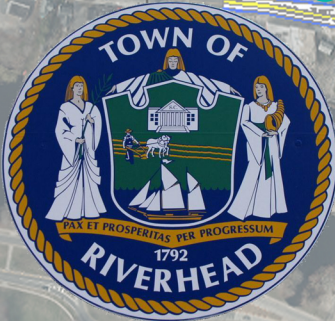
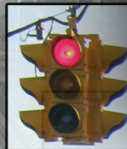


TOD GROWTH PLAN FOR THE TOWN OF RIVERHEAD PECONIC RIVER/ NYS ROUTE 25 CORRIDOR - BOA STEP II NOMINATION TRAFFIC IMPACT STUDY SEPTEMBER 2015



SUBMITTED TO:
TOWN OF RIVERHEAD
COMMUNITY DEVELOPEMENT
AGENCY



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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
PURPOSE OF REPORT	13
STUDY METHODOLOGY.....	18
EXISTING CONDITIONS	22
Land Use	22
Roadway Conditions.....	22
Traffic Volume Data	22
NO BUILD CONDITION	23
Traffic Growth.....	23
FULL BUILD OUT CONDITION.....	24
Trip Generation	24
Trip Distribution and Assignment	26
Traffic Analyses	26
PROPOSED MITIGATION FOR FULL BUILD OUT CONDITION SCENARIO	39
CONCLUSION	62

FIGURES

Figure 1: Study Area Map and Study Intersections (Western)	16
Figure 2: Study Area Map and Study Intersections (Downtown)	17
Figure 3: Overall Levels of Service for Full Build Out Scenario (PM Peak Hour).....	377
Figure 4: Overall Levels of Service for Full Build Out Scenario (Saturday Peak Hour)	388
Figure 5: Peconic Avenue one-way northbound and modification of the intersections of.....	422
Figure 6: West Main Street at Court Street/Nugent Drive improvements (Mitigations 1)	433
Figure 7: Roundabout improvements with Peconic Ave One-Way Northbound (Mitigation 1).....	444
Figure 8: Realignment of Peconic Ave and Roanoke Ave (Mitigation 2).....	455
Figure 9: Roundabout improvements (Mitigation 2).....	466
Figure 10: Overall Levels of Service for Mitigation 1 (PM Peak Hour)	578
Figure 11: Overall Levels of Service for Mitigation 1 (Saturday Peak Hour)	59
Figure 12: Overall Levels of Service for Mitigation 2 (PM Peak Hour)	600
Figure 13: Overall Levels of Service for Mitigation 2 (Saturday Peak Hour)	611

TABLES

Table 1: Seasonal Adjustment factors.....	23
Table 2: Trip Generation Projections	25
Table 3: Level of Service Summary – Full Build Out Scenario (signalized Intersections).....	288
Table 4: Level of Service Summary – Full Buildout Scenario (Unsignalized Intersections)	29
Table 5: Mitigation Level of Service Summary –PM Peak Hour	488
Table 6: Mitigation Level of Service Summary –Saturday Peak Hour	500

APPENDIX

Appendix A: Traffic Data

Appendix B: Trip Generation

Appendix C: Level of Service Definitions

Appendix D: Capacity Analysis/Level of Service Worksheets & Summary Table

EXECUTIVE SUMMARY

As part of its on-going TOD Growth Plan for the Town of Riverhead Peconic River/NYS Route 25 Corridor –BOA Step II Nomination “The Project”, The Town of Riverhead requested Nelson & Pope conduct a Cumulative Traffic Impact Study for downtown Riverhead to identify any traffic impacts that may be created by the Base Condition Scenario and a preferred Build Out Scenario. Part 1 of the Study which contains the results of the Base Scenario Conditions have already been completed and submitted to the Town of Riverhead (dated January 2014). This traffic report is based on Alternative Development Scenario 2 (herein after “Full Build Out Scenario”) discussed in the Step II Nomination Study and as described below:

The Full Build Out Scenario represents traffic conditions expected at the study intersections in the future year 2019. The Full Build Out Scenario traffic volumes are estimated based on the following factors:

- Included assumptions under the Base Condition Scenario.
- Assumed 100% of current vacant uses within the downtown area are occupied by 2019.
- Increase in traffic due to the proposed Build Out Scenario within the study area are constructed and in operation by 2019.

The Riverhead Downtown Study attempts to determine the best plan forward for the Redevelopment and Revitalization of the downtown area. An assessment of the existing base conditions was completed and then future development scenarios were defined and analyzed.

The areas of our study included the needs of pedestrians, guidance for the motorists, parking availability as well as geometric and operational improvements.

Our study of the base scenario conditions indicated that there are several intersections that are operating under less than desirable levels of service. It was also noted that there is a large percentage of vehicles on Route 25 that are primarily passing through Riverhead seeking other destinations.

When future development scenarios were analyzed, it was obvious that in order to improve the Level of Service, it would require geometric improvements to certain locations.

