]	C[22.1]	C[24.3]	D[32.0]
		NB	A[9.1]	B[13.3]	A[9.5]	B[14.6]	B[11.2]	C[18.3]
8	U.S. ROUTE 9W & ARGENT DRIVE	**SIGNALIZED**						
		WB	C[27.0]	C[32.8]	C[27.2]	C[33.1]	C[32.1]	D[35.7]
		NB	D[40.9]	C[29.5]	D[54.1]	C[31.5]	F[108.2]	D[52.6]
		SB	B[10.1]	B[15.3]	B[10.2]	C[22.6]	B[10.3]	C[23.7]
		OVERALL	C[29.6]	C[22.0]	D[37.5]	C[26.6]	E[66.5]	D[35.4]
	WITH SIGNAL TIMING IMPROVEMENTS	WB	-	-	-	-	C[34.7]	C[34.5]
		NB	-	-	-	-	D[40.8]	D[49.7]
		SB	-	-	-	-	A[9.6]	C[23.5]
		OVERALL	-	-	-	-	C[28.7]	C[34.1]
9	U.S. ROUTE 9W & TILLSON AVENUE/ HAVILAND ROAD	**SIGNALIZED**						
		EB	C[25.8]	C[24.5]	C[28.8]	C[25.6]	C[29.1]	C[25.7]
		WB	D[42.0]	D[44.2]	D[42.1]	D[44.6]	D[42.1]	D[44.6]
		NB	B[14.0]	C[23.0]	B[15.1]	C[31.7]	B[15.3]	C[33.7]
		SB	C[34.0]	C[26.2]	D[46.1]	C[28.1]	D[49.0]	C[28.5]
		OVERALL	C[26.0]	C[24.7]	C[32.8]	C[30.5]	C[34.3]	C[31.8]
10	VINEYARD AVENUE & CHAPEL HILL ROAD	**UNSIGNALIZED**						
		WB	C[15.6]	F[52.2]	C[18.2]	F[118.4]	C[20.8]	F[173.9]
		SB	A[9.4]	A[8.2]	A[9.8]	A[8.4]	A[10.0]	A[8.5]
	WITH SIGNALIZATION	WB	-	-	C[22.4]	C[31.9]	C[22.8]	D[38.4]
		NB	-	-	C[29.6]	B[16.9]	C[33.1]	B[17.4]
		SB	-	-	B[10.8]	B[14.7]	B[11.4]	B[15.3]
		OVERALL	-	-	C[25.7]	C[23.2]	C[28.1]	C[26.7]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

2) SEE APPENDIX "D" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

3) INCLUDES TURN LANES AND SIGNAL IMPROVEMENTS AT SITE ACCESS CONNECTION TO ROUTE 9W.

JOB NO. 1711

12/27/2012

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMNB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2031 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	582	14	28	2	3	23	11	788	8	22	534	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left		A			NB Left	A	A		
Thru		A			Thru	A	A		
Right		A			Right	A	A		
Peds					Peds				
WB Left	A				SB Left		A		
Thru	A				Thru		A		
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	7.0	25.0				7.0	31.0		
Yellow	3.0	3.0				3.0	3.0		
All Red	2.0	2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	462	1662	0.84	0.28	43.6	D		
LTR	459	1653	0.67	0.28	32.5	C	38.7	D
Westbound								
LTR	133	1706	0.23	0.08	39.9	D	39.9	D
Northbound								
L	212	1702	0.06	0.48	17.2	B		
TR	1627	3406	0.54	0.48	17.0	B	17.0	B
Southbound								
L	204	591	0.12	0.34	20.4	C		
T	654	1898	0.91	0.34	44.6	D	43.6	D

Intersection Delay = 31.4 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMNB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2031 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	293	21	29	14	31	84	19	706	17	59	917	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	1.00	0.11	106.2	F		
LTR	183	1645	0.96	0.11	95.1	F	100.8	F
Westbound								
LTR	156	1752	0.87	0.09	78.4	E	78.4	E
Northbound								
L	212	1702	0.09	0.63	18.2	B		
TR	2153	3399	0.35	0.63	7.9	A	8.2	A
Southbound								
L	334	668	0.19	0.50	12.7	B		
T	949	1898	1.02	0.50	56.0	E	53.4	D

Intersection Delay = 47.0 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	582	14	59	8	3	23	35	1051	13	22	867	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	25.0					7.0	31.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	462	1662	0.84	0.28	43.6	D		
LTR	454	1636	0.75	0.28	36.6	D	40.3	D
Westbound								
LTR	135	1731	0.28	0.08	40.3	D	40.3	D
Northbound								
L	212	1702	0.18	0.48	18.8	B		
TR	1627	3405	0.73	0.48	20.5	C	20.4	C
Southbound								
L	114	330	0.21	0.34	21.8	C		
T	654	1898	1.47	0.34	250.4	F	244.8	F

Intersection Delay = 100.0 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	293	21	59	20	31	84	61	1159	25	59	1235	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	1.00	0.11	106.2	F		
LTR	180	1622	1.15	0.11	153.2	F	131.0	F
Westbound								
LTR	156	1756	0.91	0.09	87.3	F	87.3	F
Northbound								
L	212	1702	0.30	0.63	19.3	B		
TR	2153	3400	0.58	0.63	9.9	A	10.4	B
Southbound								
L	198	396	0.31	0.50	14.2	B		
T	949	1898	1.37	0.50	195.7	F	187.4	F

Intersection Delay = 103.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1 (WITH IMPROVEMENTS)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	582	14	59	8	3	23	35	1051	13	22	867	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A			
Thru		A				Thru	A			
Right		A				Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	23.0					45.0			
Yellow	3.0	3.0					3.0			
All Red	2.0	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	425	1662	0.91	0.26	56.4	E		
LTR	418	1636	0.82	0.26	43.4	D	50.3	D
Westbound								
LTR	135	1731	0.28	0.08	40.3	D	40.3	D
Northbound								
L	80	159	0.49	0.50	19.5	B		
TR	1703	3405	0.69	0.50	18.5	B	18.5	B
Southbound								
L	129	257	0.19	0.50	13.1	B		
T	949	1898	1.01	0.50	55.4	E	54.4	D

Intersection Delay = 38.5 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1 (WITH IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	293	21	59	20	31	84	61	1159	25	59	1235	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	1.00	0.11	106.2	F		
LTR	180	1622	1.15	0.11	153.2	F	131.0	F
Westbound								
LTR	156	1756	0.91	0.09	87.3	F	87.3	F
Northbound								
L	212	1702	0.30	0.63	19.3	B		
TR	2153	3400	0.58	0.63	9.9	A	10.4	B
Southbound								
L	198	396	0.31	0.50	14.2	B		
T	949	1898	1.37	0.50	195.7	F	187.4	F

Intersection Delay = 103.8 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1 (WITH GEOMETRY IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	1	2	0	1	1	0
LGConfig	L	LTR			LT	R	L	TR		L	T	
Volume	582	14	59	8	3	23	35	1051	13	22	867	
Lane Width	11.0	11.0			12.0	12.0	12.0	12.0		12.0	13.0	
RTOR Vol			0			10			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A			
Thru		A				Thru	A			
Right		A				Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	23.0					46.0			
Yellow	3.0	3.0					3.0			
All Red	2.0	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	425	1662	0.91	0.26	56.4	E		
LTR	418	1636	0.82	0.26	43.4	D	50.3	D
Westbound								
LT	116	1744	0.10	0.07	39.9	D	40.0	D
R	103	1538	0.14	0.07	40.2	D		
Northbound								
L	80	156	0.49	0.51	18.9	B		
TR	1740	3405	0.68	0.51	17.6	B	17.6	B
Southbound								
L	136	266	0.18	0.51	12.4	B		
T	970	1898	0.99	0.51	43.4	D	42.7	D

Intersection Delay = 34.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1 (WITH GEOMETRY IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	1	2	0	1	1	0
LGConfig	L	LTR			LT	R	L	TR		L	T	
Volume	293	21	59	20	31	84	61	1159	25	59	1235	
Lane Width	11.0	11.0			12.0	12.0	12.0	12.0		12.0	13.0	
RTOR Vol			0			30			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	5.5	10.0					5.5	49.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	1.00	0.11	106.2	F		
LTR	180	1622	1.15	0.11	153.2	F	131.0	F
Westbound								
LT	108	1775	0.50	0.06	44.5	D	48.3	D
R	94	1538	0.61	0.06	51.9	D		
Northbound								
L	184	1702	0.35	0.66	20.9	C		
TR	2248	3400	0.55	0.66	8.5	A	9.1	A
Southbound								
L	216	397	0.29	0.54	11.8	B		
T	1033	1898	1.26	0.54	138.4	F	132.7	F

Intersection Delay = 78.5 (sec/veh) Intersection LOS = E

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		831	2	3	595	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		923	2	3	661	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1		9			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	1		10			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		11				
C(m) (vph)		727		386				
v/c		0.00		0.03				
95% queue length		0.01		0.09				
Control Delay		10.0-		14.6				
LOS		A		B				
Approach Delay				14.6				
Approach LOS				B				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		769	1	8	925	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		854	1	8	1027	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	2		6			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	2		6			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		8		8				
C(m) (vph)		772		332				
v/c		0.01		0.02				
95% queue length		0.03		0.07				
Control Delay		9.7		16.1				
LOS		A		C				
Approach Delay				16.1				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst:
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1123	2	3	964	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1247	2	3	1071	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1		9			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	1		10			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		11				
C(m) (vph)		547		256				
v/c		0.01		0.04				
95% queue length		0.02		0.13				
Control Delay		11.6		19.7				
LOS		B		C				
Approach Delay				19.7				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1273	1	8	1278	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1414	1	8	1420	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	2		6			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	2		6			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		8		8				
C(m) (vph)		472		161				
v/c		0.02		0.05				
95% queue length		0.05		0.16				
Control Delay		12.8		28.5				
LOS		B		D				
Approach Delay				28.5				
Approach LOS				D				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		831	0	1	595	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		923	0	1	661	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		2				
C(m) (vph)		728		299				
v/c		0.00		0.01				
95% queue length		0.00		0.02				
Control Delay		10.0-		17.1				
LOS		A		C				
Approach Delay				17.1				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		768	0	2	925	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		853	0	2	1027	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		0	1
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		2		2				
C(m) (vph)		773		330				
v/c		0.00		0.01				
95% queue length		0.01		0.02				
Control Delay		9.7		16.0				
LOS		A		C				
Approach Delay				16.0				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1123	0	1	964	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1247	0	1	1071	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		0	1
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		2				
C(m) (vph)		548		188				
v/c		0.00		0.01				
95% queue length		0.01		0.03				
Control Delay		11.6		24.4				
LOS		B		C				
Approach Delay				24.4				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1271	0	2	1278	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1412	0	2	1420	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0		0	1
Configuration			TR		LT	
Upstream Signal?		No				No

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		2		2				
C(m) (vph)		474		160				
v/c		0.00		0.01				
95% queue length		0.01		0.04				
Control Delay		12.6		27.8				
LOS		B		D				
Approach Delay				27.8				
Approach LOS				D				

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB4
E/W St: SITE ACCESS (NORTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS N
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	1	1	1	0
LGConfig		LTR			LT	R		LT	R	L	TR	
Volume	0	0	1	58	0	151	0	972	67	194	770	0
Lane Width		12.0			12.0	12.0		12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru	A					Thru		A		
	Right	A					Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A	A		
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right	A			
Green		11.0						7.0	57.0		
Yellow		3.0						3.0	3.0		
All Red		2.0						2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	191	1565	0.01	0.12	34.7	C	34.7	C
Westbound								
LT	161	1315	0.40	0.12	38.1	D	31.3	C
R	393	1538	0.43	0.26	28.7	C		
Northbound								
LT	1146	1810	0.94	0.63	29.9	C	28.4	C
R	974	1538	0.08	0.63	6.4	A		
Southbound								
L	215	1719	1.00	0.77	92.6	F		
TR	1388	1810	0.62	0.77	5.5	A	23.0	C

Intersection Delay = 26.3 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB4
E/W St: SITE ACCESS (NORTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS N
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	1	1	1	0
LGConfig		LTR			LT	R		LT	R	L	TR	
Volume	0	0	1	100	0	264	0	1008	71	193	1086	0
Lane Width		12.0			12.0	12.0		12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left		A		
	Thru	A					Thru		A		
	Right	A					Right		A		
	Peds						Peds				
WB	Left	A				SB	Left	A	A		
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
NB	Right					EB	Right				
SB	Right					WB	Right	A			
Green		11.0						9.0	55.0		
Yellow		3.0						3.0	3.0		
All Red		2.0						2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	191	1565	0.01	0.12	34.7	C	34.7	C
Westbound								
LT	161	1315	0.69	0.12	49.7	D	38.0	D
R	427	1538	0.69	0.28	33.6	C		
Northbound								
LT	1106	1810	1.01	0.61	47.7	D	45.1	D
R	940	1538	0.08	0.61	7.2	A		
Southbound								
L	253	1719	0.85	0.77	44.3	D		
TR	1388	1810	0.87	0.77	13.6	B	18.2	B

Intersection Delay = 31.5 (sec/veh) Intersection LOS = C

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	827	0	0	592	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	918	0	0	657	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	915	731		309			104	
v/c	0.00	0.00		0.00			0.04	
95% queue length	0.00	0.00		0.01			0.12	
Control Delay	8.9	9.9		16.7			41.0	
LOS	A	A		C			E	
Approach Delay				16.7			41.0	
Approach LOS				C			E	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	758	1	0	917	8
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	842	1	0	1018	8
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	10	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	11	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			11	
C(m) (vph)	665	780		343			67	
v/c	0.00	0.00		0.00			0.16	
95% queue length	0.00	0.00		0.01			0.55	
Control Delay	10.4	9.6		15.5			69.0	
LOS	B	A		C			F	
Approach Delay				15.5			69.0	
Approach LOS				C			F	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1034	0	0	825	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	1148	0	0	916	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	731	598		224			49	
v/c	0.00	0.00		0.00			0.08	
95% queue length	0.00	0.00		0.01			0.26	
Control Delay	9.9	11.0		21.1			84.9	
LOS	A	B		C			F	
Approach Delay				21.1			84.9	
Approach LOS				C			F	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	1069	1	0	1178	8
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	1187	1	0	1308	8
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	10	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	11	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			11	
C(m) (vph)	516	577		212			25	
v/c	0.00	0.00		0.00			0.44	
95% queue length	0.01	0.00		0.01			1.34	
Control Delay	12.0	11.2		22.1			233.7	
LOS	B	B		C			F	
Approach Delay				22.1			233.7	
Approach LOS				C			F	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB5 (WITH IMPROVEMENT)
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1034	0	0	825	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	1148	0	0	916	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	TWLTL			/ 1		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	731	598		224			179	
v/c	0.00	0.00		0.00			0.02	
95% queue length	0.00	0.00		0.01			0.07	
Control Delay	9.9	11.0		21.1			25.6	
LOS	A	B		C			D	
Approach Delay				21.1			25.6	
Approach LOS				C			D	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB5 (WITH IMPROVEMENT)
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	1069	1	0	1178	8
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	1187	1	0	1308	8
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	TWLTL			/ 1		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	10	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	11	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			11	
C(m) (vph)	516	577		212			170	
v/c	0.00	0.00		0.00			0.06	
95% queue length	0.01	0.00		0.01			0.21	
Control Delay	12.0	11.2		22.1			27.6	
LOS	B	B		C			D	
Approach Delay				22.1			27.6	
Approach LOS				C			D	

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB6
E/W St: SITE ACCESS (SOUTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS S
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	1	1	1	0
LGConfig				L		R		T	R	L	T	
Volume				151		155		879	194	190	636	
Lane Width				12.0		12.0		12.0	12.0	12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru		A		
Right					Right		A		
Peds					Peds				
WB Left	A				SB Left	A	A		
Thru					Thru	A	A		
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	A			
Green	17.0					7.0	51.0		
Yellow	3.0					3.0	3.0		
All Red	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	325	1719	0.52	0.19	34.3	C		
							28.9	C
R	496	1538	0.35	0.32	23.7	C		
Northbound								
T	1026	1810	0.95	0.57	36.1	D	31.4	C
R	872	1538	0.25	0.57	10.0-	A		
Southbound								
L	214	1719	0.99	0.70	85.4	F		
T	1267	1810	0.56	0.70	7.2	A	25.2	C

Intersection Delay = 28.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB6
E/W St: SITE ACCESS (SOUTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS S
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	1	1	1	0
LGConfig				L		R		T	R	L	T	
Volume				255		268		803	193	178	1000	
Lane Width				12.0		12.0		12.0	12.0	12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		A		
Right						Right		A		
Peds						Peds				
WB Left		A			SB	Left	A	A		
Thru						Thru	A	A		
Right		A				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	A			
Green		18.0					10.0	47.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	344	1719	0.82	0.20	49.3	D		
							36.0	D
R	564	1538	0.53	0.37	23.3	C		
Northbound								
T	945	1810	0.94	0.52	37.6	D	32.7	C
R	803	1538	0.27	0.52	12.1	B		
Southbound								
L	271	1719	0.73	0.69	33.3	C		
T	1247	1810	0.89	0.69	19.6	B	21.7	C

Intersection Delay = 28.5 (sec/veh) Intersection LOS = C

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1393			691	21
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	0	1547			767	23
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided		/			
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				30		6
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				33		6
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage			/		No	/
Lanes				0	0	
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						39	
C(m) (vph)	807						343	
v/c	0.00						0.11	
95% queue length	0.00						0.38	
Control Delay	9.5						16.8	
LOS	A						C	
Approach Delay							16.8	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: SEPTEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	1079			1425	50
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	1198			1583	55
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				22		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				24		2
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage			/			No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						26	
C(m) (vph)	378						236	
v/c	0.01						0.11	
95% queue length	0.02						0.37	
Control Delay	14.6						22.1	
LOS	B						C	
Approach Delay							22.1	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1656			1023	21
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	0	1840			1136	23
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				30		6
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				33		6
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage				/		No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						39	
C(m) (vph)	582						225	
v/c	0.00						0.17	
95% queue length	0.00						0.61	
Control Delay	11.2						24.3	
LOS	B						C	
Approach Delay							24.3	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	1532			1743	50
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	1702			1936	55
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				22		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				24		2
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage				/		No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						26	
C(m) (vph)	274						159	
v/c	0.01						0.16	
95% queue length	0.03						0.57	
Control Delay	18.3						32.0	
LOS	C						D	
Approach Delay							32.0	
Approach LOS							D	

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMNB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2031 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				54		55		1293		85	658	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P	P		
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green		25.0					30.0	50.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.09	0.21	38.6	D		
							27.2	C
R	725	1450	0.08	0.50	15.9	B		
Northbound								
T	1464	3514	0.98	0.42	54.1	D	54.1	D
Southbound								
L	428	1710	0.22	0.25	36.9	D		
T	2428	3428	0.30	0.71	6.8	A	10.2	B

Intersection Delay = 37.5 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMNB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2031 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				201		108		915		350	1273	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P	P		
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green		25.0					30.0	50.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.34	0.21	41.9	D		
							33.1	C
R	725	1450	0.17	0.50	16.8	B		
Northbound								
T	1464	3514	0.69	0.42	31.5	C	31.5	C
Southbound								
L	428	1710	0.91	0.25	69.4	E		
T	2428	3428	0.58	0.71	9.7	A	22.6	C

Intersection Delay = 26.6 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				115		55		1507		85	928	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru		P		
Right					Right				
Peds					Peds				
WB Left		P			SB Left	P			
Thru					Thru	P	P		
Right		P			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	P			
Green		25.0				30.0	50.0		
Yellow		3.0				3.0	3.0		
All Red		2.0				2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.20	0.21	39.9	D		
							32.1	C
R	725	1450	0.08	0.50	15.9	B		
Northbound								
T	1464	3514	1.14	0.42	108.2	F	108.2	F
Southbound								
L	428	1710	0.22	0.25	36.9	D		
T	2428	3428	0.42	0.71	7.8	A	10.3	B

Intersection Delay = 66.5 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				260		108		1284		360	1532	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru		P		
Right					Right				
Peds					Peds				
WB Left		P			SB Left	P			
Thru					Thru	P	P		
Right		P			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	P			
Green		25.0				30.0	50.0		
Yellow		3.0				3.0	3.0		
All Red		2.0				2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.44	0.21	43.6	D		
							35.7	D
R	725	1450	0.17	0.50	16.8	B		
Northbound								
T	1464	3514	0.97	0.42	52.6	D	52.6	D
Southbound								
L	428	1710	0.93	0.25	73.9	E		
T	2428	3428	0.70	0.71	11.9	B	23.7	C

Intersection Delay = 35.4 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB8 (WITH SIGNAL IMPROVEMENTS)
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				115		55		1507		85	928	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru		A		
Right					Right				
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A	A		
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	A			
Green	23.0					22.0	60.0		
Yellow	3.0					3.0	3.0		
All Red	2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	603	3146	0.21	0.19	41.0	D		
							34.7	C
R	604	1450	0.10	0.42	21.4	C		
Northbound								
T	1757	3514	0.95	0.50	40.8	D	40.8	D
Southbound								
L	314	1710	0.30	0.18	42.9	D		
T	2485	3428	0.41	0.73	6.6	A	9.6	A

Intersection Delay = 28.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB8 (WITH SIGNAL IMPROVEMENTS)
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				260		108		1284		360	1532	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru		A		
Right					Right				
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A	A		
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	A			
Green	25.0					29.5	50.5		
Yellow	3.0					3.0	3.0		
All Red	2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.44	0.21	41.9	D		
							34.5	C
R	719	1450	0.17	0.50	16.7	B		
Northbound								
T	1479	3514	0.96	0.42	49.7	D	49.7	D
Southbound								
L	420	1710	0.95	0.25	76.4	E		
T	2428	3428	0.70	0.71	11.1	B	23.5	C

Intersection Delay = 34.1 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMNB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2031 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	15	7	372	26	3	6	137	865	20	7	1421	25
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						58.0	11.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	268	1533	0.09	0.17	41.7	D	28.8	C
R	670	1546	0.62	0.43	28.0	C		
Westbound								
LTR	282	1610	0.14	0.17	42.1	D	42.1	D
Northbound								
L	512	1745	0.30	0.74	32.3	C		
TR	2149	3485	0.46	0.62	12.4	B	15.1	B
Southbound								
L	338	1710	0.02	0.57	18.2	B		
TR	1653	3419	0.97	0.48	46.2	D	46.1	D

Intersection Delay = 32.8 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: SEPTEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMNB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2031 NO-BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	24	12	296	46	26	26	383	1737	83	22	1022	29
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	A	A	
Thru	A					Thru	A	A		
Right	A					Right	A	A		
Peds						Peds				
WB Left	A				SB	Left	A		A	
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right		A	A	
SB Right					WB	Right				
Green	21.0						56.0	13.0	10.0	
Yellow	3.0						3.0	3.0	3.0	
All Red	2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	256	1464	0.16	0.17	42.3	D	25.6	C
R	696	1546	0.47	0.45	23.6	C		
Westbound								
LTR	288	1647	0.38	0.17	44.6	D	44.6	D
Northbound								
L	584	1745	0.73	0.74	37.3	D		
TR	2142	3473	0.94	0.62	30.5	C	31.7	C
Southbound								
L	203	1710	0.12	0.55	47.7	D		
TR	1593	3414	0.73	0.47	27.7	C	28.1	C

Intersection Delay = 30.5 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	15	7	378	26	3	6	141	879	20	7	1440	25
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						58.0	11.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	268	1533	0.09	0.17	41.7	D	29.1	C
R	670	1546	0.63	0.43	28.3	C		
Westbound								
LTR	282	1610	0.14	0.17	42.1	D	42.1	D
Northbound								
L	512	1745	0.31	0.74	32.7	C		
TR	2149	3485	0.46	0.62	12.5	B	15.3	B
Southbound								
L	333	1710	0.02	0.57	18.4	B		
TR	1653	3419	0.98	0.48	49.1	D	49.0	D

Intersection Delay = 34.3 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	24	12	302	46	26	26	391	1762	83	22	1040	29
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						56.0	13.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	256	1464	0.16	0.17	42.3	D	25.7	C
R	696	1546	0.48	0.45	23.7	C		
Westbound								
LTR	288	1647	0.38	0.17	44.6	D	44.6	D
Northbound								
L	578	1745	0.75	0.74	38.9	D		
TR	2142	3473	0.96	0.62	32.6	C	33.7	C
Southbound								
L	203	1710	0.12	0.55	47.7	D		
TR	1593	3414	0.75	0.47	28.1	C	28.5	C

Intersection Delay = 31.8 (sec/veh) Intersection LOS = C

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: OCTOBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711AMNB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		192	529	54	100	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		213	587	60	111	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	125		29			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	138		32			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		60		170				
C(m) (vph)		810		441				
v/c		0.07		0.39				
95% queue length		0.24		1.79				
Control Delay		9.8		18.2				
LOS		A		C				
Approach Delay				18.2				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: OCTOBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 NO-BUILD TRAFFIC VOLUMES
Project ID: 1711PMNB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		148	248	47	197	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		164	275	52	218	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	463		69			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	514		76			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No /			/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		52		590				
C(m) (vph)		1105		509				
v/c		0.05		1.16				
95% queue length		0.15		20.77				
Control Delay		8.4		118.4				
LOS		A		F				
Approach Delay				118.4				
Approach LOS				F				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		192	548	66	100	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		213	608	73	111	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	140		38			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	155		42			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		73		197				
C(m) (vph)		795		421				
v/c		0.09		0.47				
95% queue length		0.30		2.43				
Control Delay		10.0-		20.8				
LOS		A		C				
Approach Delay				20.8				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction:
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		148	265	59	197	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		164	294	65	218	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	488		86			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	542		95			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		65		637				
C(m) (vph)		1087		490				
v/c		0.06		1.30				
95% queue length		0.19		27.17				
Control Delay		8.5		173.9				
LOS		A		F				
Approach Delay				173.9				
Approach LOS				F				

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: OCTOBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMNB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd:
Year : 2031 NO-BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				125		29		192	529	54	100	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	A			
Right						Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru						Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	30.0						50.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	595	1786	0.29	0.33	22.4	C	22.4	C
Northbound								
TR	892	1606	0.90	0.56	29.6	C	29.6	C
Southbound								
LT	607	1093	0.28	0.56	10.8	B	10.8	B

Intersection Delay = 25.7 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: OCTOBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMNB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd:
Year : 2031 NO-BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				463		69		148	248	47	197	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A			
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	36.0					44.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	718	1796	0.82	0.40	31.9	C	31.9	C
Northbound								
TR	797	1631	0.55	0.49	16.9	B	16.9	B
Southbound								
LT	734	1501	0.37	0.49	14.7	B	14.7	B

Intersection Delay = 23.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				140		38		192	548	66	100	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A			
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	30.0					50.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	594	1782	0.33	0.33	22.8	C	22.8	C
Northbound								
TR	891	1604	0.92	0.56	33.1	C	33.1	C
Southbound								
LT	534	962	0.34	0.56	11.4	B	11.4	B

Intersection Delay = 28.1 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd:
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				488		86		148	265	59	197	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru	A			
Right						Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru						Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	36.0						44.0			
Yellow	3.0						3.0			
All Red	2.0						2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	717	1792	0.89	0.40	38.4	D	38.4	D
Northbound								
TR	796	1628	0.58	0.49	17.4	B	17.4	B
Southbound								
LT	671	1372	0.42	0.49	15.3	B	15.3	B

Intersection Delay = 26.7 (sec/veh) Intersection LOS = C

APPENDIX "D"

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

LOS A describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.