One of the major intersections requiring improvement was Route 25/Peconic Avenue/Roanoke Avenue. By making Peconic Avenue one-way northbound, improvements in the operation of the intersection can be accomplished. However, it would require traffic to be rerouted to other locations, thereby necessitating further geometric improvements. Although not part of this study, this improvement will require further study and analysis of the intersections of CR 94 at Nugent Drive and CR94 at CR 51.

Another alternative would be to realign this intersection which would require removal of the building located on the northwest corner. This, too, would improve the level of delay and improve operational issues at this location.

To attempt to improve the future development operational issues, transit was looked at to determine what may be practical improvements. The reality that exists is that typically any improvements in the schedule of the LIRR or the bus transit system will not occur ahead of the need.

At the present time, the transit seeking downtown Riverhead will not change unless there are outside catalysts that provide a need, i.e. additional trains/buses. Historically transit would follow after the need has been identified not prior.

Although with a full build-out, some congestion will exist, it is sometimes desirable so that those that are passing through the downtown can be observant of the shops, restaurants and other attractions that would hopefully make them stop or desire to return to the downtown.

Creating a roadway system that allows the motorist to speed through the downtown may not be in the Town's best interest when seeking a redevelopment and revitalization. It becomes a delicate

balancing act to provide an acceptable amount of delay and congestion that may discourage the true cut-thru traffic from those desiring to visit the downtown.

Providing clear guidance with signs and markings to existing parking facilities, points of interest for motorists, pedestrians and bicyclists, makes visiting the downtown desirable. Making sure that pedestrians can cross safely, providing sidewalks that are accessible and allowing for connectivity will enhance the downtown experience.

As the Town redevelopment moves forward, decisions will have to be made regarding this balance and the associated improvements that may be required.

This report addresses a number of the improvements that can be implemented as the Town moves forward with their desire to improve the downtown Riverhead experience.

The mitigation measures were developed based on a detailed assessment of the deficiencies associated with geometry, traffic control, signal operations, existing and future capacity limitations in this study area. In addition to the steps taken in the Base Condition Scenario study, Nelson & Pope undertook the following steps:

- The traffic volumes for the Base Condition Scenario ‘No Build Condition’ were estimated under the following assumptions:
 - o Assumed a base year of 2016 (3 years as compared to volumes collected). The 2013 traffic volumes as counted were adjusted to 2019 traffic conditions by applying a 1.88% annual growth factor obtained from the LITP 2000 Study for a period of 6 years.
 - o Estimated traffic volumes for the vacant land uses were included assuming the vacant parcels will be occupied by 2019.
 - o Traffic volumes from other planned projects were included.

- Estimates of traffic that would be generated by the proposed Full Build Out Scenario were prepared utilizing trip generation data published by the Institute of Transportation Engineers (“ITE”) publication, *Trip Generation, Ninth Edition*.
- The new traffic volumes generated by the proposed Full Built Out Scenario were assigned to the adjacent street system based upon the trip distribution model developed by Nelson & Pope.
- The estimated traffic generated by the proposed Full Build Out Scenario was then added to the 2019 No Build traffic volumes to generate the proposed 2019 Build Volumes.
- Capacity analyses were performed at the Study Intersections for the following conditions for the weekday PM and Saturday midday peak hours since they represent the worst traffic conditions:
 - o 2019 Full Build Out Conditions
 - o 2019 Full Build Out Conditions with Mitigations.
- The results of the analyses for the 2019 Full Build Out Condition Scenario were reviewed to identify locations with traffic issues.
- Recommendations to mitigate traffic impacts at the identified locations were developed and analyzed.

The following mitigation measures were identified and analyzed. Details of improvements at the impacted intersections can be found within the body of the report.

Mitigation 1 consists of the following proposed improvements:

1. Make Peconic Avenue a one-way roadway northbound with provision for a southbound emergency lane. This would require the rerouting of traffic to other locations which may require further study and analysis.
2. Restripe the intersection of West Main Street at Peconic Avenue to provide two eastbound through lanes and two westbound through lanes. One of the westbound through lanes will drop just west of Griffing Avenue. The section of Main Street between

Peconic Avenue and Roanoke Avenue will be restriped to provide two westbound through lanes and one eastbound through lane and one eastbound left turn lane.

3. Re-stripe the southbound approach at the intersection of West Main Street and Court Street to provide an additional lane.
4. Signal timing/phasing adjustments at the following intersections:
 - o Main Street at Peconic Avenue/Roanoke Avenue
 - o West Main Street at Court Street/Nugent Drive
 - o East Main Street at McDermott Avenue
 - o West Main Street at Griffing Avenue
5. Coordinate traffic signals on the Main Street corridor from Court Street to McDermott Avenue.
6. As part of the Suffolk County Roundabout project, redesign the one lane five- leg roundabout to a two lane five- leg roundabout with one-way northbound on Peconic Avenue.