LOS D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.

LOS E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.

LOS F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 18-4 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 18-4

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
≤10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

LEVEL OF SERVICE CRITERIA
FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 19-1 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 19-1

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 19-1 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

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

LEVEL OF SERVICE CRITERIA
FOR ALL-WAY STOP-CONTROLLED (AWSC) UNSIGNALIZED INTERSECTIONS

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 20-2. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 20-2 from the *2010 Highway Capacity Manual* published by the Transportation Research Board.

Exhibit 20-2

	LOS by Volume-to-Capacity Ratio	
Control Delay (s/veh)	**v/c ≤1.0**	**v/c >1.0**
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersectionwide assessment, LOS is defined solely by control delay.

APPENDIX "E"

ACCIDENT DATA

TABLE NO. A

ACCIDENT REPORT

NODE/LINK	LOCATION	DATE	TIME	TRAFFIC CONTROL	ACCIDENT CLASS *	# OF VEHICLES - INJURIES	LIGHT CONDITION	ROAD CONDITION	WEATHER	MANNER OF COLLISION	APPARENT CONTRIBUTING FACTORS
	U.S. ROUTE 9W										
152 Meters South of Mackey Road 9W86031067		12/10/07	12:10 PM	NONE	PDO	1-0	DAYLIGHT	DRY	CLEAR	OTHER	REACTION TO OTHER UNINVOLVED VEHICLE
At Intersection with Route 9W 9W86031063		12/06/07	6:03 PM	NONE	PDO	1-0	DARK-ROAD LIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION
16 Meters South of Macks Lane 9W86031079		12/18/07	3:54 PM	TRAFFIC SIGNAL	PDO	2-0	DARK-ROAD LIGHTED	DRY	CLOUDY	RIGHT TURN	FAILURE TO YIELD RIGHT OF WAY
67 Meters South of Sam Williams Rd 9W86031073		01/09/08	8:05 PM	NONE	PDO	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION
29 Meters North of Perkinsville Road 9W86031064		01/23/08	4:11 PM	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
15 Meters North of Macks Lane 9W86031079		02/06/08	6:08 PM	NONE	PD & I	2-1	DARK-ROAD LIGHTED	WET	CLOUDY	UNKNOWN	FAILURE TO YIELD RIGHT OF WAY, TURNING IMPROPER
At Intersection with Perkinsville Rd 9W86031064		02/17/08	N/A	NONE	PDO	1-0	DAYLIGHT	DRY	CLEAR	OTHER	UNKNOWN
12 Meters North of Mackey Road 9W86031072		03/17/08	6:00 PM	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	UNKNOWN	BACKING UNSAFELY
1099 Meters North of Ridge Street 9W86031078		03/24/08	10:44 AM	NONE	PDO	1-0	DAYLIGHT	DRY	CLEAR	OTHER	ANIMAL'S ACTION
142 Meters South of Mackey Road 9W86031067		06/08/08	3:37 PM	NONE	PD & I	1-1	DAYLIGHT	WET	RAIN	OTHER	FELL ASLEEP
39 Meters North of Bluepoint Road 9W86031075		05/01/08	8:22 AM	NO PASSING ZONE	PD & I	3-2	DAYLIGHT	DRY	CLEAR	OTHER	FAILURE TO KEEP RIGHT, UNSAFE SPEED
N/A	N/A	10/10/08	3:52 PM	TRAFFIC SIGNAL	N/A	2-0	DAYLIGHT	DRY	CLEAR	LEFT TURN	FAILURE TO KEEP RIGHT, UNSAFE LANE CHANGE
1099 Meters North of Ridge Street 9W86031067		06/21/08	7:50 AM	NO PASSING ZONE	PDO	1-0	DAYLIGHT	DRY	CLEAR	OTHER	ANIMAL'S ACTION
67 Meters South of Sam Williams Rd 9W86031073		07/15/08	11:32 PM	NONE	PDO	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	REACTION TO OTHER UNINVOLVED VEHICLE

* PDO = PROPERTY DAMAGE ONLY I = INJURY F= FATALITY

TABLE NO. A

ACCIDENT REPORT

NODE/LINK	LOCATION	DATE	TIME	TRAFFIC CONTROL	ACCIDENT CLASS *	# OF VEHICLES - INJURIES	LIGHT CONDITION	ROAD CONDITION	WEATHER	MANNER OF COLLISION	APPARENT CONTRIBUTING FACTORS
	U.S. ROUTE 9W										
1099 Meters North of Ridge Street 9W86031078		09/20/08	8:14 AM	NO PASSING ZONE	PD & I	2-1	DAYLIGHT	DRY	FOG/SMOG	UNKNOWN	VIEW OBSTRUCTED/LIMITED, UNSAFE SPEED
148 Meters North of Connecting Rd N/A		11/15/08	6:43 PM	NO PASSING ZONE	F	2-3-1	DARK-ROAD UNLIGHTED	WET	RAIN	UNKNOWN	UNKNOWN
1497 Meters North of Old State Rd 9W86031078		08/31/08	12:41 PM	NONE	PD & I	2-1	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
1497 Meters North of Old State Rd 9W86031067		12/29/08	5:17 AM	NONE	PD & I	2-3	DARK-ROAD UNLIGHTED	DRY	CLOUDY	UNKNOWN	FELL ASLEEP, FAILURE TO KEEP RIGHT
43 Meters South of Mayer Drive 9W86031079	State Highway 218	03/10/09	6:55 AM	TRAFFIC SIGNAL	PDO	2-0	DAWN	DRY	CLOUDY	REAR END	DRIVER INATTENTION
44 Meters South of Mayer Drive N/A	BROADWAY ST	01/02/09	12:15 PM	TRAFFIC SIGNAL	N/A	2-0	DAYLIGHT	WET	SNOW	REAR END	BACKING UNSAFELY
66 Meters South of Sam Williams Rd 9W86031073	BROADWAY ST	01/19/09	4:10 PM	NONE	PD & I	2-1	DAYLIGHT	DRY	CLOUDY	UNKNOWN	PAVEMENT SLIPPERY,VIEW OBSTRUCTED/LIMITED
39 Meters North of Bluepoint Rd N/A	BROADWAY ST	11/20/08	8:16 PM	NONE	PDO	1-0	DARK-ROAD LIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION
	PERKINSVILLE RD										
N/A	N/A	03/18/09	3:49 PM	STOP SIGN	N/A	2-0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION
	U.S. ROUTE 9W										
148 Meters North of Connecting Rd N/A		05/07/09	7:11 AM	NONE	PDO	1-0	DAYLIGHT	WET	RAIN	OTHER	ANIMAL'S ACTION
	PERKINSVILLE RD										
At Intersection with US Highway 9W N/A		12/03/08	10:30 PM	UNKNOWN	PDO	1-0	UNKNOWN	UNKNOWN	UNKNOWN	OTHER	UNKNOWN
	U.S. ROUTE 9W										
148 Meters South of Mackey Road 9W86031067	State Highway 218	01/07/09	12:05 PM	NONE	PDO	2-0	DAYLIGHT	SLUSH	RAIN	RIGHT ANGLE	PAVEMENT SLIPPERY
148 Meters North of Connecting Rd N/A		01/11/09	12:59 PM	NONE	PDO	1-0	DAYLIGHT	SNOW/ICE	CLEAR	OTHER	PAVEMENT SLIPPERY

* PDO = PROPERTY DAMAGE ONLY I = INJURY F= FATALITY

TABLE NO. A

ACCIDENT REPORT

NODE/LINK	LOCATION	DATE	TIME	TRAFFIC CONTROL	ACCIDENT CLASS *	# OF VEHICLES INJURIES	LIGHT CONDITION	ROAD CONDITION	WEATHER	MANNER OF COLLISION	APPARENT CONTRIBUTING FACTORS
	U.S. ROUTE 9W										
148 Meters North of Connecting Rd											
N/A		01/19/09	3:45 PM	NONE	PDO	2-0	DAYLIGHT	DRY	CLOUDY	UNKNOWN	UNKNOWN
N/A		01/21/09	6:38 AM	NONE	PDO	1-0	DAWN	DRY	CLEAR	OTHER	ANIMAL'S ACTION
N/A		01/22/09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A											
9W86031064		04/09/09	4:00 AM	NONE	PDO	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION
N/A	N/A	03/20/09	7:45 PM	NO PASSING ZONE	PDO	2-0	DARK-ROAD LIGHTED	DRY	CLEAR	LEFT TURN	BACKING UNSAFELY, FAILURE TO YIELD RIGHT OF WAY
66 Meters South of Sam Williams Rd											
9W86031073	BROADWAY ST	04/06/09	2:27 PM	NO PASSING ZONE	PDO	3-0	DAYLIGHT	WET	RAIN	OTHER	PAVEMENT SLIPPERY
N/A											
9W86031072		05/10/09	1:55 PM	NONE	PDO	1-0	DAYLIGHT	DRY	CLEAR	OTHER	DRIVER INEXPERIENCE, DRIVER INATTENTION
72 Meters South of US Highway 9W											
9W86031063		05/03/09	6:17 AM	NONE	N/A	1-0	DAWN	DRY	CLOUDY	OTHER	ANIMAL'S ACTION
N/A											
9W86031072		05/25/09	9:00 PM	NONE	PDO	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION
43 Meters South of Mayer Drive											
9W86031079	State Highway 218	05/02/09	5:50 PM	TRAFFIC SIGNAL	PDO	2-0	DAYLIGHT	DRY	CLEAR	RIGHT TURN	TRAFFIC CONTROL DEVICES DISREGARDED
630 Meters South of Mackey Rd											
9W86031064	BROADWAY ST	05/10/09	3:26 AM	NONE	PD & I	2-4	DARK-ROAD UNLIGHTED	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
	MACKS LANE										
15 Meters North of US Route 9W											
N/A		06/17/09	11:16 AM	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	LEFT TURN	FAILURE TO YIELD RIGHT OF WAY
	U.S. ROUTE 9W										
14 Meters South of Perkinsville Rd											
9W86031064	State Highway 218	09/05/09	9:45 AM	NO PASSING ZONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	RIGHT TURN	FOLLOWING TOO CLOSELY
1 Meters South of Perkinsville Rd											
9W86031064		09/06/09	12:04 PM	NO PASSING ZONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY
23 Meters South of Macks Lane											
9W86031079		11/20/09	9:00 AM	NO PASSING ZONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY

* PDO = PROPERTY DAMAGE ONLY I = INJURY F= FATALITY

TABLE NO. A

ACCIDENT REPORT

NODE/LINK	LOCATION	DATE	TIME	TRAFFIC CONTROL	ACCIDENT CLASS *	# OF VEHICLES - INJURIES	LIGHT CONDITION	ROAD CONDITION	WEATHER	MANNER OF COLLISION	APPARENT CONTRIBUTING FACTORS
	U.S. ROUTE 9W										
1497 Meters North of Old State Road N/A		10/25/09	9:28 PM	NONE	PDO	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION
1 Meters North of Macks Lane 9W86031079		01/06/10	2:00 PM	TRAFFIC SIGNAL	N/A	2-0	DAYLIGHT	DRY	CLEAR	OVERTAKING	PASSING OR LANE USAGE IMPROPERLY, TURNING IMPROPER
1497 Meters North of Old State Road N/A		11/05/09	4:23 PM	NONE	PDO	1-0	DUSK	DRY	CLOUDY	OTHER	ANIMAL'S ACTION
630 Meters South of Mackey Rd 9W86031064		11/17/09	6:53 PM	NO PASSING ZONE	PDO	2-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	REAR END	REACTION TO OTHER UNINVOLVED VEHICLE, FOLLOWING TOO CLOSELY
9W86031064		11/19/09	3:00 PM	NONE	PD & I	1-1	DAYLIGHT	WET	CLOUDY	OTHER	REACTION TO OTHER UNINVOLVED VEHICLE
66 Meters South of Sam Williams Rd 9W86031073		02/07/10	11:27 PM	NO PASSING ZONE	N/A	2-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OVERTAKING	TURNING IMPROPER
13 Meters North of Mackey Road 9W86031068	State Highway 218	11/28/09	10:20 PM	NONE	PDO	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION
N/A	N/A	12/11/09	12:51 PM	NONE	PDO	2-0	DAYLIGHT	DRY	CLOUDY	REAR END	FOLLOWING TOO CLOSELY
43 Meters South of Mayer Drive 9W86031079		01/30/08	3:52 PM	TRAFFIC SIGNAL	N/A	2-0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY, REACTION TO OTHER UNINVOLVED VEHICLE
1497 Meters North of Old State Road N/A		12/21/09	2:18 AM	NONE	PDO	2-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	REAR END	FELL ASLEEP
N/A		11/25/09	8:16 AM	NONE	PDO	2-0	DAYLIGHT	DRY	CLOUDY	REAR END	DRIVER INATTENTION,FOLLOWING TOO CLOSELY
630 Meters South of Mackey Rd 9W86031064		12/26/09	2:48 AM	NONE	PD & I	1-1	DARK-ROAD UNLIGHTED	SNOW/ICE	SLEET/HAIL	OTHER	PAVEMENT SLIPPERY, REACTION TO OTHER UNINVOLVED VEHICLE
51 Meters South of US Highway 9W 9W86031063		12/23/09	6:45 AM	NO PASSING ZONE	PDO	1-0	DARK-ROAD LIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION
70 Meters North of S Chapel Hill Rd 9W86031078		12/31/09	3:50 PM	NONE	PDO	2-0	DAYLIGHT	SNOW/ICE	CLEAR	RIGHT TURN	PAVEMENT SLIPPERY
43 Meters South of Mayer Drive 9W86031079	State Highway 218	04/03/10	5:25 AM	NO PASSING ZONE	PD & I	2-1	DARK-ROAD UNLIGHTED	DRY	CLEAR	OVERTAKING	PASSING OR LANE USAGE IMPROPERLY
69 Meters North of S Chapel Hill Rd 9W86031078		04/08/10	10:40 PM	NO PASSING ZONE	N/A	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	ANIMAL'S ACTION

* PDO = PROPERTY DAMAGE ONLY I = INJURY F= FATALITY

TABLE NO. A

ACCIDENT REPORT

NODE/LINK	LOCATION	DATE	TIME	TRAFFIC CONTROL	ACCIDENT CLASS *	# OF VEHICLES - INJURIES	LIGHT CONDITION	ROAD CONDITION	WEATHER	MANNER OF COLLISION	APPARENT CONTRIBUTING FACTORS
	U.S. ROUTE 9W										
630 Meters South of Mackey Rd 9W86031064		03/01/10	12:07 PM	NO PASSING ZONE	N/A	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	ILLNESS
15 Meters South of Macks Lane 9W86031079		03/12/10	7:13 AM	NONE	PDO	3-0	DAWN	DRY	CLEAR	OTHER	DRIVER INATTENTION
N/A	N/A	03/23/10	2:50 PM	NO PASSING ZONE	PD & I	1-1	DAYLIGHT	DRY	CLEAR	OTHER	PASSING OR LANE USAGE IMPROPERLY
N/A 9W86031063	N/A	04/28/10	2:50 PM	NONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	REAR END	N/A
N/A	N/A	05/24/10	9:42 AM	NONE	N/A	2-0	DAYLIGHT	DRY	CLOUDY	RIGHT ANGLE	N/A
83 Meters South of US Highway 9W 9W86031063		05/15/10	6:45 PM	NONE	PD & I	2-2	DAYLIGHT	DRY	CLEAR	HEAD ON	N/A
N/A	N/A	07/01/10	11:57 AM	NO PASSING ZONE	PDO	2-0	DAYLIGHT	DRY	CLEAR	RIGHT ANGLE	N/A
630 Meters South of Mackey Rd 9W86031064	BROADWAY ST	07/22/10	3:50 AM	NONE	N/A	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	N/A
484 Meters South of Mackey Rd 9W86031065		08/15/10	6:00 AM	NO PASSING ZONE	PDO	1-0	DAYLIGHT	DRY	CLEAR	OTHER	N/A
26 Meters North of Mackey Rd 9W86031068		08/22/10	1:29 AM	NONE	PD & I	1-4	DARK-ROAD UNLIGHTED	DRY	CLOUDY	OTHER	N/A
630 Meters South of Mackey Rd 9W86031064	BROADWAY ST	09/09/10	5:28 PM	STOP SIGN	PDO	2-0	DAYLIGHT	DRY	CLOUDY	RIGHT ANGLE	N/A
	S. CHAPEL HILL RD										
15 Meters West of Marie Road N/A		09/02/10	11:58 AM	NONE	PDO	1-0	DAYLIGHT	DRY	CLEAR	OTHER	N/A
	U.S. ROUTE 9W										
N/A	N/A	09/18/10	11:51 PM	TRAFFIC SIGNAL	PD & I	2-2	DARK-ROAD LIGHTED	DRY	CLEAR	RIGHT ANGLE	N/A
66 Meters South of Sam Williams Rd 9W86031073		09/28/10	8:53 AM	NO PASSING ZONE	PDO	2-0	DAYLIGHT	WET	RAIN	RIGHT ANGLE	N/A
N/A 9W86031063	N/A	10/10/10	3:26 AM	NONE	PDO	1-0	DARK-ROAD UNLIGHTED	DRY	CLEAR	OTHER	N/A
	MACKS LANE										
15 Meters North of US Route 9W N/A		11/28/10	4:30 PM	NONE	PDO	2-0	DUSK	DRY	CLEAR	RIGHT TURN	N/A

* PDO = PROPERTY DAMAGE ONLY I = INJURY F= FATALITY

Accident Location Information System (ALIS)

County Interim Accident Summary

6415 ASR 9W from Marlborough Town Ln to Macks Ln, Ulster

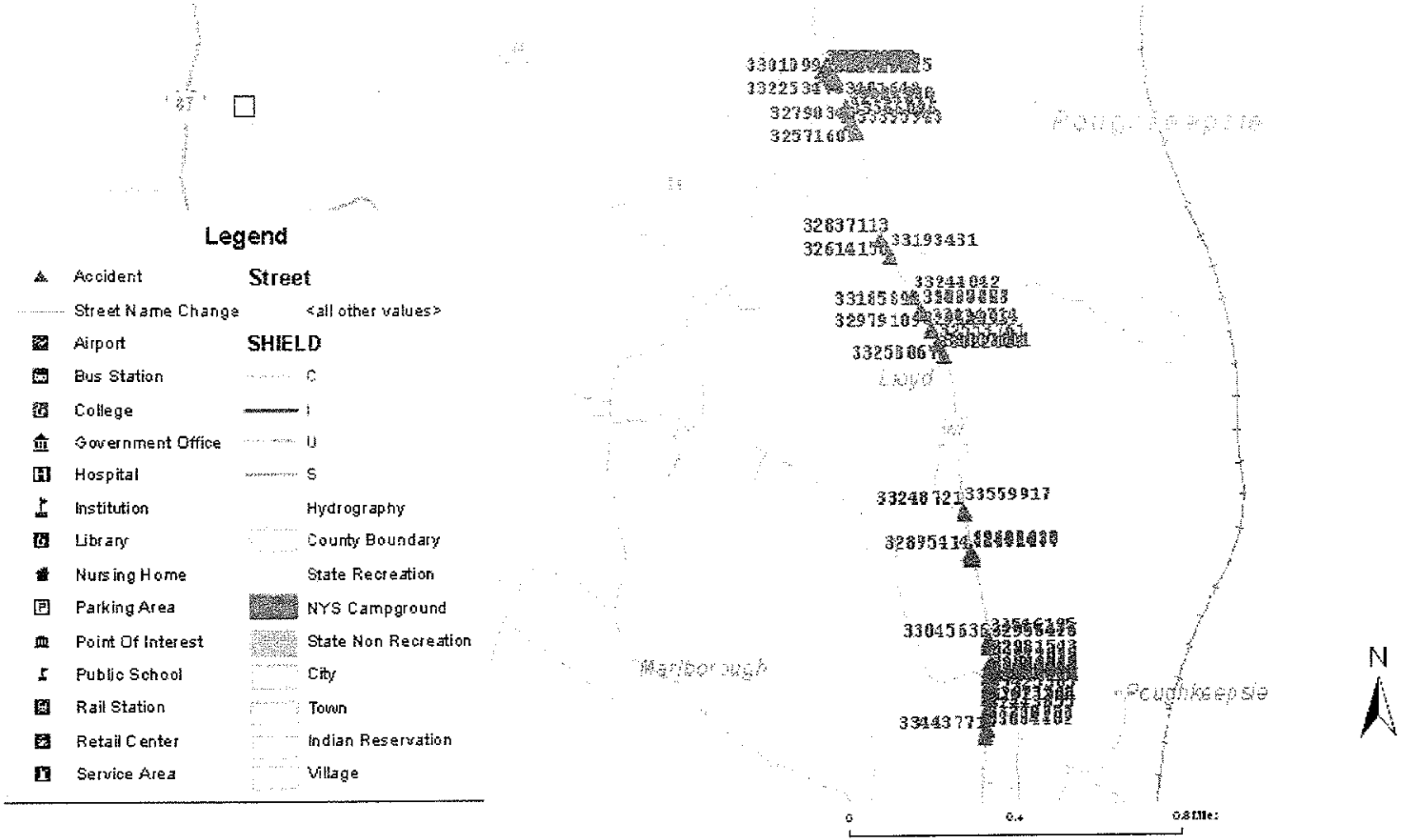
Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

Number Of Accidents

COUNTY	TOTAL	AT INT.	FTL	INJ	PDO	N/R	WET ROAD	FIXED OBJ	PED & BIKE	TRUCK	LIGHT CONDITION DWN/DSK	DAY	NIGHT
ULSTER	73	1	1	16	46	10	8	11	0	4	6	41	25
Total	73	1	1	16	46	10	8	11	0	4	6	41	25

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster



Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031067 Street: US HWY 9W
152 Meters South of MACKEY RD

12/10/2007 Mon 12:10 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2007-32451437**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLL. W/LIGHT SUPPORT/UTILITY POLE Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2636 State of Registration: NY
Num of Occupants: 1 Driver's Age: 63 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: Y School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: REACTION TO OTHER UNINVOLVED VEHICL, UNKNOWN

County: Ulster Muni: Marlborough(T) Ref. Marker: 9W86031063 Street: US HWY 9W
AT INTERSECTION WITH ROUTE 9W

12/6/2007 Thu 18:03 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2007-32443855**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4425 State of Registration: NY
Num of Occupants: 1 Driver's Age: 69 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: UNKNOWN, ANIMAL'S ACTION

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: BROADWAY ST
16 Meters South of MACKS LN

12/18/2007 Tue 15:54 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2007-32471311**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
Manner of Collision: RIGHT TURN (AGAINST OTHER CAR) Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DARK-ROAD LIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 TRUCK Registered Weight: 80000 State of Registration: NY

Num of Occupants: 1 Driver's Age: 47 Sex: M Citation Issued: N

Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: BROADWAY ST
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 2643 State of Registration: NY
Num of Occupants: 1 Driver's Age: 76 Sex: F Citation Issued: N
Direction of Travel: NORTH-WEST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING RIGHT TURN
Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031073 Street: US HWY 9W
67 Meters South of SAM WILLIAMS RD

1/9/2008 Wed 20:05 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32498003**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3395 State of Registration: NY
Num of Occupants: 1 Driver's Age: 30 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HWY 9W
29 Meters North of PERKINSVILLE RD

1/23/2008 Wed 16:11 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32518126**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AT HILLCREST Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2995 State of Registration: NY
Num of Occupants: 3 Driver's Age: 17 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FOLLOWING TOO CLOSELY, UNKNOWN

Veh :2 CAR/VAN/PICKUP Registered Weight: 2703 State of Registration: NY

Num of Occupants: 1 Driver's Age: 74 Sex: M Citation Issued: N

Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: NOT APPLICABLE, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: US HIGHWAY 9W
15 Meters North of MACKS LN

2/6/2008 Wed 18:08 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2008-32539270**

Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE

Manner of Collision: UNKNOWN Weather: CLOUDY

Road Surface Condition: WET Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: US HIGHWAY 9W
***** CONTINUED

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration:
Num of Occupants: 2 Driver's Age: 19 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, UNKNOWN

Veh :1 CAR/VAN/PICKUP Registered Weight: 3310 State of Registration: NY
Num of Occupants: 1 Driver's Age: 43 Sex: F Citation Issued: N
Direction of Travel: WEST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, TURNING IMPROPER

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HIGHWAY 9W
AT INTERSECTION WITH PERKINSVILLE RD

2/17/2008 Sun Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32586574**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 OTHER Registered Weight: State of Registration: NJ
Num of Occupants: 4 Driver's Age: 40 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: UNKNOWN, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031072 Street: US HIGHWAY 9W
12 Meters North of MACKEY RD

3/17/2008 Mon 18:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32553761**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: UNKNOWN Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3030 State of Registration: NY

Num of Occupants: 1 Driver's Age: 52 Sex: M Citation Issued: N

Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: BACKING

Apparent Factors: UNKNOWN, BACKING UNSAFELY

Veh :1 CAR/VAN/PICKUP Registered Weight: 3633 State of Registration: NY

Num of Occupants: 1 Driver's Age: 20 Sex: F Citation Issued: N

Direction of Travel: WEST Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031078 Street: [Route] 9W
1099 Meters North of RIDGE ST

3/24/2008 Mon 10:44 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32571609**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4576 State of Registration: NY
Num of Occupants: 1 Driver's Age: 44 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031067 Street: US HIGHWAY 9W
142 Meters South of Mackey Rd

6/8/2008 Sun 15:37 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2008-32627428**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 1
Type Of Accident: COLL. W/LIGHT SUPPORT/UTILITY POLE Traffic Control: NONE
Manner of Collision: OTHER Weather: RAIN
Road Surface Condition: WET Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2683 State of Registration: NY
Num of Occupants: 1 Driver's Age: 23 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, FELL ASLEEP

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031075 Street: BROADWAY ST
39 Meters North of BLUEPOINT RD

5/1/2008 Thu 08:22 AM Persons Killed: 0 Persons Injured: 2 Extent of Injuries: AC **Case: 2008-32614156**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 3
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: CURVE AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :3 CAR/VAN/PICKUP Registered Weight: 3067 State of Registration: NY

Num of Occupants: 1 Driver's Age: 25 Sex: F Citation Issued: N

Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: NOT APPLICABLE, UNKNOWN

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031075 Street: BROADWAY ST
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 3838 State of Registration: NY
Num of Occupants: 1 Driver's Age: 26 Sex: F Citation Issued: Y
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FAILURE TO KEEP RIGHT, UNSAFE SPEED

Veh :2 CAR/VAN/PICKUP Registered Weight: 3806 State of Registration: NY
Num of Occupants: 1 Driver's Age: 73 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: Street:
10/10/2008 Fri 15:52 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32755858**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
Manner of Collision: LEFT TURN (AGAINST OTHER CAR) Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 71 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 84 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FAILURE TO KEEP RIGHT, UNSAFE LANE CHANGE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031067 Street: [Route] 9W

1099 Meters North of RIDGE ST

6/21/2008 Sat 07:50 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32746970**

Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1

Type Of Accident: COLLISION WITH DEER Traffic Control: NO PASSING ZONE

Manner of Collision: OTHER Weather: CLEAR

Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2420 State of Registration: NY

Num of Occupants: 1 Driver's Age: 33 Sex: M Citation Issued: N

Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: ANIMAL'S ACTION, UNKNOWN

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031073 Street: US HWY 9W
67 Meters South of SAM WILLIAMS RD

7/15/2008 Tue 23:32 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32698773**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH BUILDING/WALL Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: CURVE AND LEVEL Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3439 State of Registration: NY
Num of Occupants: 1 Driver's Age: 57 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: Y School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: REACTION TO OTHER UNINVOLVED VEHICL, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031078 Street: [Route] 9W
1099 Meters North of RIDGE ST

9/20/2008 Sat 08:14 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2008-32790349**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: UNKNOWN Weather: FOG/SMOG/SMOKE
Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 1962 State of Registration: NY
Num of Occupants: 1 Driver's Age: 31 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: VIEW OBSTRUCTED/LIMITED, UNSAFE SPEED

Veh :2 TRUCK Registered Weight: 125000 State of Registration: NY
Num of Occupants: 1 Driver's Age: 46 Sex: M Citation Issued: N
Direction of Travel: NORTH-EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W

148 Meters North of Connecting Road

11/15/2008 Sat 18:43 PM Persons Killed: 1 Persons Injured: 3 Extent of Injuries: KAAC **Case: 2008-32842099**

Accident Class: FATAL Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE

Manner of Collision: UNKNOWN Weather: RAIN

Road Surface Condition: WET Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
***** CONTINUED

Veh :2 CAR/VAN/PICKUP Registered Weight: 2724 State of Registration: NY
Num of Occupants: 3 Driver's Age: 20 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: UNKNOWN
Apparent Factors: UNKNOWN, UNKNOWN

Veh :1 CAR/VAN/PICKUP Registered Weight: 3520 State of Registration: NY
Num of Occupants: 1 Driver's Age: 40 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: UNKNOWN
Apparent Factors: UNKNOWN, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031078 Street: [Route] 9W
1497 Meters North of Old State Rd

8/31/2008 Sun 12:41 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2008-32745817**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3049 State of Registration: NY
Num of Occupants: 1 Driver's Age: 27 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: UNKNOWN, UNKNOWN

Veh :1 MOTORCYCLE Registered Weight: 634 State of Registration: NY
Num of Occupants: 1 Driver's Age: 30 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FOLLOWING TOO CLOSELY, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031067 Street: [Route] 9W
1497 Meters North of Old State Rd

12/29/2008 Mon 05:17 AM Persons Killed: 0 Persons Injured: 3 Extent of Injuries: ACC **Case: 2008-32895414**

Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE

Manner of Collision: UNKNOWN Weather: CLOUDY

Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DARK-ROAD UNLIGHTED

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2921 State of Registration: NY

Num of Occupants: 1 Driver's Age: 22 Sex: M Citation Issued: Y

Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: FELL ASLEEP, FAILURE TO KEEP RIGHT

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031067 Street: [Route] 9W
***** CONTINUED

Veh :2 TRUCK Registered Weight: 63750 State of Registration: NY
Num of Occupants: 2 Driver's Age: 34 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: UNKNOWN, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: STATE HWY 218
43 Meters South of Mayer Dr

3/10/2009 Tue 06:55 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32945591**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
Manner of Collision: REAR END Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAWN
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 53 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: STOPPED IN TRAFFIC
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 29 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: STOPPED IN TRAFFIC
Apparent Factors: DRIVER INATTENTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: BROADWAY ST
44 Meters South of Mayer Dr

1/2/2009 Fri 12:15 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32901097**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
Manner of Collision: REAR END Weather: SNOW
Road Surface Condition: WET Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 TRUCK Registered Weight: State of Registration: NY

Num of Occupants: 1 Driver's Age: 26 Sex: M Citation Issued: N

Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: STARTING FROM PARKING

Apparent Factors: BACKING UNSAFELY, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: NY

Num of Occupants: 2 Driver's Age: 26 Sex: F Citation Issued: N

Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: STOPPED IN TRAFFIC

Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031073 Street: BROADWAY ST
66 Meters South of Sam Williams Rd

1/19/2009 Mon 16:10 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2009-32958096**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: UNKNOWN Weather: CLOUDY
Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 2634 State of Registration: NY
Num of Occupants: 1 Driver's Age: 50 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: UNKNOWN, UNKNOWN

Veh :1 CAR/VAN/PICKUP Registered Weight: 3165 State of Registration: NY
Num of Occupants: 1 Driver's Age: 38 Sex: M Citation Issued: N
Direction of Travel: EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: PAVEMENT SLIPPERY, VIEW OBSTRUCTED/LIMITED

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: BROADWAY ST
39 Meters North of Bluepoint Rd

11/20/2008 Thu 20:16 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32837113**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 5275 State of Registration: NY
Num of Occupants: 1 Driver's Age: 24 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: PERKINSVILLE RD

3/18/2009 Wed 15:49 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32977430**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: PERKINSVILLE RD
***** CONTINUED

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 18 Sex: F Citation Issued: N
Direction of Travel: EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: DRIVER INATTENTION, NOT APPLICABLE

Veh :1 BUS Registered Weight: State of Registration: NY
Num of Occupants: 11 Driver's Age: 40 Sex: M Citation Issued: N
Direction of Travel: EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: SLOWED OR STOPPING
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
148 Meters North of Connecting Road

5/7/2009 Thu 07:11 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33007101**
Police Agency: Num of Veh: 1
Accident Class: PROPERTY DAMAGE
Type Of Accident: COLLISION WITH DEER
Traffic Control: NONE
Manner of Collision: OTHER
Weather: RAIN
Road Surface Condition: WET Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 40 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: PERKINSVILLE RD
AT INTERSECTION WITH US Highway 9W

12/3/2008 Wed 22:30 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-32867929**
Police Agency: Num of Veh: 1
Accident Class: PROPERTY DAMAGE
Type Of Accident: COLLISION WITH DEER
Traffic Control: UNKNOWN
Manner of Collision: OTHER
Weather: UNKNOWN
Road Surface Condition: UNKNOWN Road Char.: UNKNOWN Light Condition: UNKNOWN
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 OTHER Registered Weight: State of Registration:

Num of Occupants: 1 Driver's Age: 30 Sex: F Citation Issued: N

Direction of Travel: UNKNOWN Public Property Damage: N School Bus Involved: N

Pre-Accd Action: UNKNOWN

Apparent Factors: UNKNOWN, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031067 Street: STATE HWY 218
148 Meters South of Mackey Rd

1/7/2009 Wed 12:05 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32922633**

Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE

Manner of Collision: RIGHT ANGLE Weather: RAIN

Road Surface Condition: SLUSH Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031067 Street: STATE HWY 218
***** CONTINUED

Veh :2 CAR/VAN/PICKUP Registered Weight: 3200 State of Registration: NY
Num of Occupants: 2 Driver's Age: 19 Sex: M Citation Issued: N
Direction of Travel: EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: PAVEMENT SLIPPERY, UNKNOWN

Veh :1 CAR/VAN/PICKUP Registered Weight: 9200 State of Registration: NY
Num of Occupants: 1 Driver's Age: Sex: Citation Issued:
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: PARKED
Apparent Factors: UNKNOWN, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
148 Meters North of Connecting Road
1/11/2009 Sun 12:59 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32921544**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH GUIDE RAIL Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: SNOW/ICE Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3366 State of Registration: NY
Num of Occupants: 1 Driver's Age: 40 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: PAVEMENT SLIPPERY, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
148 Meters North of Connecting Road
1/19/2009 Mon 15:45 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32930193**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: UNKNOWN Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2634 State of Registration: NY

Num of Occupants: 1 Driver's Age: 51 Sex: F Citation Issued: N

Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: UNKNOWN, UNKNOWN

Veh :2 OTHER Registered Weight: State of Registration: NY

Num of Occupants: 0 Driver's Age: Sex: Citation Issued:

Direction of Travel: WEST Public Property Damage: N School Bus Involved: N

Pre-Accd Action: MAKING U TURN

Apparent Factors: UNKNOWN, UNKNOWN

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
148 Meters North of Connecting Road

1/21/2009 Wed 06:38 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32956426**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH ANIMAL Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAWN
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 7100 State of Registration: NY
Num of Occupants: 1 Driver's Age: 50 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, UNKNOWN

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
148 Meters North of Connecting Road

1/22/2009 Thu Persons Killed: Persons Injured: Extent of Injuries: **Case: 2009-33045636**
Accident Class: Police Agency: Num of Veh:
Type Of Accident: Traffic Control:
Manner of Collision: Weather:
Road Surface Condition: Road Char.: Light Condition:
Loc. of Ped/Bicycle: Action of Ped/Bicycle:

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HIGHWAY 9W

4/9/2009 Thu 04:00 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32981543**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2242 State of Registration: NY
Num of Occupants: 1 Driver's Age: 20 Sex: M Citation Issued: N

Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street:

3/20/2009 Fri 19:45 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32956206**

Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE

Manner of Collision: LEFT TURN (AGAINST OTHER CAR) Weather: CLEAR

Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: Street:
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 3428 State of Registration: NY
Num of Occupants: 1 Driver's Age: 62 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: BACKING
Apparent Factors: BACKING UNSAFELY, FAILURE TO YIELD RIGHT OF WAY

Veh :2 CAR/VAN/PICKUP Registered Weight: 2910 State of Registration: NY
Num of Occupants: 1 Driver's Age: 59 Sex: M Citation Issued: N
Direction of Travel: WEST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031073 Street: BROADWAY ST
66 Meters South of Sam Williams Rd

4/6/2009 Mon 14:27 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-32979109**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 3
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: OTHER Weather: RAIN
Road Surface Condition: WET Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2875 State of Registration: NY
Num of Occupants: 1 Driver's Age: 18 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING RIGHT TURN
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :3 CAR/VAN/PICKUP Registered Weight: State of Registration:
Num of Occupants: 0 Driver's Age: Sex: Citation Issued:
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: PARKED
Apparent Factors: UNKNOWN, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3181 State of Registration: NY

Num of Occupants: 1 Driver's Age: 18 Sex: F Citation Issued: N

Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: PAVEMENT SLIPPERY, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031072 Street: [Route] 9W

5/10/2009 Sun 13:55 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33014714**

Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1

Type Of Accident: COLLISION WITH OTHER Traffic Control: NONE

Manner of Collision: OTHER Weather: CLEAR

Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DAYLIGHT

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031072 Street: [Route] 9W
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 3306 State of Registration: NY
Num of Occupants: 2 Driver's Age: 18 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: DRIVER INEXPERIENCE, DRIVER INATTENTION

County: Ulster Muni: Marlborough(T) Ref. Marker: 9W86031063 Street: ROUTE 9W
72 Meters South of US Highway 9W

5/3/2009 Sun 06:17 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33004402**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAWN
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 58 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031072 Street: [Route] 9W

5/25/2009 Mon 21:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33022048**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4469 State of Registration: NY
Num of Occupants: 1 Driver's Age: 39 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: STATE HWY 218
43 Meters South of Mayer Dr

5/2/2009 Sat 17:50 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33010990**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
Manner of Collision: RIGHT TURN (WITH OTHER CAR) Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: STATE HWY 218
***** CONTINUED

Veh :2 CAR/VAN/PICKUP Registered Weight: 3752 State of Registration: NY
Num of Occupants: 2 Driver's Age: 30 Sex: M Citation Issued: Y
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, TRAFFIC CONTROL DEVICES DISREGARDED

Veh :1 CAR/VAN/PICKUP Registered Weight: 2913 State of Registration: NY
Num of Occupants: 2 Driver's Age: 30 Sex: M Citation Issued: N
Direction of Travel: SOUTH-EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING RIGHT TURN
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: BROADWAY ST
630 Meters South of Mackey Rd

5/10/2009 Sun 03:26 AM Persons Killed: 0 Persons Injured: 4 Extent of Injuries: CCCC **Case: 2009-33014718**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2288 State of Registration: NY
Num of Occupants: 4 Driver's Age: 19 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: SLOWED OR STOPPING
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 4107 State of Registration: NY
Num of Occupants: 1 Driver's Age: 25 Sex: M Citation Issued: Y
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FOLLOWING TOO CLOSELY, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: MACKS LN
15 Meters North of US HWY 9W

6/17/2009 Wed 11:16 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33043875**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: LEFT TURN (WITH OTHER CAR) Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AT HILLCREST Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 4270 State of Registration: NY
Num of Occupants: 1 Driver's Age: 19 Sex: M Citation Issued: N
Direction of Travel: NORTH-EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: MACKS LN
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 3364 State of Registration: NY
Num of Occupants: 1 Driver's Age: 17 Sex: M Citation Issued: N
Direction of Travel: WEST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: STATE HWY 218
14 Meters South of Perkinsville Rd

9/5/2009 Sat 09:45 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33128063**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: RIGHT TURN (WITH OTHER CAR) Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2747 State of Registration: NY
Num of Occupants: 1 Driver's Age: 51 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FOLLOWING TOO CLOSELY, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 2979 State of Registration: NY
Num of Occupants: 1 Driver's Age: 60 Sex: F Citation Issued: N
Direction of Travel: EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING RIGHT TURN
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HIGHWAY 9W
1 Meters South of Perkinsville Rd

9/6/2009 Sun 12:04 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33128076**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2542 State of Registration: NY
Num of Occupants: 2 Driver's Age: 70 Sex: M Citation Issued: Y
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FOLLOWING TOO CLOSELY, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3120 State of Registration: NY
Num of Occupants: 1 Driver's Age: 19 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: US HIGHWAY 9W
23 Meters South of Macks Ln

11/20/2009 Fri 09:00 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33225347**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 30 Sex: F Citation Issued: Y
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, FOLLOWING TOO CLOSELY

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 19 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: SLOWED OR STOPPING
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
1497 Meters North of Old State Rd

10/25/2009 Sun 21:28 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33185893**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 OTHER Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 37 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: US HIGHWAY 9W

1 Meters North of Macks Ln

1/6/2010 Wed 14:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33292334**

Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL

Manner of Collision: OVERTAKING Weather: CLEAR

Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DAYLIGHT

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

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County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: US HIGHWAY 9W
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 2 Driver's Age: 43 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: PASSING OR LANE USAGE IMPROPERLY, TURNING IMPROPER

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 37 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
1497 Meters North of Old State Rd
11/5/2009 Thu 16:23 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33193431**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DUSK
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3638 State of Registration: NY
Num of Occupants: 3 Driver's Age: 25 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, ANIMAL'S ACTION

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HIGHWAY 9W
630 Meters South of Mackey Rd
11/17/2009 Tue 18:53 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33206621**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2904 State of Registration: NY
Num of Occupants: 1 Driver's Age: 58 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: SLOWED OR STOPPING
Apparent Factors: REACTION TO OTHER UNINVOLVED VEHICL, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3225 State of Registration: NY
Num of Occupants: 1 Driver's Age: 28 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, FOLLOWING TOO CLOSELY

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HIGHWAY 9W
630 Meters South of Mackey Rd

11/19/2009 Thu 15:00 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2009-33216256**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH GUIDERAIL - END Traffic Control: NONE
Manner of Collision: OTHER Weather: CLOUDY
Road Surface Condition: WET Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3299 State of Registration: NY
Num of Occupants: 2 Driver's Age: 46 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, REACTION TO OTHER UNINVOLVED VEHICL

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031073 Street: US HIGHWAY 9W
66 Meters South of Sam Williams Rd

2/7/2010 Sun 23:27 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33333486**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: OVERTAKING Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 3 Driver's Age: 19 Sex: F Citation Issued: Y
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: TURNING IMPROPER, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: PA
Num of Occupants: 1 Driver's Age: 32 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031068 Street: STATE HWY 218

13 Meters North of Mackey Rd

11/28/2009 Sat 22:20 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33248721**

Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1

Type Of Accident: COLLISION WITH DEER Traffic Control: NONE

Manner of Collision: OTHER Weather: CLEAR

Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031068 Street: STATE HWY 218
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 3311 State of Registration: NY
Num of Occupants: 1 Driver's Age: 67 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street:
12/11/2009 Fri 12:51 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33250244**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: REAR END Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2573 State of Registration: NY
Num of Occupants: 1 Driver's Age: 25 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: STOPPED IN TRAFFIC
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 4576 State of Registration: NY
Num of Occupants: 1 Driver's Age: 39 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, FOLLOWING TOO CLOSELY

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: STATE HWY 218
43 Meters South of Mayer Dr
1/30/2008 Wed 15:52 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2008-NR2385625**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: INVALID CODE Action of Ped/Bicycle:

Veh :1 OTHER Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: X
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FOLLOWING TOO CLOSELY, UNKNOWN

Veh :2 OTHER Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: X
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: REACTION TO OTHER UNINVOLVED VEHICL, UNKNOWN

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
1497 Meters North of Old State Rd

12/21/2009 Mon 02:18 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33258067**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH SNOW EMBANKMENT Traffic Control: NONE
Manner of Collision: REAR END Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 2324 State of Registration: NY
Num of Occupants: 1 Driver's Age: Sex: Citation Issued:
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: PARKED
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3252 State of Registration: NY
Num of Occupants: 1 Driver's Age: 21 Sex: M Citation Issued: Y
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: FELL ASLEEP, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
1497 Meters North of Old State Rd

11/25/2009 Wed 08:16 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33244042**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: REAR END Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3611 State of Registration: NY
Num of Occupants: 1 Driver's Age: 45 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: DRIVER INATTENTION, FOLLOWING TOO CLOSELY

Veh :2 CAR/VAN/PICKUP Registered Weight: 3388 State of Registration: NY

Num of Occupants: 1 Driver's Age: 22 Sex: F Citation Issued: N

Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: STOPPED IN TRAFFIC

Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HIGHWAY 9W
630 Meters South of Mackey Rd

12/26/2009 Sat 02:48 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: B **Case: 2009-33262531**

Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 1

Type Of Accident: COLLISION WITH TREE Traffic Control: NONE

Manner of Collision: OTHER Weather: SLEET/HAIL/FREEZING RAIN

Road Surface Condition: SNOW/ICE Road Char.: STRAIGHT/ GRADE Light Condition: DARK-ROAD UNLIGHTED

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HIGHWAY 9W
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 3078 State of Registration: NY
Num of Occupants: 1 Driver's Age: 21 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: PAVEMENT SLIPPERY, REACTION TO OTHER UNINVOLVED VEHICL

County: Ulster Muni: Marlborough(T) Ref. Marker: 9W86031063 Street: US HWY 9W
51 Meters South of US Highway 9W

12/23/2009 Wed 06:45 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33290955**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NO PASSING ZONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3548 State of Registration: NY
Num of Occupants: 1 Driver's Age: 25 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031078 Street: US HWY 9W
70 Meters North of S Chapel Hill Rd

12/31/2009 Thu 15:50 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2009-33284716**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: RIGHT TURN (AGAINST OTHER CAR) Weather: CLEAR
Road Surface Condition: SNOW/ICE Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: Sex: Citation Issued:
Direction of Travel: EAST Public Property Damage: N School Bus Involved: N
Pre-Accd Action: PARKED
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3749 State of Registration: NY

Num of Occupants: 1 Driver's Age: 41 Sex: M Citation Issued: N

Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: ENTERING PARKED POSITION

Apparent Factors: NOT APPLICABLE, PAVEMENT SLIPPERY

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: STATE HWY 218
43 Meters South of Mayer Dr

4/3/2010 Sat 05:25 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: B **Case: 2010-33401648**

Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE

Manner of Collision: OVERTAKING Weather: CLEAR

Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DARK-ROAD UNLIGHTED

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: STATE HWY 218
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 4352 State of Registration: NY
Num of Occupants: 2 Driver's Age: 34 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: PASSING OR LANE USAGE IMPROPERLY, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 25500 State of Registration: NY
Num of Occupants: 1 Driver's Age: 44 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: OTHER
Apparent Factors: OTHER (VEHICLE), NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031078 Street: US HIGHWAY 9W
69 Meters North of S Chapel Hill Rd

4/8/2010 Thu 22:40 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33411139**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NO PASSING ZONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
Num of Occupants: 1 Driver's Age: 21 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: US HIGHWAY 9W
630 Meters South of Mackey Rd

3/1/2010 Mon 12:07 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: B **Case: 2010-33373347**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 1
Type Of Accident: COLL. W/LIGHT SUPPORT/UTILITY POLE Traffic Control: NO PASSING ZONE
Manner of Collision: OTHER Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3056 State of Registration: NY

Num of Occupants: 1 Driver's Age: 58 Sex: M Citation Issued: N

Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: NOT APPLICABLE, ILLNESS

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: US HIGHWAY 9W
15 Meters South of Macks Ln

3/12/2010 Fri 07:13 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33391043**

Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 3

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE

Manner of Collision: OTHER Weather: CLEAR

Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAWN

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031079 Street: US HIGHWAY 9W
***** CONTINUED

Veh :1 CAR/VAN/PICKUP Registered Weight: 3452 State of Registration: NY
Num of Occupants: 1 Driver's Age: 36 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: SLOWED OR STOPPING
Apparent Factors: DRIVER INATTENTION, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3050 State of Registration: NY
Num of Occupants: 1 Driver's Age: 20 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: SLOWED OR STOPPING
Apparent Factors: DRIVER INATTENTION, NOT APPLICABLE

Veh :3 OTHER Registered Weight: State of Registration:
Num of Occupants: 0 Driver's Age: Sex: Citation Issued:
Direction of Travel: SOUTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: STOPPED IN TRAFFIC
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
3/23/2010 Tue 14:50 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2010-33395943**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 1
Type Of Accident: COLL. W/EARTH ELE./ROCK CUT/DITCH Traffic Control: NO PASSING ZONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3340 State of Registration: NY
Num of Occupants: 1 Driver's Age: 27 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: N School Bus Involved: N
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: PASSING OR LANE USAGE IMPROPERLY, NOT APPLICABLE

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031063 Street: [Route] 9W

4/28/2010 Wed 14:50 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33425365**

Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE

Manner of Collision: REAR END Weather: CLEAR

Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:

Num of Occupants: Driver's Age: Sex: Citation Issued:

Direction of Travel: Public Property Damage: School Bus Involved:

Pre-Accd Action:

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
5/24/2010 Mon 09:42 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33450909**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: RIGHT ANGLE Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Marlborough(T) Ref. Marker: 9W86031063 Street: ROUTE 9W
83 Meters South of US Highway 9W
5/15/2010 Sat 18:45 PM Persons Killed: 0 Persons Injured: 2 Extent of Injuries: AA **Case: 2010-33443771**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: HEAD ON Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W
7/1/2010 Thu 11:57 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33491129**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: RIGHT ANGLE Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:

Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: BROADWAY ST
630 Meters South of Mackey Rd

7/22/2010 Thu 03:50 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33510869**
Accident Class: NON-REPORTABLE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: BROADWAY ST
***** CONTINUED

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031065 Street: US HIGHWAY 9W
484 Meters South of Mackey Rd

8/15/2010 Sun 06:00 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33546195**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLLISION WITH DEER Traffic Control: NO PASSING ZONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: CURVE AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031068 Street: US HIGHWAY 9W
26 Meters North of Mackey Rd

8/22/2010 Sun 01:29 AM Persons Killed: 0 Persons Injured: 4 Extent of Injuries: BBBB **Case: 2010-33559917**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 1
Type Of Accident: COLL. W/EARTH ELE./ROCK CUT/DITCH Traffic Control: NONE
Manner of Collision: OTHER Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031064 Street: BROADWAY ST
630 Meters South of Mackey Rd

9/9/2010 Thu 17:28 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33566899**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2

Type Of Accident: COLLISION WITH MOTOR VEHICLE
Manner of Collision: RIGHT ANGLE
Road Surface Condition: DRY
Loc. of Ped/Bicycle: NOT APPLICABLE

Road Char.: STRAIGHT/ GRADE

Traffic Control: STOP SIGN
Weather: CLOUDY
Light Condition: DAYLIGHT
Action of Ped/Bicycle: NOT APPLICABLE

Veh :

Registered Weight:

State of Registration:

Num of Occupants:

Driver's Age:

Sex:

Citation Issued:

Direction of Travel:

Public Property Damage:

School Bus Involved:

Pre-Accd Action:

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: S CHAPEL HILL RD
15 Meters West of Marie Rd

9/2/2010 Thu 11:58 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33566096**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1
Type Of Accident: COLL. W/LIGHT SUPPORT/UTILITY POLE Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: [Route] 9W

9/18/2010 Sat 23:51 PM Persons Killed: 0 Persons Injured: 2 Extent of Injuries: CC **Case: 2010-33582349**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: TRAFFIC SIGNAL
Manner of Collision: RIGHT ANGLE Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031073 Street: US HIGHWAY 9W
66 Meters South of Sam Williams Rd

9/28/2010 Tue 08:53 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33587823**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: RIGHT ANGLE Weather: RAIN
Road Surface Condition: WET Road Char.: CURVE AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:

Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031063 Street: [Route] 9W

10/10/2010 Sun 03:26 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33613268**

Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 1

Type Of Accident: COLLISION WITH DEER Traffic Control: NONE

Manner of Collision: OTHER Weather: CLEAR

Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD UNLIGHTED

Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Accident Location Information System (ALIS)

Accident Verbal Description Report

6415 VDR 9W from Marlborough Town Ln to Macks Ln, Ulster

Data in this report covers the period Nov 30, 2007 - Nov 30, 2010

Complete Accident data from NYSDMV is only available thru 11/30/2010

County: Ulster Muni: Lloyd(T) Ref. Marker: 9W86031063 Street: [Route] 9W
***** CONTINUED

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

County: Ulster Muni: Lloyd(T) Ref. Marker: Street: MACKS LN
15 Meters North of US Highway 9W

11/28/2010 Sun 16:30 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2010-33666383**
Accident Class: PROPERTY DAMAGE Police Agency: Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: RIGHT TURN (AGAINST OTHER CAR) Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DUSK
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh : Registered Weight: State of Registration:
Num of Occupants: Driver's Age: Sex: Citation Issued:
Direction of Travel: Public Property Damage: School Bus Involved:
Pre-Accd Action:

APPENDIX "F"

PUBLIC TRANSPORTATION SERVICES

G KINGSTON - MARLBORO

Monday - Friday Service

SOUTHBOUND: Kingston to Marlboro

Depart: Golden Hill Dr at Route 32	Kingston Plaza at Hannaford	Albany Ave at DSS	Broadway at Garraghan Dr	Hudson Valley Mall Food Court	Port Ewen: 9W at BOCES	Highland Park Ride Lot	Highland: Main St at Vineyard Ave	Highland: Bridgeview Plaza at 9W	Arrive: Marlboro: King St at 9W
1	2	3	4	5	6	7	8	9	10
6:30	6:45	-	6:48	-	7:00	7:15	7:20	-	7:40
4:35	**4:45**	**4:50**	**-**	**5:00**	**5:10**	**5:20**	**5:25**	**-**	**5:45**

NORTHBOUND: Marlboro to Kingston

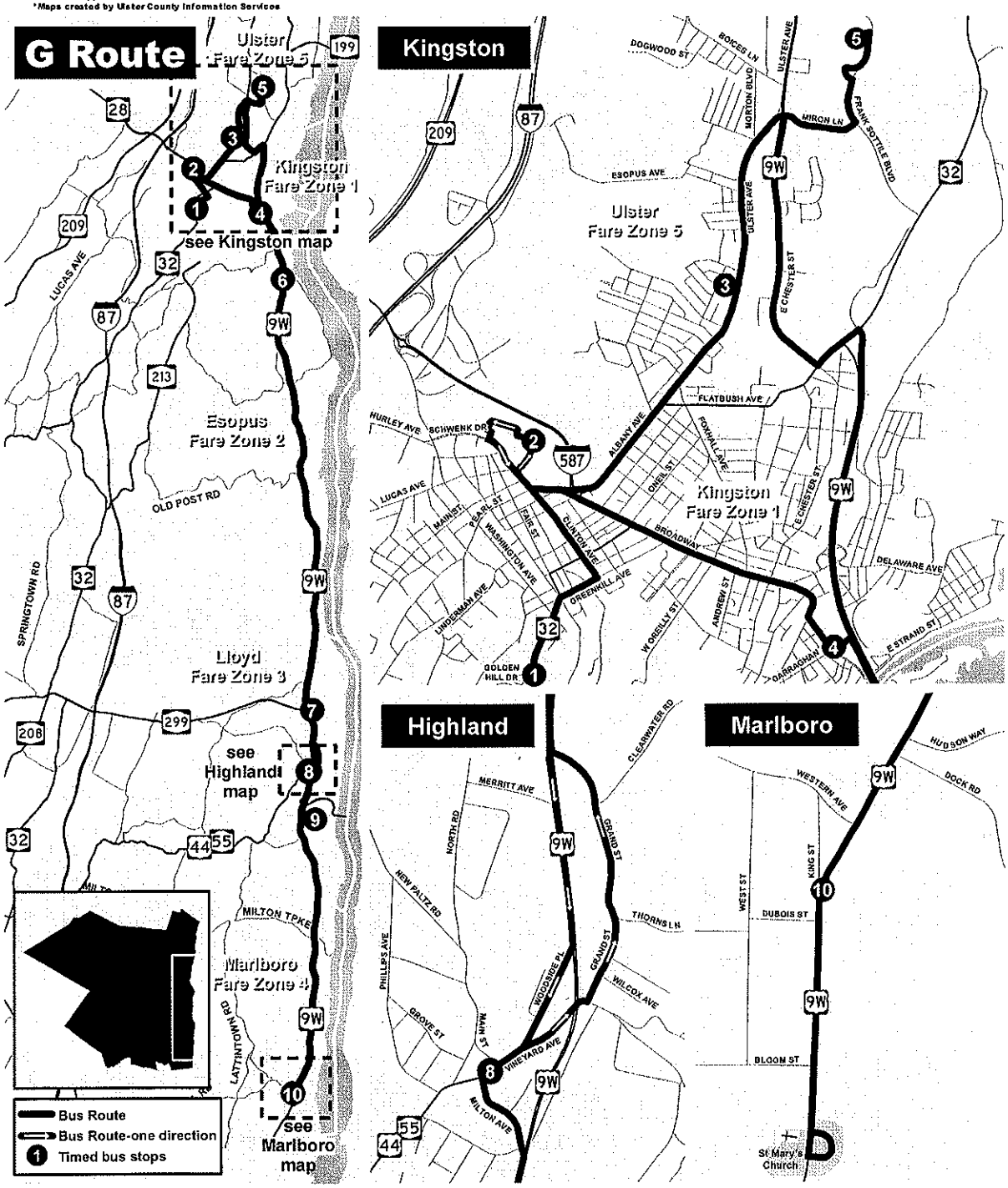
Depart: Marlboro: King St at 9W	Highland: Bridgeview Plaza at 9W	Highland: Main St at Vineyard Ave	Highland Park Ride Lot	Port Ewen: 9W at BOCES	Hudson Valley Mall Food Court	Broadway at Garraghan Dr	Albany Ave at DSS	Kingston Plaza at Hannaford	Arrive: Golden Hill Dr at Route 32
10	9	8	7	6	5	4	3	2	1
7:40	7:55	7:57	8:00	8:10	8:20	-	8:35	8:45	9:00
5:45	**6:00**	**6:02**	**6:05**	**6:15**	**-**	**6:20**	**-**	**6:30**	**6:45**

PM Trips in Bold

All times approximate

*Maps created by Ulster County Information Services

No Saturday or Sunday Service



WEEKDAYS *FROM ULSTER VIA POUGHKEEPSIE TO* GRAND CENTRAL TERMINAL

AM Light Face, PM Bold Face	AM Peak				PM								PM				
Rosendale *Park & Ride*	5 05	6 00	–	–	–	–	9 30	11 30	1 35	3 00	–	–	4 35	–	–	–	–
New Paltz/Route 32 *Park & Ride*	5 15	6 10	6 30	–	7 45	8 30	9 38	11 38	1 43	3 07	3 45	4 15	4 45	5 50	6 45	7 45	9 00
New Paltz – SUNY *HAR Shelter*	–	–	–	–	–	–	–	11 43	1 48		3 53	–	–	–	–	–	–
Old New Paltz Rd/ Rt. 299	–	–	–	–	7 55	–	–	–	–		–	–	–	–	–	–	–
Old New Paltz Rd/ Pancake Hollow Rd	–	–	–	–	7 57	–	–	–	–		–	–	–	–	–	–	–
Old New Paltz Rd/ Chodikee Lake Rd	–	–	–	–	7 58	–	–	–	–		–	–	–	–	–	–	–
Highland/Route 299 & 9W *Park & Ride*	5 35	6 25	6 45	7 30	8 03	8 45	9 50	12 00	2 05	3 30	4 10	4 30	5 05	6 05	7 00	8 00	9 15
Woodside Place	–	–	–	–	8 06	–	–	–	–	3 31	–	4 31	–	–	–	–	–
Milton & Vineyard	–	–	–	7 33	8 07	8 48	9 53	–	2 08	3 32	–	4 32	–	–	–	–	–
Haviland/Tillson & Rt. 9W	–	–	–	–	8 08	–	–	–	–	3 35	–	4 35	–	–	–	–	–
Wappingers Falls	–	–	–	–	8 13	–	–	–	–	3 40	–	–	–	–	–	–	–
Beacon Metro-North Station	–	5 30	–	–	8 15	–		–	–	3 45	–	4 40	–	–	7 10	–	–
Poughkeepsie Station	5 50	6 49	7 00	7 46	8 30	9 00	1 10	12 15	2 20		4 25	4 50	5 20	6 20	7 20	8 15	9 30
Poughkeepsie *Main & Market*	x	x	x	x	x	x	x	x	–	x	–	x	x	x	x	x	x
Express																	
Poughkeepsie Station	6 00	6 50	6 45	7 12	8 03	8 47	9 46	10 40	12 40	2 40	–	4 40	5 01	5 40	6 40	7 40	8 40	9 59
Grand Central Terminal	7 12	7 17	8 31	8 55	9 49	10 28	11 21	12 25	2 25	4 18	–	6 20	6 39	7 18	8 25	9 25	10 25	12 09

x **Poughkeepsie Main Street & Market customers:** *Buses will stop at Main & Market after stopping at Poughkeepsie Station*

[c] *Bus change required* [z] *Saturday only*

WEEKENDS *VIA POUGHKEEPSIE TO* GRAND CENTRAL

AM Light Face, PM Bold Face	Saturday	Sunday	Saturday		Sunday		Saturday
Rosendale *Park & Ride*	7 30	8 30	10 30	12 30	2 30		4 30
New Paltz *Park & Ride*	7 40	8 40	10 40	12 40	2 40		4 40
New Paltz – SUNY *HAR Shelter*	7 45	8 45	10 45	12 45	2 45		4 45
Highland *Park & Ride*	8 00	9 00	11 00	1 00	3 00		5 00
Poughkeepsie Station	8 15	9 15	11 15	1 15	3 15		5 15
Express							
Poughkeepsie Station	7 22	9 37	11 37	1 37	3 37		5 37
Grand Central Terminal	8 36	11 21	1 21	3 22	5 09		7 21

FARES* *BETWEEN* ULSTER *AND* GRAND CENTRAL TERMINAL

- **Monthly UniTicket:** $483.00*
  - Combination bus/rail monthly
  - Unlimited travel on bus/rail
  - Good seven days per week
- **Weekly UniTicket:** $153.75*
  - Combination bus/rail weekly
  - Unlimited travel on bus/rail
  - Good Saturday through Friday
- **Bus Fare:**
  - Rosendale-Poughkeepsie One-way $2.00
  - New Paltz-Poughkeepsie One-way .. $1.75
  - Highland-Poughkeepsie One-way $1.25
  - Senior/Disabled ..... **
  - *Other discount fares available, please call UCAT.*
- **Rail Fares*:**
  - One-way Peak $21.00
  - One-way Off-peak $15.75
  - One-way Child *(ages 5-11)* $0.75***
  - Senior/Disabled $9.75**
  - Monthly Commutation $443.00
  - Weekly Commutation $141.75
  - Ten Trip Peak $210.00
  - Ten Trip Off-peak $134.00

** Purchased with Metro-North monthly or weekly rail ticket only.*

*** Seniors, Persons with Disabilities and Medicare recipients may ride bus ½ fare during the hours of 10 AM and 2 PM. A valid Medicare card should be presented upon request when boarding.*

- *Senior Citizen Identification: Medicare card or driver's license.*
- *Person with Disability Identification: Medicare card or disabled identification card issued by MTA or New York City.*

**** Family fare. Restrictions apply.*

** Fares effective December 30, 2010. Subject to change. Please purchase tickets before boarding. On-board rail fares are higher.*

RESPONSIBILITY: Metro-North Railroad and UCAT cannot assume responsibility for inconvenience, expense or damage resulting from errors in timetables, delayed trains, failure to make connections, or for changes in or shortage of equipment. The schedules, equipment, and fares in this timetable are subject to change without notice.

HOLIDAY SCHEDULE

Buses only, see Metro-North timetable for rail service.

Independence Day (7/4)	Sunday Service
Labor Day (9/3)	No Service
Columbus Day (10/8)	Saturday Service

MTA Metro-North Railroad is committed to providing non-discriminatory service to ensure that no person is excluded from participation in, or denied the benefits of, or subjected to discrimination in the receipt of its services on the basis of race, color, national origin or income as protected by Title VI of the Civil Rights Act of 1964.

For more information visit www.mta.info or contact:

Department of Employee Relations & Diversity
347 Madison Avenue, New York, NY 10017
(212) 340-3445

Telephone Information

MTA Metro-North Railroad
Schedules, fares, and Senior Citizen/Disabled accessibility 511
Deaf/Hard of Hearing – Use your preferred relay service provider or the free 711 relay to reach 511
Tickets and Fares brochure available at all ticket offices, Grand Central Terminal, and online at **www.mta.info.**

MTA New York City Transit
New York City: 511

Amtrak ..... (800) USA-RAIL
(800) 872-7245

MTA Police: (212) 878-1001

Police Emergency Only: (888) MTA-911PD or (888) 582-9117

UCAT *(Ulster County Area Transit)*
Information ..... (888) 827-UCAT
(888) 827-8220
General Office ..... (845) 340-3333
Monday – Friday ..... 5:00 AM – 11:00 PM
Saturday – Sunday ..... 7:40 AM – 7:40 PM

Visit Metro-North online at www.mta.info
Visit UCAT online at www.ulstercountyny.gov/ucat

Metro-North Railroad

UCAT Ulster-Poughkeepsie LINK

The Ulster-Poughkeepsie LINK and MTA Metro-North Railroad

For service between **Ulster County, NY** and **Grand Central Terminal**
(via Metro-North's Poughkeepsie Station)

Ulster-Poughkeepsie LINK Operated by UCAT
(Ulster County Area Transit)

Includes the Guaranteed Ride Home Program for Metro-North/ Ulster-Poughkeepsie LINK UniTicket Customers.

Effective July 2 thru October 13, 2012

Ulster POK

HOLIDAYS 2013

New Year's Day (1/1)	No Service
New Year's Day *Observed* (1/2)	No Service
Martin Luther King Jr. Day (1/21)	Sunday
President's Day (2/18)	No Service
President's Day *Observed* (2/X)	No Service
St. Patrick's Day (3/17)	N/A
Good Friday (3/29)	No Service
Easter (3/31)	No Service
Passover (4/6)	Saturday
Memorial Day (5/28)	No Service
Independence Day (7/4)	Weekend
Independence Day *Observed* (7/X)	Weekend
Labor Day (9/2)	No Service
Rosh Hoshannah (9/16)	Early Getaway
Yom Kippur (9/25)	No Service
Columbus Day (10/14)	Saturday
Veterans' Day (11/11)	N/A
Thanksgiving Day (11/28)	No Service
Day after Thanksgiving (11/29)	No Service
Christmas Eve (12/24)	No Service
Christmas Day (12/25)	No Service
Christmas Day *Observed* (12/26)	No Service
New Year's Eve (12/31)	No Service

Ferries

HOLIDAYS SCHEDULE 2012

Independence Day (7/4)	Weekend
Independence Day *Observed* (7/X)	Weekend
Labor Day (9/3)	No Service
Rosh Hoshannah (9/16)	--
Yom Kippur (9/25)	--
Columbus Day (10/8)	Saturday
Veterans' Day (11/11)	N/A
Thanksgiving Day (11/22)	No Service
Day after Thanksgiving (11/23)	No Service
Christmas Eve (12/24)	--
Christmas Day (12/25)	No Service
Christmas Day *Observed* (12/26)	No Service
New Year's Eve (12/31)	No Service

HOLIDAYS 2013

New Year's Day (1/1)	No Service
New Year's Day *Observed* (1/2)	No Service
Martin Luther King Jr. Day (1/21)	Sunday
President's Day (2/18)	No Service
President's Day *Observed* (2/X)	No Service
St. Patrick's Day (3/17)	N/A
Good Friday (3/29)	No Service
Easter (3/31)	No Service
Passover (4/6)	Saturday
Memorial Day (5/28)	No Service
Independence Day (7/4)	Weekend
Independence Day *Observed* (7/X)	Weekend
Labor Day (9/2)	No Service
Rosh Hoshannah (9/16)	Early Getaway
Yom Kippur (9/25)	No Service
Columbus Day (10/14)	Saturday
Veterans' Day (11/11)	N/A
Thanksgiving Day (11/28)	No Service
Day after Thanksgiving (11/29)	No Service
Christmas Eve (12/24)	No Service
Christmas Day (12/25)	No Service
Christmas Day *Observed* (12/26)	No Service
New Year's Eve (12/31)	No Service

SCHEDULE

	Sunday
Over Light face text	Saturday
	No Service
	Weekend
	Early Getaway

TZX

HOLIDAYS SCHEDULE 2012

Independence Day (7/4)	Weekend
Independence Day *Observed* (7/X)	Weekend
Labor Day (9/3)	No Service
Rosh Hoshannah (9/16)	--
Yom Kippur (9/25)	--
Columbus Day (10/8)	Saturday
Veterans' Day (11/11)	N/A
Thanksgiving Day (11/22)	No Service
Day after Thanksgiving (11/23)	No Service
Christmas Eve (12/24)	--
Christmas Day (12/25)	No Service
Christmas Day *Observed* (12/26)	No Service
New Year's Eve (12/31)	No Service

HOLIDAYS 2013

New Year's Day (1/1)	No Service
New Year's Day *Observed* (1/2)	No Service
Martin Luther King Jr. Day (1/21)	Sunday
President's Day (2/18)	No Service
President's Day *Observed* (2/X)	No Service
St. Patrick's Day (3/17)	N/A
Good Friday (3/29)	No Service
Easter (3/31)	No Service
Passover (4/6)	Saturday
Memorial Day (5/28)	No Service
Independence Day (7/4)	Weekend
Independence Day *Observed* (7/X)	Weekend
Labor Day (9/2)	No Service
Rosh Hoshannah (9/16)	Early Getaway
Yom Kippur (9/25)	No Service
Columbus Day (10/14)	Saturday
Veterans' Day (11/11)	N/A
Thanksgiving Day (11/28)	No Service
Day after Thanksgiving (11/29)	No Service
Christmas Eve (12/24)	No Service
Christmas Day (12/25)	No Service
Christmas Day *Observed* (12/26)	No Service
New Year's Eve (12/31)	No Service

Hart

HOLIDAYS SCHEDULE 2012

Independence Day (7/4)	Weekend
Independence Day *Observed* (7/X)	Weekend
Labor Day (9/3)	No Service
Rosh Hoshannah (9/16)	--
Yom Kippur (9/25)	--
Columbus Day (10/8)	Saturday
Veterans' Day (11/11)	N/A
Thanksgiving Day (11/22)	No Service
Day after Thanksgiving (11/23)	No Service
Christmas Eve (12/24)	--
Christmas Day (12/25)	No Service
Christmas Day *Observed* (12/26)	No Service
New Year's Eve (12/31)	No Service

HOLIDAYS 2013

New Year's Day (1/1)	No Service
New Year's Day *Observed* (1/2)	No Service
Martin Luther King Jr. Day (1/21)	Sunday
President's Day (2/18)	No Service
President's Day *Observed* (2/X)	No Service
St. Patrick's Day (3/17)	N/A
Good Friday (3/29)	No Service
Easter (3/31)	No Service
Passover (4/6)	Saturday
Memorial Day (5/28)	No Service
Independence Day (7/4)	Weekend
Independence Day *Observed* (7/X)	Weekend
Labor Day (9/2)	No Service
Rosh Hoshannah (9/16)	Early Getaway
Yom Kippur (9/25)	No Service
Columbus Day (10/14)	Saturday
Veterans' Day (11/11)	N/A
Thanksgiving Day (11/28)	No Service
Day after Thanksgiving (11/29)	No Service
Christmas Eve (12/24)	No Service
Christmas Day (12/25)	No Service
Christmas Day *Observed* (12/26)	No Service
New Year's Eve (12/31)	No Service

WEEKDAYS *FROM GRAND CENTRAL VIA POUGHKEEPSIE TO* ULSTER

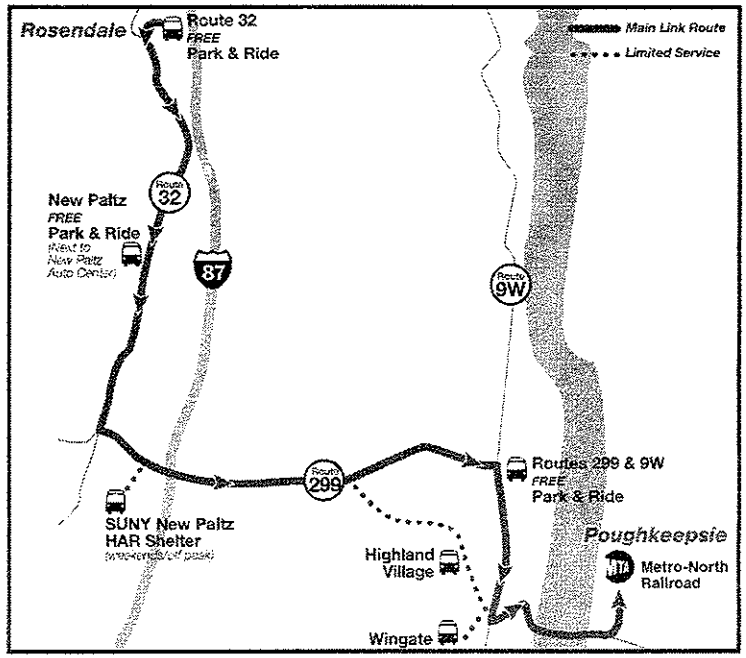
AM Light Face, PM Bold Face	AM Peak												PM Peak				
Grand Central Terminal	–	–	–	–	6 41	8 33	8 46	10 45	12 45	–	2 50	3 30	4 10	5 08	5 53	6 16	7 53
Poughkeepsie Station	–	–	–	–	8 29	9 29	10 28	12 34	2 34	–	4 32	5 13	5 52	6 37	7 24	7 59	9 34
													Express				
Poughkeepsie Station	6 00	7 00	7 15	7 45	8 35	9 55	10 40	12 45	2 45	–	4 45	5 20	6 00	6 45	7 40	+ 8 30	+ 9 40
Poughkeepsie *Main & Market*	6 03	7 03	7 18	7 45	8 38	9 43	10 43	12 48	2 48	–	4 48	5 23	6 03	6 48	7 43	8 33	9 43
Wingate	–	–	–	–	8 50	–	–	–	–	3 40	–	–	–	–	–	–	–
Bridgeview Plaza	–	–	–	–	8 52	–	–	–	–	3 45	–	5 30	–	6 55	–	–	–
Haviland/Titson & Rt. 9W	–	–	–	–	8 55	–	–	–	–	3 47	–	–	–	–	–	–	–
Milton & Vineyard	–	–	–	7 55	8 57	9 57	10 53	–	–	3 50	4 58	–	6 13	–	–	8 42	–
Highland/Route 299 & 9W *Park & Ride*	–	7 15	7 30	8 00	9 00	10 00	10 55	1 00	3 00	°4 00	5 00	5 35	6 15	+ 7 00	7 50	8 45	9 50
Old New Paltz Rd/Choukkee Lake Rd	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Old New Paltz Rd/ Panoke Hollow Rd	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Old New Paltz Rd /Rt. 299	–	–	–	–	9 08	–	–	–	–	–	–	–	–	–	–	–	–
New Paltz – SUNY *HAR Shelter*	–	–	–	–	–	–	–	1 12	–	–	5 07	–	–	–	–	–	–
New Paltz/Route 32 *Park & Ride*	6 30	–	7 45	8 15	9 20	10 15	11 10	1 20	3 15	4 15	5 15	5 50	+ 6 30	7 15	8 10	9 00	10 05
Rosendale *Park & Ride*	–	–	–	–	9 30	10 30	11 25	1 35	–	–	5 30	–	–	–	8 20	–	10 15

° *Bus change required.*

+ *Buses will wait at Poughkeepsie for the train in the event of a train delay on the two final trips on weekdays and the final trip on weekends.*

WEEKENDS *VIA POUGHKEEPSIE TO* ULSTER

AM Light Face, PM Bold Face	Sat Only	Sat Only			Sat Only
Grand Central Terminal	7 50	9 30	11 55	1 45	3 50
Poughkeepsie Station	9 37	11 35	1 38	3 38	5 35
Poughkeepsie Station	9 45	11 45	1 45	3 45	+ 5 45
Poughkeepsie *Main & Market*	9 48	11 48	1 48	3 48	5 48
Highland *Park & Ride*	10 00	12 00	2 00	4 00	6 00
New Paltz – SUNY *HAR Shelter*	10 15	12 15	2 15	4 15	6 15
New Paltz *Park & Ride*	10 20	12 20	2 20	4 20	6 20
Rosendale *Park & Ride*	10 30	12 30	2 30	4 30	6 30



The Ulster-Poughkeepsie LINK is operated by Ulster County Area Transit – UCAT– under contract with the New York State Department of Transportation and in cooperation with Metro-North Railroad.

MTA METRO-NORTH RAILROAD'S GUARANTEED RIDE HOME PROGRAM

MTA Metro-North **monthly UniTicket** customers who ride the Ulster-Poughkeepsie LINK to Poughkeepsie Station and commute to Grand Central Terminal or Harlem-125th Street can get up to two free taxi rides per month to their car or home from Poughkeepsie Station during the few select times when the Ulster-Poughkeepsie LINK is not scheduled to meet a train.

HERE'S HOW THE PROGRAM WORKS

Your guaranteed ride will be provided by **Delroy Taxi (845-452-1222)** at Poughkeepsie Station. Just follow these simple steps:

1. Present your valid UniTicket at any ticket window in Grand Central Terminal or, between 6:40 AM and 7:51 PM, at Harlem-125th Street Station.
2. The ticket agent will stamp the UniTicket and give you a validated voucher. *(Laminated UniTickets will not be accepted.)*
3. Take a train listed on the Guaranteed Ride Home Program Schedule *(available at www.mta.info)* to Poughkeepsie Station, and go to the **Delroy Taxi** stand. *(If you like, call the number above so the driver is expecting you.)*
4. Present your voucher to the driver when you enter the taxi. *(The voucher is good only for the day of the requested ride.)*

It's that simple! You'll be taken to your car, home, or to any location in Ulster or Orange counties within 20 miles of Poughkeepsie Station.

Guaranteed Ride Home Program Hours
Monday through Friday (excluding holidays) during off-peak† times for all trains leaving Grand Central Terminal not met by an Ulster-Poughkeepsie LINK bus.

PLEASE NOTE:
The program cannot be used when there is a delay in bus or train service due to breakdown or other problems.

† *Trains leaving Grand Central Terminal between 4 PM and 8 PM are not included in this program.*

MORE WAYS TO SAVE

- **Mail & Ride** Join Mail & Ride, Metro-North's monthly ticket-by-mail subscription service, and save.
- **WebTicket** Reduced rail fares are available through WebTicket.
- Visit us at **www.mta.info**.

Ulster County Area Transit
System-wide Schedules

E SUNY ULSTER - ELLENVILLE

Monday - Friday Service

SOUTHBOUND: SUNY Ulster to Ellenville							NORTHBOUND: Ellenville to SUNY Ulster						
Depart: SUNY Ulster Campus	Stone Ridge: Rt 209 at Town Hall	Accord: Rt 209 at Main St	Kerhonkson Stewarts Rt 209	Napanoch: Valley Mall Rt 209	Ellenville: Shop Rite/ Healthy Way Rt 209	Arrive: Ellenville; Liberty Square at Canal St	Depart: Ellenville; Liberty Square at Canal St	Ellenville: Shop Rite/ Healthy Way Rt 209	Napanoch: Valley Mall Rt 209	Kerhonkson Stewarts Rt 209	Accord: Rt 209 at Main St	Stone Ridge: Rt 209 at Town Hall	Arrive: SUNY Ulster Campus
1	2	3	4	5	6	7	7	6	5	4	3	2	1
-	5:37	5:45	5:50	-	-	6:10	6:15	-	-	6:30	6:35	6:43	6:45
6:55	6:57	7:05	7:10	-	7:20	7:30	7:45	7:52	*	8:10	8:15	8:25	8:30
8:30	8:32	8:40	8:45	-	8:55	9:10	-	-	-	-	-	-	-
-	-	-	-	-	-	-	11:15	11:22	-	11:40	11:45	11:55	12:00
12:00	12:02	12:10	12:15	-	12:25	12:40	12:50	12:57	-	1:15	1:20	1:25	1:30
1:45	1:47	1:55	2:00	-	2:11	2:15	2:15	2:19	-	2:40	2:45	2:50	2:55
2:45	2:47	2:55	3:00	-	3:12	3:25	3:30	3:37	-	3:55	4:00	4:05	4:10
4:10	4:12	4:20	4:30	-	4:40	4:50	5:45	5:52	-	6:10	6:15	6:20	6:25
7:10	7:12	7:20	7:25	-	7:35	7:40	7:45	*	-	8:00	8:05	8:10	8:15
9:05	9:07	9:15	9:20	-	*	9:35	9:35	*	-	9:55	10:00	10:05	-

E1 ELLENVILLE - SPRING GLEN

Monday - Friday Service

SOUTHBOUND: Ellenville to Spring Glen		NORTHBOUND: Spring Glen to Ellenville	
Depart Ellenville Liberty Square at Canal St.	Arrive: Spring Glen; Old US 209 at Spring Glen Rd	Depart Spring Glen; Old US 209 at Spring Glen Rd	Arrive: Ellenville; Liberty Square at Canal St.
1	2	2	1
9:10*	9:20*	9:20*	9:30*
4:50*	5:00*	5:00*	5:10*

* All Service to Spring Glen is on request only at the above times

No Saturday or Sunday Service

F WOODSTOCK - SAUGERTIES

Monday - Friday Service

EASTBOUND: Woodstock to Saugerties			WESTBOUND: Saugerties to Woodstock		
Depart Woodstock, Route 212 at Rock City Rd	Centerville Route 212 at Blue Mountain Rd	Arrive: Saugerties Post Office, Market St. at Ulster Avenue	Depart: Saugerties Post Office, Market St. at Ulster Ave	Centerville Route 212 at Blue Mountain Rd	Arrive: Woodstock, Route 212 at Rock City Rd
1	2	3	3	2	1
10:50	11:00	11:10	10:30	10:40	10:50
2:55	3:05	3:20	2:35	2:42	2:55

Saturday Service

EASTBOUND: Woodstock to Saugerties			WESTBOUND: Saugerties to Woodstock		
Depart Woodstock, Route 212 at Rock City Rd	Centerville Route 212 at Blue Mountain Rd	Arrive: Saugerties Post Office, Market St. at Ulster Avenue	Depart: Saugerties Post Office, Market St. at Ulster Ave.	Centerville Route 212 at Blue Mountain Rd	Arrive: Woodstock, Route 212 at Rock City Rd
1	2	3	3	2	1
10:40	10:50	11:00			

No Sunday Service

H NEW PALTZ - HIGHLAND

Monday - Friday Service

EASTBOUND: New Paltz to Highland						WESTBOUND: Highland to New Paltz					
Depart: New Paltz; Main at Prospect Streets/ Trailways	New Paltz: Route 299 at S. Elting Corners Rd	Lloyd: New Paltz Rd and Rt 299	Highland: Main St at Vineyard Ave	Arrive: Highland; Wingate at 9W	Arrive: Highland-Bridgeview Plaza at 9W	Depart: Highland-Bridgeview Plaza at 9W	Arrive: Highland; Wingate at 9W	Highland: Main St at Vineyard Ave	Lloyd: New Paltz Rd and Rt 299	New Paltz: Route 299 at S. Elting Corners Rd	Arrive: New Paltz; Main at Prospect Streets/ Trailways
1	2	3	4	5	6	6	5	4	3	2	1
9:15	9:22	9:25	9:35	9:40	9:45	9:45	-	9:50	10:00	10:03	10:10
12:45	**12:52**	**12:55**	**1:05**	**1:10**	**1:15**	**1:15**	-	**1:20**	**1:30**	**1:33**	**1:45**
2:15	2:22	2:25	2:35	2:40	2:45	2:45	-	2:50	3:00	3:03	3:15

PM Trips in Bold Effective April 1, 2010
Addition Service to Highland via the Ulster-Poughkeepsie Link

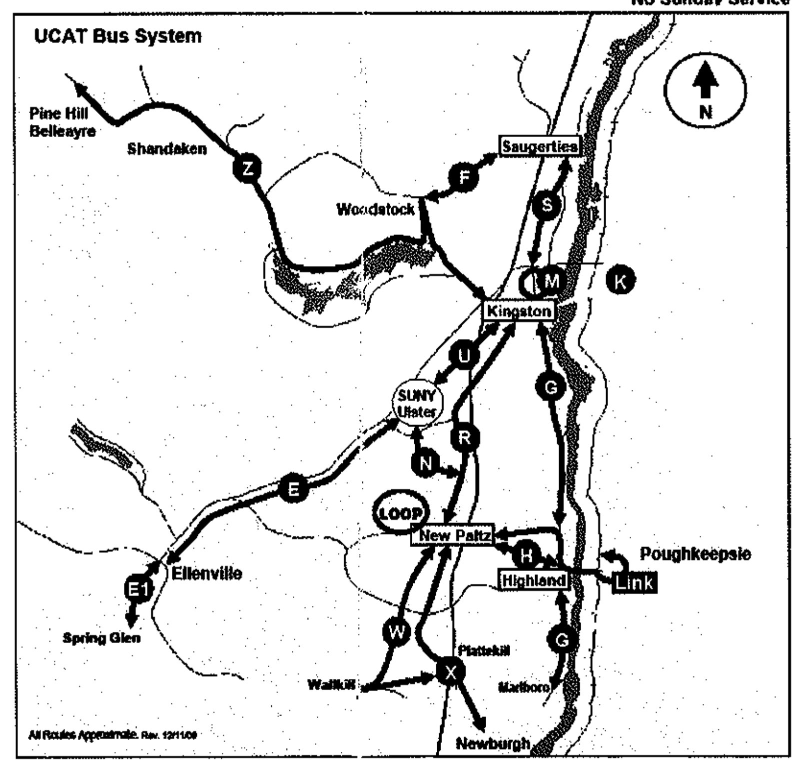
G KINGSTON - MARLBORO

SOUTHBOUND: Kingston to Marlboro										NORTHBOUND: Marlboro to Kingston									
Depart: UCAT; Golden Hill Drive at Route 32	Kingston Plaza at Hannaford	Albany Ave at DSS	Broadway at Garraghan Dr.	Hudson Vally Mall	Port Ewen: 9W at BOCES	Highland Park Ride Lot	Highland: Main Street at Vineyard Ave.	Highland Bridgeview Plaza at 9W	Arrive: Marlboro: King St. at 9W	Depart: Marlboro King St. at 9W	Highland Bridgeview Plaza at 9W	Highland: Main Street at Vineyard Ave.	Highland Park Ride Lot	Port Ewen: 9W at BOCES	Hudson Valley Mall Food Court	Broadway at Garraghan Dr.	Albany Ave at DSS	Kingston Plaza at Hannaford	Arrive: UCAT; Golden Hill Drive at Route 32
1	2	3	4	5	6	7	8	9	10	10	9	8	7	6	5	4	3	2	1
6:30	6:45	-	6:48	-	7:00	7:15	7:20	-	7:40	7:40	7:55	7:57	8:00	8:10	8:20	-	8:35	8:45	9:00
4:35	**4:45**	**4:50**	-	**5:00**	**5:10**	**5:20**	**5:25**	-	**5:45**	**5:45**	**6:00**	**6:02**	**6:05**	**6:15**	-	**6:20**	-	**6:30**	**6:45**

No Saturday or Sunday Service

K KINGSTON - ULSTER MALL AREA

NORTHBOUND: Kingston to Ulster Mall Area										SOUTHBOUND: Ulster Mall Area to Kingston									
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	2	3	4	5	6	7	8	9	10	10	9	8	7	6	5	4	3	2	1
5:20	5:30	-	-	-	5:55	-	6:45		-	-		-	-	-	-	-	-	-	-
6:10	6:20	6:23	6:26	6:30	6:35	6:36	6:45	6:47	6:55	7:00	7:03	7:05	7:10	7:13	-	-	-	7:20	-
-	7:30	-	-	-	7:35	7:35	7:45	7:47	7:55	8:00	8:03	8:05	8:10	8:13	-	-	-	8:20	-
-	8:30	-	-	-	8:35	8:36	8:45	8:47	8:55	9:00	9:03	9:05	9:10	9:13	-	-	-	9:20	-
-	9:30	-	-	-	9:35	9:35	9:45	9:47	9:55	10:00	10:03	10:05	10:10	10:13	-	-	-	10:20	-
-	10:30	-	-	-	10:35	10:36	10:45	10:47	10:55	11:00	11:03	11:05	11:10	11:13	-	-	-	11:20	-
-	11:30	-	-	-	11:35	11:36	11:42	11:47	11:55	12:00	12:03	12:05	12:10	12:13	-	-	-	12:20	-
-	**12:30**	-	-	-	**12:35**	**12:36**	**12:45**	**12:47**	**12:55**	**1:00**	**1:03**	**1:05**	**1:10**	**1:13**	-	-	-	**1:20**	-
-	**1:30**	-	-	-	**1:25**	**1:36**	**1:45**	**1:47**	**1:55**	**2:00**	**2:03**	**2:05**	**2:10**	**2:13**	-	-	-	**2:20**	-
-	**2:30**	-	-	-	**2:25**	**2:36**	**2:45**	**2:47**	**2:55**	**3:00**	**3:03**	**3:05**	**3:10**	**3:13**	-	-	-	**3:20**	**3:30**
3:20	**3:30**	-	-	-	**3:25**	**3:36**	**3:45**	**3:47**	**3:55**	**4:00**	**4:03**	**4:05**	**4:10**	**4:13**	-	-	-	**4:20**	**4:30**
4:20	**4:30**	-	-	-	**4:35**	**4:36**	**4:45**	**4:47**	**4:55**	**5:00**	**5:03**	**5:05**	**5:10**	**5:13**	**5:15**	**5:20**	**5:22**	**5:20**	-
-	**5:30**	-	-	-	**5:25**	**5:36**	**5:45**	**5:47**	**5:55**	**6:00**	**5:20**	**6:30**	**6:33**	**6:35**	-	-	-	**6:40**	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	**7:15**	-	-	-	**7:20**	**7:23**	**7:25**	**7:27**	**7:30**	**7:30**	**7:50**	**8:00**	**8:05**	**8:08**	**8:10**	**8:15**	**8:17**	**8:20**	-
-	**8:30**	-	-	-	**8:35**	**8:38**	**8:40**	**8:42**	**8:45**	**9:00**	**9:20**	**9:30**	**9:35**	**9:38**	**9:40**	**9:45**	**9:47**	**10:00**	**10:10**
-	-	-	-	-	-	-	-		-	**9:45**		-	-	**9:55**	-	-	-	**10:00**	**10:10**



M ULSTER MALL AREA

Monday - Friday Bus Service

Depart: Hudson Valley Mall Food Court	Walmart/ Toys R Us	Gander Mountain/ Sam's Club	Burlington/ Staples	Hannaford Grocery	Bed, Bath & Beyond/ Applebee's	Kings Mall/ Marshalls	Shoprite Center	Kohl's/ Texas Roadhouse	Arrive: Hudson Valley Mall Food Court
1	2	3	4	5	6	7	8	9	1
7:00	7:03	7:05	7:08	7:10	7:12	7:15	7:20	7:22	7:25
7.30	7.33	7.35	7.38	7.40	7.42	7.45	7.50	7.52	7.55
8:00	8:03	8:05	8:08	8:10	8:12	8:15	8:20	8:22	8:25
8:30	8:33	8:35	8:38	8:40	8:42	8:45	8:50	8:52	8:55
9:00	9:03	9:05	9:08	9:10	9:12	9:15	9:20	9:22	9:25
9:30	9:33	9:35	9:38	9:40	9:42	9:45	9:50	9:52	9:55
10:00	10:03	10:05	10:08	10:10	10:12	10:15	10:20	10:22	10:25
10:30	10:33	10:35	10:38	10:40	10:42	10:45	10:50	10:52	10:55
11.00	11.03	11.05	11.08	11.10	11.12	11.15	11.20	11.22	11.25
-	-	-	-	-	-	-	-	-	-
12:00	**12:03**	**12:05**	**12:08**	**12:10**	**12:12**	**12:15**	**12:20**	**12:22**	**12:25**
12:30	**12:33**	**12:35**	**12:38**	**12:40**	**12:42**	**12:45**	**12:50**	**12:52**	**12:55**
1.00	**1.03**	**1.05**	**1.08**	**1:10**	**1:12**	**1:15**	**1:20**	**1:22**	**1:25**
1:30	**1:33**	**1:35**	**1:38**	**1:40**	**1:42**	**1:45**	**1:50**	**1:52**	**1:55**
2:00	**2:03**	**2:05**	**2:08**	**2:10**	**2:12**	**2:15**	**2:20**	**2:23**	**2:25**
-	-	-	-	-	-	-	-	-	-
3:00	**3:03**	**3:05**	**3:08**	**3:10**	**3:12**	**3:15**	**3:20**	**3:23**	**3:25**
3:30	**3:33**	**3:35**	**3:38**	**3:40**	**3:42**	**3:45**	**3:50**	**3:52**	**3:55**
4:00	**4:03**	**4:05**	**4:08**	**4:10**	**4:12**	**4:15**	**4:20**	**4:23**	**4:25**
4.30	**4.33**	**4.35**	**4.38**	**4.40**	**4.42**	**4.45**	**4.50**	**4.52**	**4.55**
5:00	**5:03**	**5:05**	**5:08**	**5:10**	**5:12**	**5:15**	**5:20**	**5:23**	**5:25**
6:00	**6:03**	**6:05**	**6:08**	**6:10**	**6:12**	**6:15**	**6:20**	**6:22**	-
7:30	**7:33**	**7:35**	**7:38**	**7:40**	**7:42**	**7:45**	**7:50**	**7:52**	
9.00	**9.03**	**9.05**	**9.08**	**9.10**	**9.12**	**9.15**	**9.20**	**9.22**	-

PM trips in Bold
All times approximate
Fare, 50 cents per boarding
From November 28 to January 1 - Mall bus will operate on the hour from 7am to 5 pm

No Saturday or Sunday M Route Service

Additional but limited Ulster Mall Area service provided by other bus routes on Saturday

R KINGSTON - NEW PALTZ

Monday - Friday Service

SOUTHBOUND: Kingston to New Paltz							NORTHBOUND: New Paltz to Kingston						
Depart UCAT; Golden Hill Drive at Rt 32	Kingston Plaza at Hannaford	UCAT; Golden Hill Drive at Rt 32	Bloomington: Rt 32 at Main St	Rosendale: Rt 32 at Park & Ride	New Paltz: Route 32 at Park & Ride	Arrive: New Paltz Bus Station; Main & Prospect Streets	Depart New Paltz Bus Station; Main & Prospect Streets	New Paltz: Route 32 at Park & Ride	Rosendale: Route 32 at Park & Ride	Bloomington: Route 32 at Main St	UCAT; Golden Hill Drive at Rt 32	Kingston Plaza at Hannaford	Arrive: UCAT; Golden Hill Drive at Rt 32
1	2	1	3	4	5	6	6	5	4	3	1	2	1
5:00	-	5:00	5:05	5:15	5:20	5:25	-	-	-	-	-	-	-
6:05	6:15	6:20	6:25	6:35	6:45	-	7:00	7:03	7:10	7:15	7:20	7:30	-
6:20	6:30	6:35	6:40	6:45	6:53	7:00	-	7:48	7:55	8:00	8:05	8:15	-
7:10	-	7:15	7:20	7:25	7:30	-	-	-	-	-	-	-	-
-	7:30	7:35	7:40	7:45	7:52	8:00	8:00	8:03	8:10	-	-	-	-
-	-	-	-	8:50	8:58	9:00	9:45	9:47	9:55	10:00	10:05	10:15	10:30
-	-	-	-	12:20	12:28	12:30	11:30	11:32	11:40	-	-	-	-
12:30	-	**12:30**	**12:35**	**12:45**	**12:53**	**1:00**	**3:00**	**3:02**	**3:10**	**3:15**	**3:20**	-	**3:20**
2:05	**2:15**	**2:20**	**2:25**	**2:30**	-	**2:45**	**3:30**	**3:32**	**3:40**	-	-	-	-
-	-	-	-	**4:30**	**4:35**	**4:40**	**4:45**	**4:47**	**4:55**	**5:00**	**5:05**	-	**5:05**
5:15	**5:25**	**5:30**	**5:32**	**5:40**	**5:50**	-	-	**6:50**	**6:57**	**7:02**	**7:07**	**7:17**	**7:20**
-	-	-	-	-	-	-	**8:31**	**8:34**	**8:40**	**8:44**	**8:47**	**8:50**	**9:00**
-	-	-	-	-	-	-	**9:35**	**10:00**	**10:08**	**10:12**	**10:15**	-	**10:15**

PM Trips in Bold Effective April 1, 2010
All times approximate

N SUNY ULSTER - ROSENDALE

Monday - Friday Service

SOUTHBOUND: SUNY Ulster to Rosendale				NORTHBOUND: Rosendale to SUNY Ulster			
Depart: SUNY Ulster Campus	Cottekill Rd at Lucas Ave	High Falls: Route 213 at Mohonk Rd	Arrive: Rosendale: Rt 32 at Park Ride Lot	Depart: Rosendale: Rt 32 at Park Ride Lot	High Falls: Rt 213 at Mohonk Rd	Cottekill Rd at Lucas Ave	Arrive: SUNY Ulster Campus
1	2	3	4	4	3	2	1
8:30	8:32	8:37	8:50	8:10	8:20	8:25	8:30
12:00	**12:05**	**12:15**	**12:20**	**11:40**	**11:50**	**11:55**	**12:00**
1:20	1:22	1:25	1:35	1:35	1:40	1:43	1:45
4:10	**4:12**	**4:17**	**4:30**	**3:40**	**3:50**	**3:55**	**4:00**

No Saturday or Sunday Service

New Paltz Loop

Monday - Friday Service

Depart BOCES; Rt 32 at Old Kingston Rd (1)	Rt 32 at North Front Street (2)	Bus Station: Main & Prospect Streets (3)	N. Putt Corners Rd. at Henry DuBois Dr. (4)	Shoprite Plaza (5)	Stop & Shop Plaza (6)	SUNY Campus: HAB Circle at Rt. 32 (7)	SUNY Huguenot Ct. & South Side Rd (8)	SUNY Campus: Southside Loop at South Rd (9)	SUNY Campus: South Rd at Hawk Dr. (10)	Southside Ave. & Rt. 208 (11)	Rt 32 at North Front Street (2)	Arrive BOCES; Rt 32 at Old Kingston Rd (1)
7:30	7:32	7:35	7:41	7:45	7:48	7:50	7:52	7:53	7:54	7:55	7:58	8:00
8:00	8:02	8:05	-	8:08	8:10	8:12	8:14	8:15	8:16	8:17	8:20	8:22
8:30	8:32	8:35	8:41	8:45	8:48	8:50	8:52	8:53	8:54	8:55	8:58	9:00
9:00	9:02	9:05	-	9:08	9:10	9:12	9:14	9:15	9:16	9:17	9:20	9:22
9:30	9:32	9:35	9:41	9:45	9:48	9:50	9:52	9:53	9:54	9:55	9:58	10:00
10:00	10:02	10:05	-	10:08	10:10	10:12	10:14	10:15	10:16	10:17	10:20	10:22
10:30	10:32	10:35	10:41	10:45	10:48	10:50	10:52	10:53	10:54	10:55	10:58	11:00
11:00	11:02	11:05	-	11:08	11:10	11:12	11:14	11:15	11:16	11:17	11:20	11:22
12:00	12:02	12:05	12:11	12:15	12:18	12:20	12:22	12:23	12:24	12:25	12:28	12:30
12:30	12:32	12:35	-	12:38	12:40	12:42	12:44	12:45	12:46	12:47	12:50	12:52
1:00	1:02	1:05	1:11	1:15	1:18	1:20	1:22	1:23	1:24	1:25	1:28	1:30
1:30	1:32	1:35	-	1:38	1:40	1:42	1:44	1:45	1:46	1:47	1:50	1:52
2:00	2:02	2:05	2:11	2:15	2:18	2:20	2:22	2:23	2:24	2:25	2:28	2:30
3:00	3:02	3:05	-	3:15	3:20	3:27	3:28	3:29	3:30	3:33	3:35	3:40
4:00	4:02	4:05	4:11	4:15	4:20	4:27	4:28	4:29	4:30	4:33	4:34	4:40
5:00	5:02	5:05	-	5:15	5:20	5:27	5:28	5:29	5:30	5:33	5:34	5:40
6:00	6:02	6:05	6:11	6:15	6:18	6:20	6:22	6:23	6:24	6:25	6:28	6:30
6:30	6:32	6:35	-	6:38	6:40	6:42	6:44	6:45	6:46	6:47	6:50	6:52
7:00	7:02	7:05	7:11	7:15	7:18	7:20	7:22	7:23	7:24	7:25	7:28	7:30
8:00	8:02	8:05	-	8:08	8:10	8:12	8:14	8:15	8:16	8:17	8:20	8:22
8:30	8:32	8:35	8:41	8:45	8:48	8:50	8:52	8:53	8:54	8:55	8:58	9:00
9:00	9:02	9:05	-	9:08	9:10	9:12	9:14	9:15	9:16	9:17	9:20	9:22
9:30	9:32	9:35	9:41	9:45	9:48	9:50	9:52	9:53	9:54	9:55	9:58	10:00

No Saturday or Sunday Service

S ULSTER MALL AREA - SAUGERTIES

Monday - Friday Service

NORTHBOUND: Ulster Mall Area to Saugerties | SOUTHBOUND: Saugerties to Ulster Mall Area

Depart: Hudson Valley Mall Food Court (1)	Lake Katrine: Adams Fairacre Farms at 9W (2)	Saugerties: US 9W at Rt 32 (3)	Saugerties: The Mill on East Bridge St (4)	Saugerties Post Office: Market St. at Ulster Ave (5)	Saugerties: Washington Ave at Main St (6)	Saugerties: Price Chopper on Ulster Ave (7)	Saugerties Post Office: Market St. at Ulster Ave. (5)	Saugerties: Washington Ave at Main St (6)	Saugerties: The Mill on East Bridge St (4)	Saugerties: US 9W at Rt 32 (3)	Lake Katrine: Adams Fairacre Farms at 9W (2)	Arrive: Hudson Valley Mall Food Court (1)
-	5:50	6:00	6:05	6:10	6:18	6:22	6:25	6:32	6:35	6:40	6:45	6:50
7:00	7:05	7:15	7:18	7:25	7:28	7:32	7:35	7:38	7:42	7:46	7:50	8:00
8:00	8:05	8:10	8:15	8:20	8:22	8:26	8:30	8:32	8:35	8:40	8:45	8:50
9:00	9:05	9:10	9:15	9:20	9:22	9:26	9:30	9:32	9:35	9:40	9:45	9:50
10:00	10:05	10:10	10:15	10:20	10:32	10:35	-	-	-	-	-	-
-	-	-	-	-	11:22	11:26	11:30	11:32	11:36	11:40	11:45	11:50
12:00	12:05	12:10	12:15	12:20	12:22	12:26	12:30	12:32	12:35	12:40	12:45	12:50
1:00	1:05	1:10	1:15	1:20	1:22	1:26	1:30	1:32	1:36	1:40	1:45	1:50
2:00	2:05	2:10	2:15	2:20	2:37	2:40	-	-	-	-	-	-
-	-	-	-	3:20	3:22	3:26	3:30	3:32	3:36	3:40	3:46	3:50
4:00	4:05	4:10	4:15	4:20	4:22	4:25	4:30	4:32	4:35	4:40	4:45	4:50
5:00	5:05	5:10	5:15	5:20	5:22	5:25	5:30	5:32	5:35	5:40	5:45	5:50
6:00	6:05	6:10	6:15	6:20	6:22	6:25	7:15	7:17	-	7:20	7:25	7:30
8:00	8:05	8:10	8:15	8:20	8:22	8:26	8:30	8:32	8:35	8:40	8:45	8:50
[illegible]	[illegible]	9:10	9:15	9:20	9:22	9:25	9:30	9:32	9:35	9:40	-	9:45

X NEW PALTZ - NEWBURGH

Monday - Friday Service

SOUTHBOUND: New Paltz to Newburgh | NORTHBOUND: Newburgh to New Paltz

Depart New Paltz Main & Prospect St (1)	New Paltz Rt 32 at Jansen Rd (2)	Modena Rt 32 at Rt 44/55 (3)	Plattekill Post Office Rt 32 at Firehouse Rd (4)	Newburgh ShopRite, North Plank Rd at Rt 32 (5)	Newburgh Mid-Valley Mall on Rt 32 (6)	Newburgh Waterfront Water St at Colden St (7)	Newburgh Rt I-84 Bus Terminal (8)	Arrive: Newburgh Mall Rt 300 (9)	Depart Newburgh Mall Rt 300 (9)	Newburgh Rt I-84 Bus Terminal (8)	Newburgh Waterfront Water St at Colden St (7)	Newburgh Mid-Valley Mall on Rt 32 (6)	Newburgh ShopRite North Plank Rd at Rt 32 (5)	Plattekill Post Office Rt 32 at Firehouse Rd (4)	Modena Rt 32 at Rt 44/55 (3)	New Paltz Rt 32 at Jansen Rd (2)	Arrive: New Paltz Main & Prospect St (1)
6:26	6:30	6:36	6:42	6:52	6:55	7:02	7:14	7:22	6:26	6:32	6:41	6:49	6:52	7:02	7:12	7:17	7:26
7:30	7:35	7:38	7:47	7:57	8:00	8:06	8:19	8:27	8:45	8:52	9:03	9:09	9:12	9:22	9:32	9:37	9:45
1:40	1:45	1:10	1:17	1:27	1:30	1:37	1:49	1:57	2:00	2:07	2:17	2:24	2:27	2:38	2:48	2:53	3:00
3:16	3:20	3:26	3:33	3:43	3:46	3:46	4:06	4:13	5:30	5:37	5:47	5:54	5:57	6:08	6:18	6:23	6:30
6:30	6:35	6:41	6:48	6:58	7:01	7:08	7:20	7:28	7:30	7:37	7:47	7:54	7:57	8:08	8:18	8:25	8:30

No Saturday or Sunday Service

U KINGSTON - SUNY ULSTER

Monday - Friday Service

SOUTHBOUND: Kingston to SUNY Ulster | NORTHBOUND: SUNY Ulster to Kingston

Depart: UCAT: Golden Hill Dr. at Rt. 32 (1)	Kingston Plaza at Hannaford (2)	Hurley: Main St at Wynkoop Rd (3)	Stone Ridge: Rt 209 at Cottekill Rd (4)	Hurley: Lucas Ave at Zandhoek Rd (5)	Rosendale: Lucas Ave at Cottekill Rd (6)	Arrive: SUNY Ulster Campus (7)	Depart: SUNY Ulster Campus (7)	Rosendale: Lucas Ave at Cottekill Rd (6)	Hurley: Lucas Ave at Zandhoek Rd (5)	Stone Ridge: Route 209 at Cottekill Rd (4)	Hurley: Main St at Wynkoop Rd (3)	Arrive: Kingston Plaza at Hannaford (2)	Arrive: UCAT: Golden Hill Dr. at Rt. 32 (1)
5:05	5:15	5:20	5:27	-	-	-	-	-	-	-	-	-	-
6:26	6:35	-	-	6:43	6:50	6:55	7:05	-	-	7:07	7:16	7:30	-
-	7:45	7:52	8:00	-	-	8:05	8:30	8:32	8:35	-	-	8:50	-
-	9:30	-	-	9:35	9:45	9:50	10:00	-	-	10:02	10:10	10:20	-
-	11:30	11:38	11:45	-	-	11:50	12:00	12:02	12:05	-	-	12:20	-
-	1:00	-	-	1:06	1:15	1:20	1:46	-	-	1:47	1:56	2:00	-
2:10	2:20	2:28	2:35	-	-	2:40	3:00	-	-	3:02	3:10	3:20	3:30
-	3:30	-	-	3:38	3:40	3:50	4:10	4:12	4:16	-	-	4:30	4:40
-	-	-	-	-	-	-	6:26	-	-	6:27	6:35	6:45	-
-	6:45	6:50	6:55	-	-	7:10	8:16	-	-	8:17	8:26	8:30	-
	8:46	8:55	9:03			9:06				10:06	10:13	10:23	10:30

Saturday Service

SOUTHBOUND: Kingston to SUNY Ulster | NORTHBOUND: SUNY Ulster to Kingston

Depart UCAT, Golden Hill Dr. at Rt. 32 (1)	Kingston Plaza at Hannaford (2)	Hurley: Main St at Wynkoop Rd (3)	Stone Ridge: Rt 209 at Cottekill Rd (4)	Hurley: Lucas Ave at Zandhoek Rd (5)	Rosendale: Lucas Ave at Cottekill Rd (6)	Arrive: SUNY Ulster Campus (7)	Depart: SUNY Ulster Campus (7)	Rosendale: Lucas Ave at Cottekill Rd (6)	Hurley: Lucas Ave at Zandhoek Rd (5)	Stone Ridge: Route 209 at Cottekill Rd (4)	Hurley: Main St at Wynkoop Rd (3)	Arrive: Kingston Plaza at Hannaford (2)	Arrive: UCAT, Golden Hill Dr. at Rt. 32 (1)
7:55	8:00	8:05	8:15	-	-	8:17	8:20	8:25	8:40	-	-	8:45	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	1:30	1:35	1:45	-	-	1:47	1:50	1:52	2:00	-	-	2:15	-

Z KINGSTON - SHANDAKEN - BELLEAYRE

Monday - Friday Service

WESTBOUND: Kingston to Belleayre | EASTBOUND: Belleayre to Kingston

Depart: UCAT; Golden Hill Dr at Rt 32 (1)	Kingston Plaza at Hannaford (2)	West Hurley: Rt 28 at Rt 375 (3)	Woodstock: Rt 212 at Rock City Rd (4)	Boiceville: Rt 28 at Reservoir Rd (5)	Phoenicia: Rt 214 at Church St (6)	Pine Hill: Main Street at Elm St (7)	Arrive: Belleayre Mountain Ski Resort (8)	Depart: Belleayre Mountain Ski Resort (8)	Pine Hill: Main Street at Elm St (7)	Phoenicia: Rt 214 at Church St (6)	Boiceville: Rt 28 at Reservoir Rd (5)	Woodstock: Rt 212 at Rock City Rd (4)	West Hurley: Rt 28 at Rt 375 (3)	Kingston Plaza at Hannaford (2)	Arrive: UCAT; Golden Hill Dr at Rt 32 (1)
4:55	5:05	5:20	5:30	5:47	6:00	6:15	-	-	6:15	6:30	6:45	7:04	7:18	7:30	-
6:20	6:30	6:45	6:55	7:12	7:25	7:40	-	-	7:45	8:00	8:13	8:30	8:43	9:00	-
	7:45	8:05	8:15	8:30	8:46	9:00	9:06	9:10	9:15	9:30	9:45	10:03	10:18	10:30	10:40
	9:15	9:30	9:40	9:55	10:10	10:20			10:20	10:30	10:45	11:00	11:10	11:20	
-	12:30	12:45	12:55	1:10	1:22	1:37	1:45	1:45	1:50	2:05	2:20	2:35	2:45	3:00	3:10
2:20	2:30	2:45	2:55	3:10	3:22	3:37	3:45	3:45	3:50	4:05	4:20	4:40	4:55	5:00	
	6:30	6:46	6:56	7:10	7:25	7:45	na	na	6:45	7:00	7:15	7:35	7:45	8:00	8:10

Saturday Service

WESTBOUND: Kingston to Belleayre | EASTBOUND: Belleayre to Kingston

Depart UCAT, Golden Hill Dr at Rt 32 (1)	Kingston Plaza at Hannaford (2)	West Hurley: Rt 28 at Rt 375 (3)	Woodstock: Rt 212 at Rock City Rd (4)	Boiceville: Rt 28 at Reservoir Rd (5)	Phoenicia: Rt 214 at Church St (6)	Pine Hill: Main Street at Elm St (7)	Arrive: Belleayre Mountain Ski Resort (8)	Depart Belleayre Mountain Ski Resort (8)	Pine Hill: Main Street at Elm St (7)	Phoenicia: Rt 214 at Church St (6)	Boiceville: Rt 28 at Reservoir Rd (5)	Woodstock: Rt 212 at Rock City Rd (4)	West Hurley: Rt 28 at Rt 375 (3)	Kingston Plaza at Hannaford (2)	Arrive: UCAT, Golden Hill Dr at Rt 32 (1)
8:35	8:45	9:00	-	9:20	9:30	9:35	9:45*	9:55*	10:00	10:15	10:25	10:40	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2:15**	2:50	3:00	3:15	3:25	3:35	3:45*	4:00*	4:05	4:25	4:35	4:55	5:05	5:15	5:30

Sunday Service (Effective November 15 to April 15 only)

WESTBOUND: Kingston to Belleayre | EASTBOUND: Belleayre to Kingston

Depart: UCAT: Golden Hill Dr at Rt 32 (1)	Kingston Plaza at Hannaford (2)	West Hurley: Rt 28 at Rt 375 (3)	Woodstock: Rt 212 at Rock City Rd (4)	Boiceville: Rt 28 at Reservoir Rd (5)	Phoenicia: Rt 214 at Church St (6)	Pine Hill: Main Street at Elm St (7)	Arrive: Belleayre Mountain Ski Resort (8)	Depart Belleayre Mountain Ski Resort (8)	Pine Hill: Main Street at Elm St (7)	Phoenicia: Rt 214 at Church St (6)	Boiceville: Rt 28 at Reservoir Rd (5)	Woodstock: Rt 212 at Rock City Rd (4)	West Hurley: Rt 28 at Rt 375 (3)	Kingston Plaza at Hannaford (2)	Arrive: UCAT: Golden Hill Dr at Rt 32 (1)
8:35	8:45	9:00		9:20	9:30	9:35	9:45*	9:55*	10:00	10:15	10:25	10:40	10:50	11:00	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2:45	2:55	3:00	3:15	3:25	3:35	3:45*	4:00*	4:05	4:25	4:35	4:55	5:05	5:15	5:30

PM Trips in Bold
Belleayre Mountain Ski Resort Bus Service from November 15 to April 15
* Bus service on request from April 16 to November 14
** 2:15 via Mall Area, Rt. 209 to Rt. 28
All times approximate

Effective April 01, 2010

General Information

No bus service on New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Thanksgiving Day and Christmas Day. Saturday service is provided on day after Thanksgiving.

Reservations for next day ADA curb to curb service is available by calling (845) 334-8458 Monday through Friday 9:00 am to 4:00 pm. Prior authorization is required. Applications are available online and at 1 Danny Circle, Kingston. All passengers in wheelchairs must allow bus driver to secure wheelchair in accordance to manufacturer's recommendations.

To board bus, riders should hail bus with hand signal at any safe point on the bus route.

Fare Information

Fares are based on the number of zones traveled. Fare zones correspond with Ulster County Town and City municipal boundaries. All buses require exact change.

$1.00 minimum fare (entitles rider to 1 zone); $0.25 for each additional zone.

Seniors, persons with disabilities, and Medicare recipients may ride 1/2 fare during the hours of 10 am and 2 pm. Must present a valid identification card upon boarding. Children occupying a seat or over the age of five must pay full fare.

ULSTER COUNTY AREA TRANSIT

Systemwide Rate Schedule

General Information

Telephone Numbers:
(888) 827-8228 or (845) 334-8458
TTY: (800) 662-1220
Fax: (845) 340-3336

Addresses:
1 Danny Circle
Kingston, NY 12401

Email: ucat@co.ulster.ny.us
Web: www.co.ulster.ny.us/ucat

Hours of Bus Operations:
Mon-Fri: 5:00 am to 10:00 pm
Sat-Sun: 8:00 am to 7:00 pm

Office Hours:
Monday-Friday: 9:00 am to 5:00 pm

Director:
Robert J. DiBella

Powered By FTA

W NEW PALTZ - WALLKILL - PLATTEKILL

Monday - Friday Service

SOUTHBOUND: New Paltz to Wallkill to Plattekill | NORTHBOUND: Plattekill to Wallkill to New Paltz

Depart: New Paltz; Park & Ride at Rt 32 (1)	New Paltz Rt 208 at Jansen Rd (2)	Gardiner: Rt 208 at Ireland Corners (3)	Wallkill: Popp Park at Rt 208 South (4)	Modena: Rt 32 at Rt 44/55 (7)	Plattekill: New Hurley Rd at Route 32 (5)	Arrive Plattekill PO at Firehouse Rd (6)	Depart: Plattekill PO at Firehouse Rd (6)	Plattekill: New Hurley Rd at Route 32 (5)	Modena: Rt 32 at Rt 44/55 (7)	Wallkill Popp Park at Rt 208 South (4)	Gardiner: Rt 208 at Ireland Corners (3)	New Paltz: Rt 208 at Jansen Rd (2)	Arrive: New Paltz; Park & Ride at Rt 32 (1)
6:45	6:50	6:55	7:15	-	7:25	7:30	7:30	7:33	7:35	-	7:38	7:43	7:48
-	-	-	-	-	-	-	-	-	-	-	-	-	-
5:50	5:55	6:00	-	6:05	6:13	6:15	6:20	6:22	-	6:30	6:35	6:40	6:50

No Saturday or Sunday Service

K KINGSTON - ULSTER MALL AREA

Saturday Service

NORTHBOUND: Kingston to Ulster Mall Area | SOUTHBOUND: Ulster Mall Area to Kingston

Depart: UCAT, Golden Hill Drive at Route 32 (1)	Kingston Plaza at Hannaford (2)	Broadway at Cedar St (3)	Garraghan Dr at Broadway (4)	Foxhall Ave at Hasbrouck Ave (5)	Ulster County Office Bldg at Development Ct (6)	Chambers Dr (7)	Bank of America Enterprise Dr (8)	Social Security Administration Neighborhood Rd (9)	Arrive: Hudson Valley Mall Food Court (10)	Depart: Hudson Valley Mall Food Court (10)	Social Security Administration Neighborhood Rd (9)	Bank of America Enterprise Dr (8)	Chambers Dr (7)	Ulster County Office Bldg at Development Ct (6)	Foxhall Ave at Hasbrouck Ave (5)	Garraghan Dr at Broadway (4)	Broadway at Cedar St (3)	Kingston Plaza at Hannaford (2)	Arrive: UCAT, Golden Hill Drive at Route 32 (1)
7:50	8:00	8:05	8:07	8:10	8:15	8:20	8:25	-	8:30	9:30	-	9:35	9:37	9:40	-	-	-	9:45	-
-	10:15	10:20	10:22	10:25	10:30	10:35	10:40	-	10:45	10:45	-	11:15	11:17	11:20	-	-	-	11:20	-
-	12:15	12:20	12:22	12:25	12:30	12:35	12:40	-	12:45	2:00	-	2:20	2:22	2:25	-	-	-	2:30	-
-	2:10	-	-	-	2:18	-	-	-	2:30	2:30*	-	-	-	-	-	-	-	-	-
-	2:30	2:35	2:37	2:40	2:45	2:50	2:55	-	3:10	4:15	-	4:30	4:34	4:38	-	-	-	4:45	-
-	4:45	4:50	4:52	4:55	5:00	5:05	5:10	-	5:15	5:45	-	6:00	6:02	6:06	-	-	-	6:10	6:15

S ULSTER MALL AREA - SAUGERTIES

Saturday Service - No Sunday Service

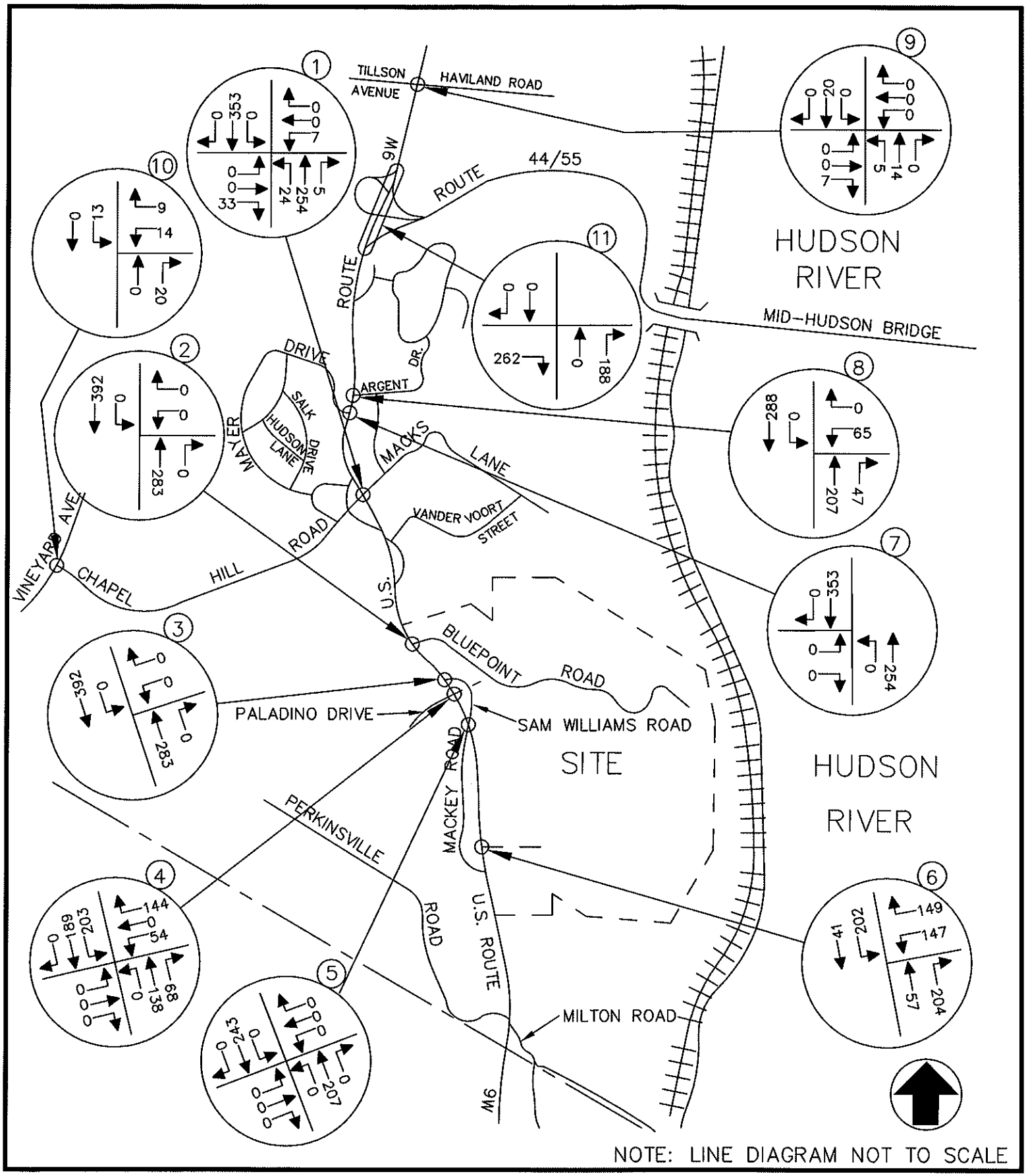
NORTHBOUND: Ulster Mall Area to Saugerties (* on request) | SOUTHBOUND: Saugerties to Ulster Mall Area

Depart: Hudson Valley Mall Food Court (1)	Lake Katrine: Adams Fairacre Farms at 9W (2)	Saugerties: US 9W at Rt 32 (3)	Saugerties: The Mill on East Bridge St (4)	Saugerties Post Office: Market St. at Ulster Ave. (5)	Saugerties: Washington Ave at Main St (6)	Saugerties: Price Chopper on Ulster Ave (7)	Saugerties Post Office: Market St. at Ulster Ave. (5)	Saugerties: Washington Ave at Main St (6)	Saugerties: The Mill on East Bridge St (4)	Saugerties: US 9W at Rt 32 (3)	Lake Katrine: Adams Fairacre Farms at 9W (2)	Arrive: Hudson Valley Mall Food Court (1)
8:50	*	8:55	*	9:10	-	-	9:15	9:16	*	9:20	*	9:30
-	-	-	-	-	-	-	11:00	11:01	*	11:05	*	11:15
-	-	-	-	-	-	-	-	-	-	-	-	-
3:15	*	3:20	*	4:00	-	-	4:00	4:01	*	4:05	*	4:15

Saturday Service

APPENDIX "G"

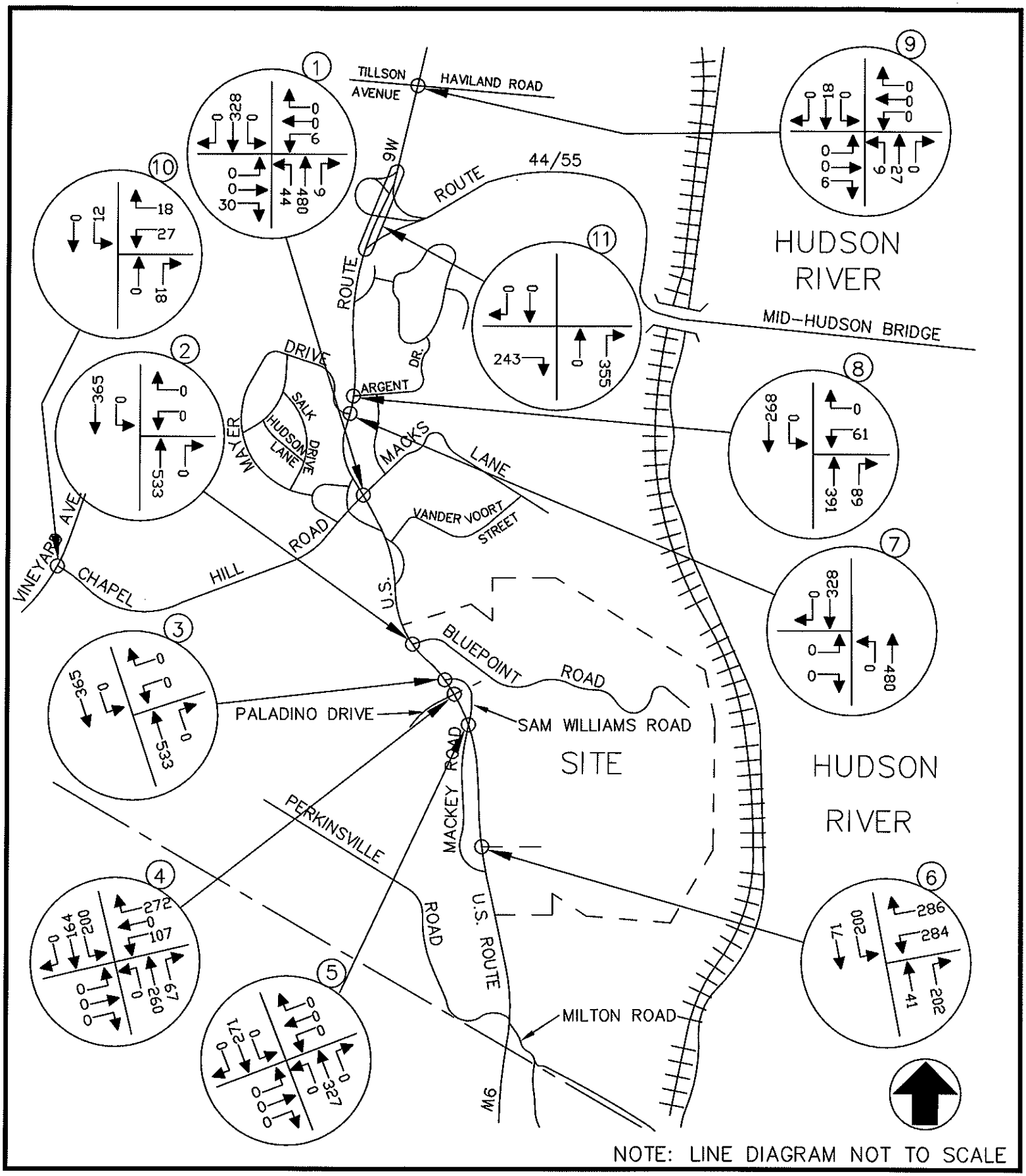
PREFERRED DEVELOPMENT PLAN



HUDSON VALLEY WINERY REDEVELOPMENT SITE GENERATED TRAFFIC VOLUMES
LLOYD, NEW YORK
WEEKDAY PEAK AM HOUR
(PREFERRED DEVELOPMENT PLAN)

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

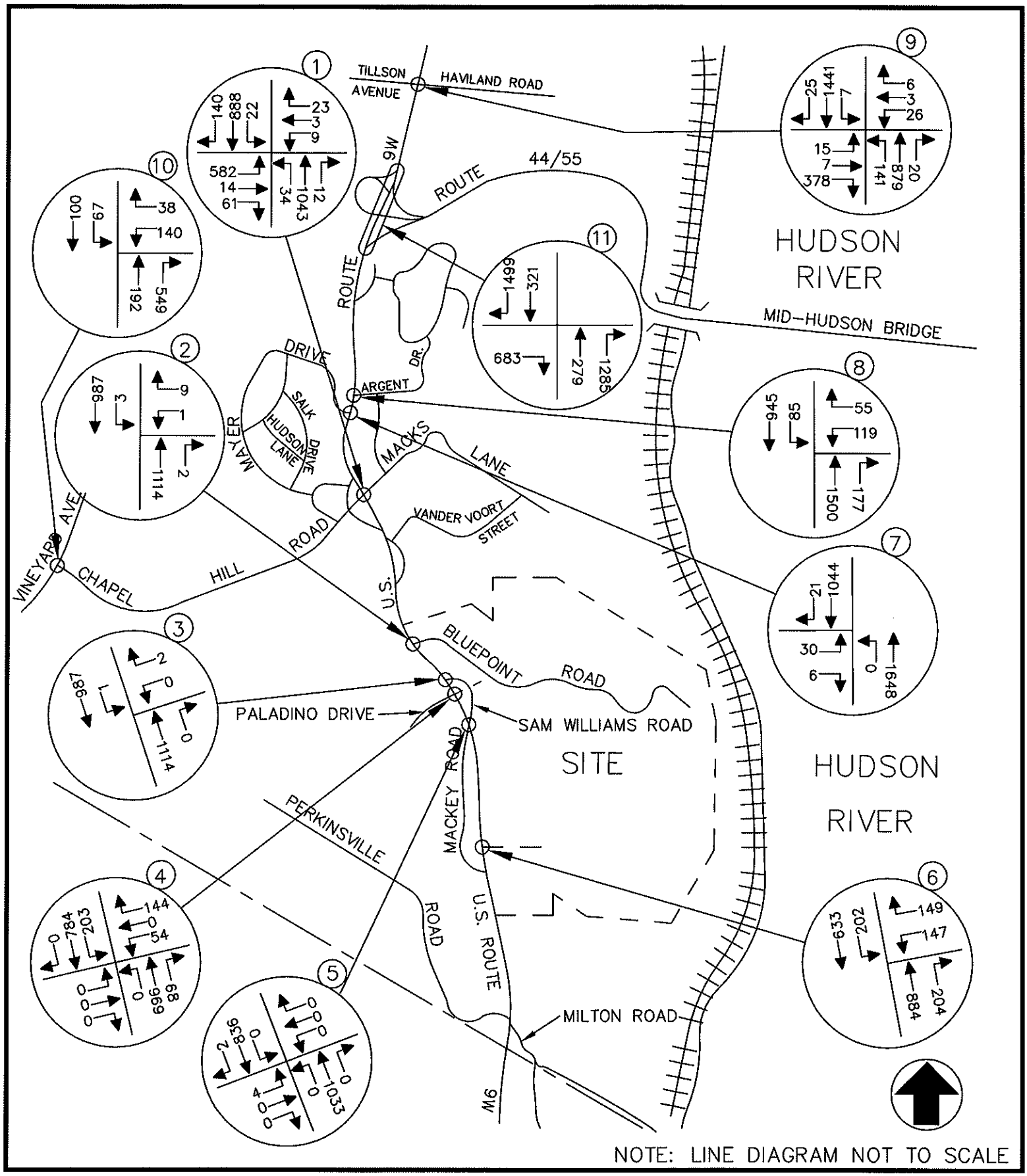
PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 8B



HUDSON VALLEY WINERY REDEVELOPMENT SITE GENERATED TRAFFIC VOLUMES
LLOYD, NEW YORK
WEEKDAY PEAK PM HOUR
(PREFERRED DEVELOPMENT PLAN)

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

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 9B

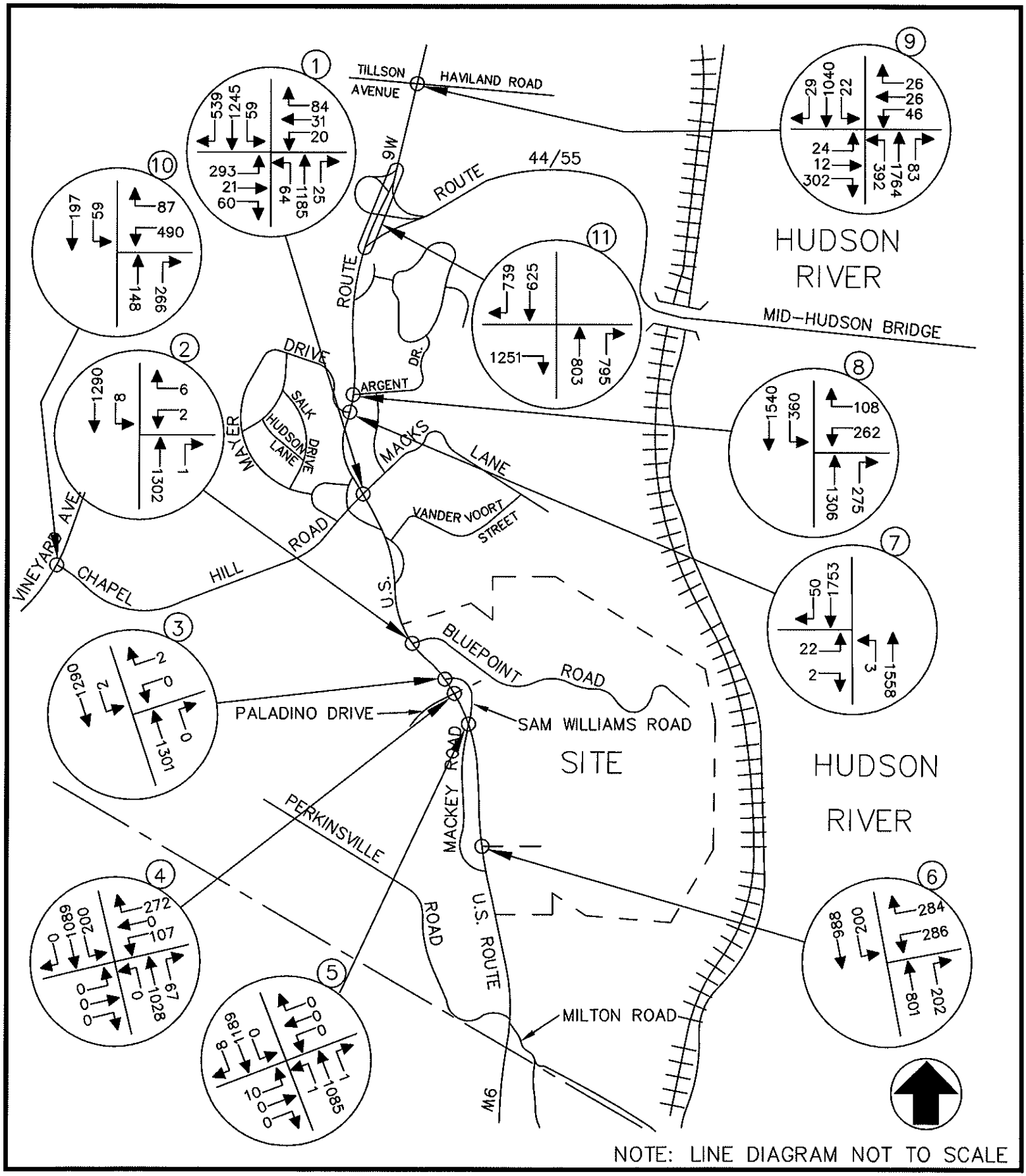


HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

2031 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK AM HOUR
(PREFERRED DEVELOPMENT PLAN)

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

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 10B



HUDSON VALLEY WINERY REDEVELOPMENT
LLOYD, NEW YORK

2031 BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR
(PREFERRED DEVELOPMENT PLAN)

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

PROJECT NO. 1711 DATE: DECEMBER 2012 FIG. NO. 11B

TABLE 1A

PREFERRED DEVELOPMENT PLAN
HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

HUDSON VALLEY WINE VILLAGE LLOYD,NY	ENTRY			EXIT		
	HTGR*	VOLUME	NEW TRIPS	HTGR*	VOLUME	NEW TRIPS
LIGHT INDUSTRIAL (450,000 S.F.)						
PEAK AM HOUR	0.86	389	350	0.12	53	48
PEAK PM HOUR	0.13	58	52	0.95	428	385
HOTEL W/CONFERENCE CENTER (103 ROOMS)						
PEAK AM HOUR	0.25	26	26	0.16	17	17
PEAK PM HOUR	0.31	32	32	0.28	29	29
OFFICE (75,000 S.F.)						
PEAK AM HOUR	1.78	134	121	0.24	18	16
PEAK PM HOUR	0.37	28	25	1.80	135	122
RETAIL (79,832 S.F.)						
PEAK AM HOUR	0.82	65	49	0.50	40	30
PEAK PM HOUR	2.49	199	149	2.70	216	162
SINGLE FAMILY (47 DWELLING UNITS)						
PEAK AM HOUR	0.23	11	11	0.68	32	32
PEAK PM HOUR	0.71	34	34	0.42	20	20
APARTMENT (518 DWELLING UNITS)						
PEAK AM HOUR	0.10	52	52	0.40	206	206
PEAK PM HOUR	0.38	197	197	0.20	106	106
TOWNHOME (282 DWELLING UNITS)						
PEAK AM HOUR	0.07	20	20	0.35	98	98
PEAK PM HOUR	0.33	94	94	0.16	46	46
HIGH TURNOVER SIT-DOWN RESTAURANT (140 SEATS)						
PEAK AM HOUR	0.24	34	26	0.23	32	24
PEAK PM HOUR	0.23	33	25	0.18	25	19
PEAK AM HOUR	-		654	-		471
PEAK PM HOUR	-		608	-		888

NOTES:

1) TRIP GENERATION RATES FOR LAND USE 110 - LIGHT INDUSTRIAL, 310 - HOTEL, 932 - HIGH TURNOVER RESTAURANT, 710 - OFFICE, 820 - SHOPPING CENTER, 210- SINGLE FAMILY HOME, 220 - APARTMENT, 230 - TOWNHOME, AND 932 - HIGH TURNOVER SIT-DOWN RESTAURANT BASED ON THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) PUBLICATION ENTITLED "TRIP GENERATION", 8TH EDITION, 2008.

2) "NEW" TRIPS REFLECT A 25% PASS-BY IS USED FOR RETAIL PORTION OF THE DEVELOPMENT AND A 10% INTERNAL TRIP CREDIT FOR LIGHT INDUSTRIAL & OFFICE AS INTERPLAY WITH RESIDENTIAL AND OTHER ON SITE USES AS PER ITE PROCEDURES.

3) OFFICE AND RETAIL TOTALS SHOWN ABOVE, ALSO ACCOUNT FOR THE ADAPTIVE REUSE OF THE 51,727 S.F. WINERY BUILDING.

TABLE NO. 2B

LEVEL OF SERVICE SUMMARY TABLE
(PREFERRED DEVELOPMENT PLAN BUILD OUT)

			2011 EXISTING		2031 NO-BUILD		2031 BUILD	
			AM	PM	AM	PM	AM	PM
1	U.S. ROUTE 9W &	**SIGNALIZED**						
	CHAPEL HILL ROAD/	EB	C[34.2]	E[75.8]	D[38.7]	F[100.8]	D[40.4]	F[132.1]
	MACKS LANE	WB	D[39.7]	E[63.3]	D[39.9]	E[78.4]	D[40.3]	F[87.3]
		NB	B[16.3]	A[7.8]	B[17.0]	A[8.2]	C[20.3]	B[10.6]
		SB	C[33.6]	C[32.5]	D[43.6]	D[53.4]	F[260.7]	F[192.4]
		OVERALL	C[26.9]	C[32.9]	C[31.4]	D[47.0]	F[106.7]	F[105.5]
	WITH SIGNAL TIMING &	EB	-	-	-	-	D[50.5]	F[132.1]
	PHASING IMPROVEMENTS	WB	-	-	-	-	D[40.3]	F[87.3]
		NB	-	-	-	-	B[18.4]	B[10.6]
		SB	-	-	-	-	E[61.5]	F[192.4]
		OVERALL	-	-	-	-	D[41.1]	F[105.5]
	W/ GEOMETRIC IMPROVEMENTS	EB	-	-	-	-	D[50.5]	F[132.1]
	ON MACK'S LANE	WB	-	-	-	-	D[40.0]	D[48.3]
		NB	-	-	-	-	B[17.5]	A[9.2]
		SB	-	-	-	-	D[49.0]	F[134.4]
		OVERALL	-	-	-	-	D[36.5]	E[79.0]
2	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	BLUEPOINT ROAD	WB	B[13.7]	B[14.9]	B[14.6]	C[16.1]	C[19.6]	D[29.7]
		SB	A[9.6]	A[9.3]	A[10.0]	A[9.7]	B[11.6]	B[13.0]
3	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	SAM WILLIAMS ROAD	WB	C[15.7]	B[14.5]	C[17.1]	C[16.0]	C[24.0]	D[28.8]
	(NORTH LEG)	SB	A[9.6]	A[9.3]	A[10.0]	A[9.7]	B[11.5]	B[12.9]
4	U.S. ROUTE 9W &	**SIGNALIZED**						
	SITE ACCESS DRIVEWAY	EB	-	-	-	-	C[34.7]	C[34.7]
	(NORTH)	WB	-	-	-	-	C[29.1]	D[40.2]
		NB	-	-	-	-	D[40.7]	D[50.5]
		SB	-	-	-	-	B[14.4]	C[20.5]
		OVERALL	-	-	-	-	C[28.0]	D[35.1]
5	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	SAM WILLIAMS ROAD/	EB	D[32.9]	E[49.4]	E[41.0]	F[69.0]	F[84.9]	F[247.1]
	MACKEY ROAD	WB	C[15.3]	B[14.2]	C[16.7]	B[15.5]	C[21.1]	C[22.6]
		NB	A[8.7]	A[9.9]	A[8.9]	B[10.4]	A[10.0]	B[12.1]
		SB	A[9.6]	A[9.2]	A[9.9]	A[9.6]	B[11.0]	B[11.3]
	WITH IMPROVEMENTS ON	EB	-	-	-	-	D[25.7]	D[28.1]
	ROUTE 9W AT SITE ACCESS	WB	-	-	-	-	C[21.1]	C[22.6]
		NB	-	-	-	-	A[10.0]	B[12.1]
		SB	-	-	-	-	B[11.0]	B[11.3]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

2) SEE APPENDIX "D" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

3) INCLUDES TURN LANES AND SIGNAL IMPROVEMENTS AT SITE ACCESS CONNECTION TO ROUTE 9W.

TABLE NO. 2B (CONTINUED)

LEVEL OF SERVICE SUMMARY TABLE
(PREFERRED DEVELOPMENT PLAN BUILD OUT)

			2011 EXISTING		2031 NO-BUILD		2031 BUILD	
			AM	PM	AM	PM	AM	PM
6	U.S. ROUTE 9W &	**SIGNALIZED**						
	SITE ACCESS DRIVEWAY	WB	-	-	-	-	C[27.5]	D[39.0]
	(SOUTH)	NB	-	-	-	-	D[46.4]	D[36.2]
		SB	-	-	-	-	B[14.7]	C[24.5]
		OVERALL	-	-	-	-	C[32.0]	C[31.7]
7	U.S. ROUTE 9W &	**UNSIGNALIZED**						
	MAYER DRIVE	EB	C[15.3]	C[19.2]	C[16.8]	C[22.1]	C[24.6]	D[32.6]
		NB	A[9.1]	B[13.3]	A[9.5]	B[14.6]	B[11.3]	C[18.4]
8	U.S. ROUTE 9W &	**SIGNALIZED**						
	ARGENT DRIVE	WB	C[27.0]	C[32.8]	C[27.2]	C[33.1]	C[32.3]	C[34.6]
		NB	D[40.9]	C[29.5]	D[54.1]	C[31.5]	F[106.2]	D[53.2]
		SB	B[10.1]	B[15.3]	B[10.2]	C[22.6]	B[10.3]	C[23.5]
		OVERALL	C[29.6]	C[22.0]	D[37.5]	C[26.6]	E[65.0]	D[35.5]
	WITH SIGNAL TIMING	WB	-	-	-	-	C[34.9]	C[34.6]
	IMPROVEMENTS	NB	-	-	-	-	D[40.1]	D[53.2]
		SB	-	-	-	-	A[9.6]	C[23.5]
		OVERALL	-	-	-	-	C[28.2]	D[35.5]
9	U.S. ROUTE 9W &	**SIGNALIZED**						
	TILLSON AVENUE/	EB	C[25.8]	C[24.5]	C[28.8]	C[25.6]	C[29.1]	C[25.7]
	HAVILAND ROAD	WB	D[42.0]	D[44.2]	D[42.1]	D[44.6]	D[42.1]	D[44.6]
		NB	B[14.0]	C[23.0]	B[15.1]	C[31.7]	B[15.3]	C[33.9]
		SB	C[34.0]	C[26.2]	D[46.1]	C[28.1]	D[49.1]	C[28.5]
		OVERALL	C[26.0]	C[24.7]	C[32.8]	C[30.5]	C[34.4]	C[31.9]
10	VINEYARD AVENUE &	**UNSIGNALIZED**						
	CHAPEL HILL ROAD	WB	C[15.6]	F[52.2]	C[18.2]	F[118.4]	C[21.0]	F[177.6]
		SB	A[9.4]	A[8.2]	A[9.8]	A[8.4]	A[10.0]	A[8.5]
	WITH SIGNALIZATION	WB	-	-	C[22.4]	C[31.9]	C[22.8]	D[38.9]
		NB	-	-	C[29.6]	B[16.9]	C[33.3]	B[17.4]
		SB	-	-	B[10.8]	B[14.7]	B[11.4]	B[15.3]
		OVERALL	-	-	C[25.7]	C[23.2]	C[28.2]	C[26.9]

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS.

2) SEE APPENDIX "D" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

3) INCLUDES TURN LANES AND SIGNAL IMPROVEMENTS AT SITE ACCESS CONNECTION TO ROUTE 9W.

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	582	14	61	9	3	23	34	1043	12	22	888	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	25.0					7.0	31.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	462	1662	0.84	0.28	43.6	D		
LTR	454	1635	0.76	0.28	36.8	D	40.4	D
Westbound								
LTR	135	1734	0.29	0.08	40.3	D	40.3	D
Northbound								
L	212	1702	0.18	0.48	18.8	B		
TR	1627	3405	0.72	0.48	20.3	C	20.3	C
Southbound								
L	116	338	0.21	0.34	21.7	C		
T	654	1898	1.51	0.34	266.5	F	260.7	F

Intersection Delay = 106.7 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	293	21	60	20	31	84	64	1185	25	59	1245	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	1.00	0.11	106.2	F		
LTR	180	1622	1.16	0.11	155.2	F	132.1	F
Westbound								
LTR	156	1756	0.91	0.09	87.3	F	87.3	F
Northbound								
L	212	1702	0.32	0.63	19.4	B		
TR	2153	3400	0.59	0.63	10.1	B	10.6	B
Southbound								
L	190	379	0.33	0.50	14.4	B		
T	949	1898	1.38	0.50	200.8	F	192.4	F

Intersection Delay = 105.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1 (WITH IMPROVEMENTS)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	582	14	61	9	3	23	34	1043	12	22	888	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A			
Thru		A				Thru	A			
Right		A				Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	7.0	23.0					45.0			
Yellow	3.0	3.0					3.0			
All Red	2.0	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	425	1662	0.91	0.26	56.4	E		
LTR	418	1635	0.82	0.26	43.9	D	50.5	D
Westbound								
LTR	135	1734	0.29	0.08	40.3	D	40.3	D
Northbound								
L	80	159	0.47	0.50	19.2	B		
TR	1703	3405	0.69	0.50	18.3	B	18.4	B
Southbound								
L	132	263	0.18	0.50	13.0	B		
T	949	1898	1.04	0.50	62.6	E	61.5	E

Intersection Delay = 41.1 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1 (WITH IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	0	1	2	0	1	1	0
LGConfig	L	LTR			LTR		L	TR		L	T	
Volume	293	21	60	20	31	84	64	1185	25	59	1245	
Lane Width	11.0	11.0			14.0		12.0	12.0		12.0	13.0	
RTOR Vol			0			0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	8.0	10.0					7.0	45.0		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	1.00	0.11	106.2	F		
LTR	180	1622	1.16	0.11	155.2	F	132.1	F
Westbound								
LTR	156	1756	0.91	0.09	87.3	F	87.3	F
Northbound								
L	212	1702	0.32	0.63	19.4	B		
TR	2153	3400	0.59	0.63	10.1	B	10.6	B
Southbound								
L	190	379	0.33	0.50	14.4	B		
T	949	1898	1.38	0.50	200.8	F	192.4	F

Intersection Delay = 105.5 (sec/veh) Intersection LOS = F

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB1 (WITH GEOMETRY IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	1	2	0	1	1	0
LGConfig	L	LTR			LT	R	L	TR		L	T	
Volume	582	14	61	9	3	23	34	1043	12	22	888	
Lane Width	11.0	11.0			12.0	12.0	12.0	12.0		12.0	13.0	
RTOR Vol			0			10			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A			
Thru		A				Thru	A			
Right		A				Right	A			
Peds						Peds				
WB Left	A				SB	Left	A			
Thru	A					Thru	A			
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	6.0	23.0					46.0			
Yellow	3.0	3.0					3.0			
All Red	2.0	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	425	1662	0.91	0.26	56.4	E		
LTR	418	1635	0.82	0.26	43.9	D	50.5	D
Westbound								
LT	116	1743	0.11	0.07	39.9	D	40.0	D
R	103	1538	0.14	0.07	40.2	D		
Northbound								
L	80	156	0.47	0.51	18.6	B		
TR	1740	3405	0.67	0.51	17.4	B	17.5	B
Southbound								
L	139	272	0.17	0.51	12.4	B		
T	970	1898	1.02	0.51	49.8	D	49.0	D

Intersection Delay = 36.5 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB1 (WITH GEOMETRY IMPROVEMENT)
E/W St: CHAPEL HILL ROAD/MACKS LANE

Inter.: US RTE 9W & CHAPEL HILL RD/MAC
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	1	2	0	1	1	0
LGConfig	L	LTR			LT	R	L	TR		L	T	
Volume	293	21	60	20	31	84	64	1185	25	59	1245	
Lane Width	11.0	11.0			12.0	12.0	12.0	12.0		12.0	13.0	
RTOR Vol			0			30			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left		A			NB	Left	A	A		
Thru		A				Thru	A	A		
Right		A				Right	A	A		
Peds						Peds				
WB Left	A				SB	Left		A		
Thru	A					Thru		A		
Right	A					Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right				
Green	5.5	10.0					5.3	49.2		
Yellow	3.0	3.0					3.0	3.0		
All Red	2.0	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
L	185	1662	1.00	0.11	106.2	F		
LTR	180	1622	1.16	0.11	155.2	F	132.1	F
Westbound								
LT	108	1775	0.50	0.06	44.5	D	48.3	D
R	94	1538	0.61	0.06	51.9	D		
Northbound								
L	180	1702	0.37	0.66	21.2	C		
TR	2248	3400	0.57	0.66	8.6	A	9.2	A
Southbound								
L	207	379	0.30	0.55	11.9	B		
T	1038	1898	1.26	0.55	140.2	F	134.4	F

Intersection Delay = 79.0 (sec/veh) Intersection LOS = E

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1114	2	3	987	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1237	2	3	1096	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	1		9			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	1		10			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		3		11				
C(m) (vph)		552		258				
v/c		0.01		0.04				
95% queue length		0.02		0.13				
Control Delay		11.6		19.6				
LOS		B		C				
Approach Delay				19.6				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & BLUEPOINT ROAD
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB2
East/West Street: BLUEPOINT ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1302	1	8	1290	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1446	1	8	1433	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR		LT	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	2		6			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	2		6			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-9			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		8		8				
C(m) (vph)		459		154				
v/c		0.02		0.05				
95% queue length		0.05		0.16				
Control Delay		13.0		29.7				
LOS		B		D				
Approach Delay				29.7				
Approach LOS				D				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1114	0	1	987	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1237	0	1	1096	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		1		2				
C(m) (vph)		553		191				
v/c		0.00		0.01				
95% queue length		0.01		0.03				
Control Delay		11.5		24.0				
LOS		B		C				
Approach Delay				24.0				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & SAM WILLIAMS R
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB3
East/West Street: SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		1301	0	2	1290	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		1445	0	2	1433	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0		2			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	0		2			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		3			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0	0				
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		2		2				
C(m) (vph)		460		153				
v/c		0.00		0.01				
95% queue length		0.01		0.04				
Control Delay		12.9		28.8				
LOS		B		D				
Approach Delay				28.8				
Approach LOS				D				

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB4
E/W St: SITE ACCESS (NORTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS N
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	1	1	1	0
LGConfig		LTR			LT	R		LT	R	L	TR	
Volume	0	0	1	54	0	144	0	969	68	203	784	0
Lane Width		12.0			12.0	12.0		12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	A				NB Left		A		
Thru	A				Thru		A		
Right	A				Right		A		
Peds					Peds				
WB Left	A				SB Left	A	A		
Thru	A				Thru	A	A		
Right	A				Right	A	A		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	A			
Green	11.0					10.0	54.0		
Yellow	3.0					3.0	3.0		
All Red	2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	191	1565	0.01	0.12	34.7	C	34.7	C
Westbound								
LT	161	1315	0.37	0.12	37.8	D	29.1	C
R	444	1538	0.36	0.29	25.9	C		
Northbound								
LT	1086	1810	0.99	0.60	43.0	D	40.7	D
R	923	1538	0.08	0.60	7.6	A		
Southbound								
L	272	1719	0.83	0.77	48.2	D		
TR	1388	1810	0.63	0.77	5.6	A	14.4	B

Intersection Delay = 28.0 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB4
E/W St: SITE ACCESS (NORTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS N
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	0	1	1	1	1	0
LGConfig		LTR			LT	R		LT	R	L	TR	
Volume	0	0	1	107	0	272	0	1028	67	200	1089	0
Lane Width		12.0			12.0	12.0		12.0	12.0	12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left		A		
Thru	A					Thru		A		
Right	A					Right		A		
Peds						Peds				
WB Left	A				SB	Left	A	A		
Thru	A					Thru	A	A		
Right	A					Right	A	A		
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	A			
Green	11.0						9.0	55.0		
Yellow	3.0						3.0	3.0		
All Red	2.0						2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LTR	191	1565	0.01	0.12	34.7	C	34.7	C
Westbound								
LT	161	1315	0.74	0.12	54.6	D	40.2	D
R	427	1538	0.71	0.28	34.5	C		
Northbound								
LT	1106	1810	1.03	0.61	53.3	D	50.5	D
R	940	1538	0.08	0.61	7.2	A		
Southbound								
L	253	1719	0.88	0.77	57.5	E		
TR	1388	1810	0.87	0.77	13.7	B	20.5	C

Intersection Delay = 35.1 (sec/veh) Intersection LOS = D

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2021 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1033	0	0	836	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	1147	0	0	928	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	723	598		224			49	
v/c	0.00	0.00		0.00			0.08	
95% queue length	0.00	0.00		0.01			0.26	
Control Delay	10.0-	11.0		21.1			84.9	
LOS	A	B		C			F	
Approach Delay				21.1			84.9	
Approach LOS				C			F	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB5
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	1085	1	0	1189	8
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	1205	1	0	1321	8
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	10	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	11	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			11	
C(m) (vph)	510	568		206			24	
v/c	0.00	0.00		0.00			0.46	
95% queue length	0.01	0.00		0.01			1.38	
Control Delay	12.1	11.3		22.6			247.1	
LOS	B	B		C			F	
Approach Delay				22.6			247.1	
Approach LOS				C			F	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB5 (WITH IMPROVEMENT)
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1033	0	0	836	2
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	1147	0	0	928	2
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	TWLTL			/ 1		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	4	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	4	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	0	0		1			4	
C(m) (vph)	723	598		224			178	
v/c	0.00	0.00		0.00			0.02	
95% queue length	0.00	0.00		0.01			0.07	
Control Delay	10.0-	11.0		21.1			25.7	
LOS	A	B		C			D	
Approach Delay				21.1			25.7	
Approach LOS				C			D	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: RTE 9W & MACKEY RD/SAM WILLIAM
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB5 (WITH IMPROVEMENT)
East/West Street: MACKEY ROAD/SAM WILLIAMS ROAD
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	1	1085	1	0	1189	8
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	1	1205	1	0	1321	8
Percent Heavy Vehicles	5	--	--	5	--	--
Median Type/Storage	TWLTL			/ 1		
RT Channelized?						
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	1	10	0	0
Peak Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Hourly Flow Rate, HFR	0	0	1	11	0	0
Percent Heavy Vehicles	5	5	5	5	5	5
Percent Grade (%)		2			-2	
Flared Approach: Exists?/Storage			No /			No /
Lanes	0	1	0	0	1	0
Configuration		LTR			LTR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LTR	LTR		LTR			LTR	
v (vph)	1	0		1			11	
C(m) (vph)	510	568		206			167	
v/c	0.00	0.00		0.00			0.07	
95% queue length	0.01	0.00		0.01			0.21	
Control Delay	12.1	11.3		22.6			28.1	
LOS	B	B		C			D	
Approach Delay				22.6			28.1	
Approach LOS				C			D	

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB6
E/W St: SITE ACCESS (SOUTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS S
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	1	1	1	0
LGConfig				L		R		T	R	L	T	
Volume				147		149		884	204	202	633	
Lane Width				12.0		12.0		12.0	12.0	12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru		A		
Right					Right		A		
Peds					Peds				
WB Left		A			SB Left	A	A		
Thru					Thru	A	A		
Right		A			Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	A			
Green		17.0				10.0	48.0		
Yellow		3.0				3.0	3.0		
All Red		2.0				2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	325	1719	0.50	0.19	33.9	C		
							27.5	C
R	547	1538	0.30	0.36	21.3	C		
Northbound								
T	965	1810	1.02	0.53	54.5	D	46.4	D
R	820	1538	0.28	0.53	11.7	B		
Southbound								
L	272	1719	0.82	0.70	38.4	D		
T	1267	1810	0.55	0.70	7.2	A	14.7	B

Intersection Delay = 32.0 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB6
E/W St: SITE ACCESS (SOUTH)

Inter.: U.S. ROUTE 9W & SITE ACCESS S
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	1	0	1	1	1	1	0
LGConfig				L		R		T	R	L	T	
Volume				286		284		801	202	200	988	
Lane Width				12.0		12.0		12.0	12.0	12.0	12.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		A		
Right						Right		A		
Peds						Peds				
WB Left		A			SB	Left	A	A		
Thru						Thru	A	A		
Right		A				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	A			
Green		19.0					10.0	46.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	363	1719	0.88	0.21	55.0-	D		
							39.0	D
R	581	1538	0.54	0.38	23.0	C		
Northbound								
T	925	1810	0.96	0.51	42.1	D	36.2	D
R	786	1538	0.28	0.51	12.8	B		
Southbound								
L	271	1719	0.82	0.68	43.2	D		
T	1227	1810	0.89	0.68	20.7	C	24.5	C

Intersection Delay = 31.7 (sec/veh) Intersection LOS = C

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	0	1648			1044	21
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	0	1831			1160	23
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				30		6
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				33		6
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage				/		No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	0						39	
C(m) (vph)	569						222	
v/c	0.00						0.18	
95% queue length	0.00						0.62	
Control Delay	11.3						24.6	
LOS	B						C	
Approach Delay							24.6	
Approach LOS							C	

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: U.S. ROUTE 9W & MAYER DRIVE
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB7
East/West Street: MAYER DRIVE
North/South Street: U.S. ROUTE 9W
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	3	1558			1753	50
Peak-Hour Factor, PHF	0.90	0.90			0.90	0.90
Hourly Flow Rate, HFR	3	1731			1947	55
Percent Heavy Vehicles	5	--	--		--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes	0	2			2	0
Configuration	LT	T			T	TR
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume				22		2
Peak Hour Factor, PHF				0.90		0.90
Hourly Flow Rate, HFR				24		2
Percent Heavy Vehicles				5		5
Percent Grade (%)		0			-8	
Flared Approach: Exists?/Storage				/		No /
Lanes				0		0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config	LT						LR	
v (vph)	3						26	
C(m) (vph)	271						156	
v/c	0.01						0.17	
95% queue length	0.03						0.58	
Control Delay	18.4						32.6	
LOS	C						D	
Approach Delay							32.6	
Approach LOS							D	

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				119		55		1500		85	945	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P	P		
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green		25.0					30.0	50.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.20	0.21	39.9	D		
							32.3	C
R	725	1450	0.08	0.50	15.9	B		
Northbound								
T	1464	3514	1.14	0.42	106.2	F	106.2	F
Southbound								
L	428	1710	0.22	0.25	36.9	D		
T	2428	3428	0.43	0.71	7.9	A	10.3	B

Intersection Delay = 65.0 (sec/veh) Intersection LOS = E

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB8
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				262		108		1306		360	1540	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		P		
Right						Right				
Peds						Peds				
WB Left		P			SB	Left	P			
Thru						Thru	P	P		
Right		P				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	P			
Green		25.0					30.0	50.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.44	0.21	43.6	D		
							35.8	D
R	725	1450	0.17	0.50	16.8	B		
Northbound								
T	1464	3514	0.99	0.42	56.3	E	56.3	E
Southbound								
L	428	1710	0.93	0.25	73.9	E		
T	2428	3428	0.70	0.71	11.9	B	23.7	C

Intersection Delay = 36.8 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB8 (WITH SIGNAL IMPROVEMENTS)
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				119		55		1500		85	945	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left					NB	Left				
Thru						Thru		A		
Right						Right				
Peds						Peds				
WB Left		A			SB	Left	A			
Thru						Thru	A	A		
Right		A				Right				
Peds						Peds				
NB Right					EB	Right				
SB Right					WB	Right	A			
Green		23.0					22.0	60.0		
Yellow		3.0					3.0	3.0		
All Red		2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	603	3146	0.22	0.19	41.1	D		
							34.9	C
R	604	1450	0.10	0.42	21.4	C		
Northbound								
T	1757	3514	0.95	0.50	40.1	D	40.1	D
Southbound								
L	314	1710	0.30	0.18	42.9	D		
T	2485	3428	0.42	0.73	6.7	A	9.6	A

Intersection Delay = 28.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB8 (WITH SIGNAL IMPROVEMENTS)
E/W St: ARGENT DRIVE

Inter.: U.S. ROUTE 9W & ARGENT DRIVE
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES
N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	2	0	1	0	2	0	1	2	0
LGConfig				L		R		T		L	T	
Volume				262		108		1306		360	1540	
Lane Width				11.0		11.0		12.0		12.0	12.0	
RTOR Vol						0						

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru		A		
Right					Right				
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A	A		
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	A			
Green	25.0					29.5	50.5		
Yellow	3.0					3.0	3.0		
All Red	2.0					2.0	2.0		

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
L	655	3146	0.44	0.21	41.9	D		
							34.6	C
R	719	1450	0.17	0.50	16.7	B		
Northbound								
T	1479	3514	0.98	0.42	53.2	D	53.2	D
Southbound								
L	420	1710	0.95	0.25	76.4	E		
T	2428	3428	0.70	0.71	11.1	B	23.5	C

Intersection Delay = 35.5 (sec/veh) Intersection LOS = D

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	15	7	378	26	3	6	141	879	20	7	1441	25
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination		1	2	3	4			5	6	7	8
EB	Left	A				NB	Left	A	A	A	
	Thru	A					Thru	A	A		
	Right	A					Right	A	A		
	Peds						Peds				
WB	Left	A				SB	Left	A		A	
	Thru	A					Thru	A			
	Right	A					Right	A			
	Peds						Peds				
NB	Right					EB	Right		A	A	
SB	Right					WB	Right				
Green		21.0						58.0	11.0	10.0	
Yellow		3.0						3.0	3.0	3.0	
All Red		2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	268	1533	0.09	0.17	41.7	D	29.1	C
R	670	1546	0.63	0.43	28.3	C		
Westbound								
LTR	282	1610	0.14	0.17	42.1	D	42.1	D
Northbound								
L	512	1745	0.31	0.74	32.7	C		
TR	2149	3485	0.46	0.62	12.5	B	15.3	B
Southbound								
L	333	1710	0.02	0.57	18.4	B		
TR	1653	3419	0.99	0.48	49.3	D	49.1	D

Intersection Delay = 34.4 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB9
E/W St: TILLSON AVE/HAVILAND ROAD

Inter.: U.S. ROUTE 9W & TILLSON AVE
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: U.S. ROUTE 9W

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	1	0	1	0	1	2	0	1	2	0
LGConfig		LT	R		LTR		L	TR		L	TR	
Volume	24	12	302	46	26	26	392	1764	83	22	1040	29
Lane Width		12.0	12.0		16.0		12.0	12.0		12.0	12.0	
RTOR Vol			0			0			0			0

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4			5	6	7	8
EB Left	A				NB	Left	A	A	A	
Thru	A					Thru	A	A		
Right	A					Right	A	A		
Peds						Peds				
WB Left	A				SB	Left	A		A	
Thru	A					Thru	A			
Right	A					Right	A			
Peds						Peds				
NB Right					EB	Right		A	A	
SB Right					WB	Right				
Green	21.0						56.0	13.0	10.0	
Yellow	3.0						3.0	3.0	3.0	
All Red	2.0						2.0	2.0	2.0	

Cycle Length: 120.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
LT	256	1464	0.16	0.17	42.3	D	25.7	C
R	696	1546	0.48	0.45	23.7	C		
Westbound								
LTR	288	1647	0.38	0.17	44.6	D	44.6	D
Northbound								
L	578	1745	0.75	0.74	39.1	D		
TR	2142	3473	0.96	0.62	32.8	C	33.9	C
Southbound								
L	203	1710	0.12	0.55	47.7	D		
TR	1593	3414	0.75	0.47	28.1	C	28.5	C

Intersection Delay = 31.9 (sec/veh) Intersection LOS = C

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK AM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711AMB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		192	549	67	100	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		213	610	74	111	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	140		38			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	155		42			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes		0	0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		74		197				
C(m) (vph)		794		419				
v/c		0.09		0.47				
95% queue length		0.31		2.45				
Control Delay		10.0-		21.0				
LOS		A		C				
Approach Delay				21.0				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.5

TWO-WAY STOP CONTROL SUMMARY

Analyst: R.H.
Agency/Co.: JCE
Date Performed: DECEMBER 2012
Analysis Time Period: PEAK PM HOUR
Intersection: CHAPEL HILL RD & VINEYARD AVE
Jurisdiction: (PREFERRED DEVELOPMENT PLAN)
Units: U. S. Customary
Analysis Year: 2031 BUILD TRAFFIC VOLUMES
Project ID: 1711PMB10
East/West Street: CHAPEL HILL ROAD
North/South Street: VINEYARD AVENUE
Intersection Orientation: NS Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		148	266	59	197	
Peak-Hour Factor, PHF		0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR		164	295	65	218	
Percent Heavy Vehicles		--	--	5	--	--
Median Type/Storage	Undivided			/		
RT Channelized?						
Lanes		1	0	0	1	
Configuration			TR	LT		
Upstream Signal?		No			No	

Minor Street: Approach	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	490		87			
Peak Hour Factor, PHF	0.90		0.90			
Hourly Flow Rate, HFR	544		96			
Percent Heavy Vehicles	5		5			
Percent Grade (%)		-4			0	
Flared Approach: Exists?/Storage			No	/		/
Lanes	0		0			
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Config		LT		LR				
v (vph)		65		640				
C(m) (vph)		1086		489				
v/c		0.06		1.31				
95% queue length		0.19		27.58				
Control Delay		8.5		177.6				
LOS		A		F				
Approach Delay				177.6				
Approach LOS				F				

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK AM HOUR
Project ID: 1711AMB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				140		38		192	549	67	100	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A			
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	30.0					50.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	594	1782	0.33	0.33	22.8	C	22.8	C
Northbound								
TR	891	1604	0.92	0.56	33.3	C	33.3	C
Southbound								
LT	530	954	0.35	0.56	11.4	B	11.4	B

Intersection Delay = 28.2 (sec/veh) Intersection LOS = C

HCS+: Signalized Intersections Release 5.5

Analyst: R.H.
Agency: JCE
Date: DECEMBER 2012
Period: PEAK PM HOUR
Project ID: 1711PMB10
E/W St: CHAPEL HILL ROAD

Inter.: CHAPEL HILL RD & VINEYARD AVE
Area Type: All other areas
Jurisd: (PREFERRED DEVELOPMENT PLAN)
Year : 2031 BUILD TRAFFIC VOLUMES

N/S St: VINEYARD AVENUE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	0	0	0	0	1	0	0	1	0
LGConfig					LR			TR			LT	
Volume				490		87		148	266	59	197	
Lane Width					13.0			12.0			11.0	
RTOR Vol						0			0			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left				
Thru					Thru	A			
Right					Right	A			
Peds					Peds				
WB Left	A				SB Left	A			
Thru					Thru	A			
Right	A				Right				
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	36.0					44.0			
Yellow	3.0					3.0			
All Red	2.0					2.0			

Cycle Length: 90.0 secs

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios v/c	Ratios g/C	Lane Group Delay	Lane Group LOS	Approach Delay	Approach LOS
Eastbound								
Westbound								
LR	717	1792	0.89	0.40	38.9	D	38.9	D
Northbound								
TR	796	1628	0.58	0.49	17.4	B	17.4	B
Southbound								
LT	670	1370	0.43	0.49	15.3	B	15.3	B

Intersection Delay = 26.9 (sec/veh) Intersection LOS = C