With the aforementioned improvements proposed under Mitigation 1, the following assumptions were made:

- The current westbound left turn traffic volumes at the intersection of West Main Street and Peconic Avenue is a combination of some southbound Roanoke Avenue right turn traffic volume and some westbound through traffic volume at the intersection of West Main Street and Roanoke Avenue. To prohibit the westbound East Main Street left turn traffic and the eastbound West Main Street right turn traffic at Peconic Avenue and making Peconic Avenue one-way northbound, the following was assumed:
 - o 60% of the Roanoke Avenue right turn traffic will reroute to the intersection of Court Street and West Main Street via Railroad Avenue, Griffing Avenue and Court Street.
 - o 15% of the West Main Street traffic originally heading east on NYS 24 via Peconic Avenue was rerouted to other roadways prior to entering downtown Riverhead. The rest of the West Main Street westbound traffic originally heading south via Peconic Avenue was rerouted to continue straight on West Main Street and will

either make a westbound left turn or continue straight at the intersection of West Main Street and Court Street/Nugent Drive.

- o The eastbound West Main Street right turn traffic at Peconic Avenue was rerouted to the intersection of West Main Street and Court Street/Nugent Drive.

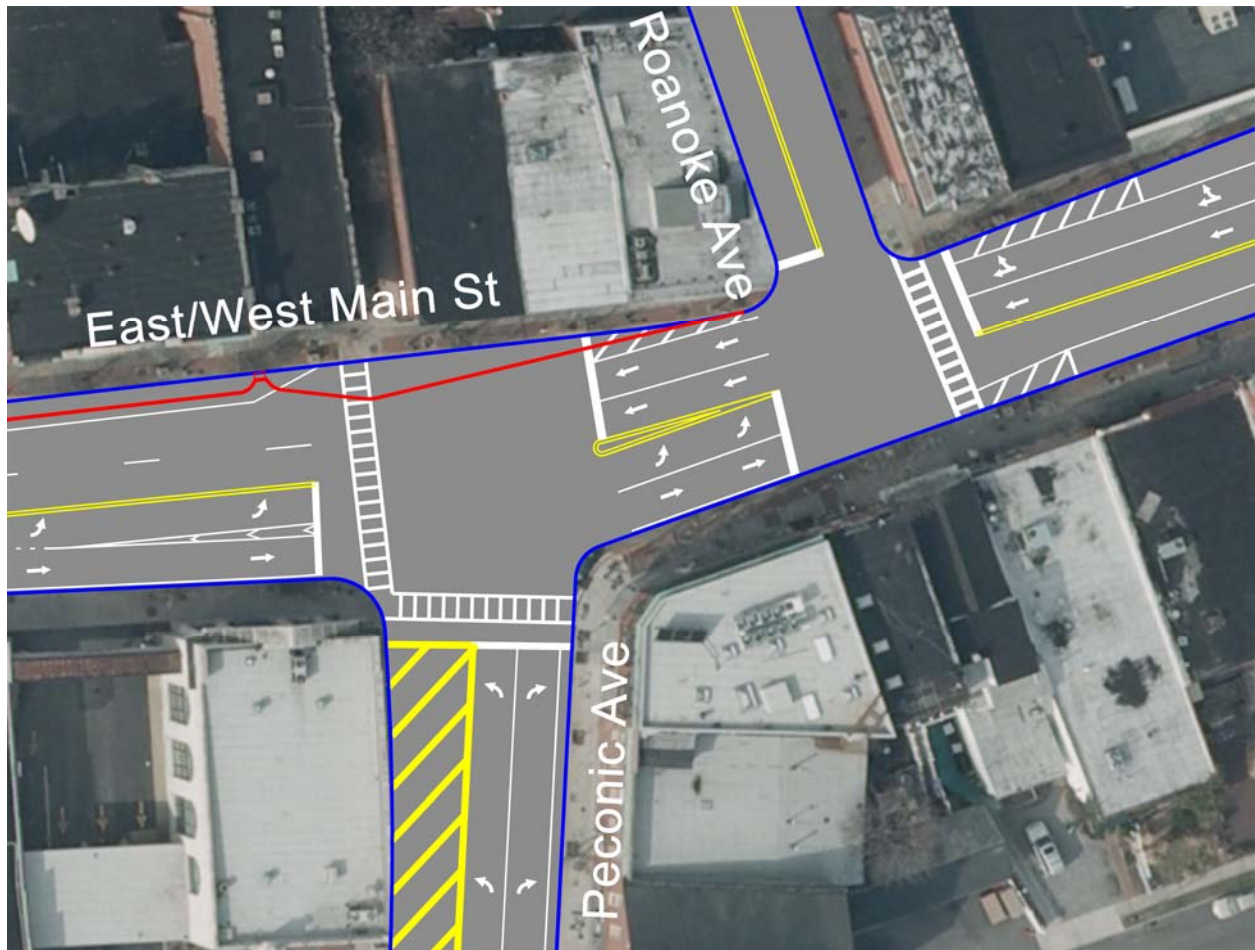
Mitigation 2 – Realign Peconic Avenue and Roanoke Avenue to eliminate the offset intersections of West Main Street at Peconic Avenue and East Main Street at Roanoke Avenue. This mitigation will not require any improvements at the intersection of West Main Street and Court Street and no rerouting of traffic volumes will be required; however, this Mitigation would require demolition of the structure opposite the northern terminus of Peconic Avenue.

Mitigation 2 consists of the following proposed improvements:

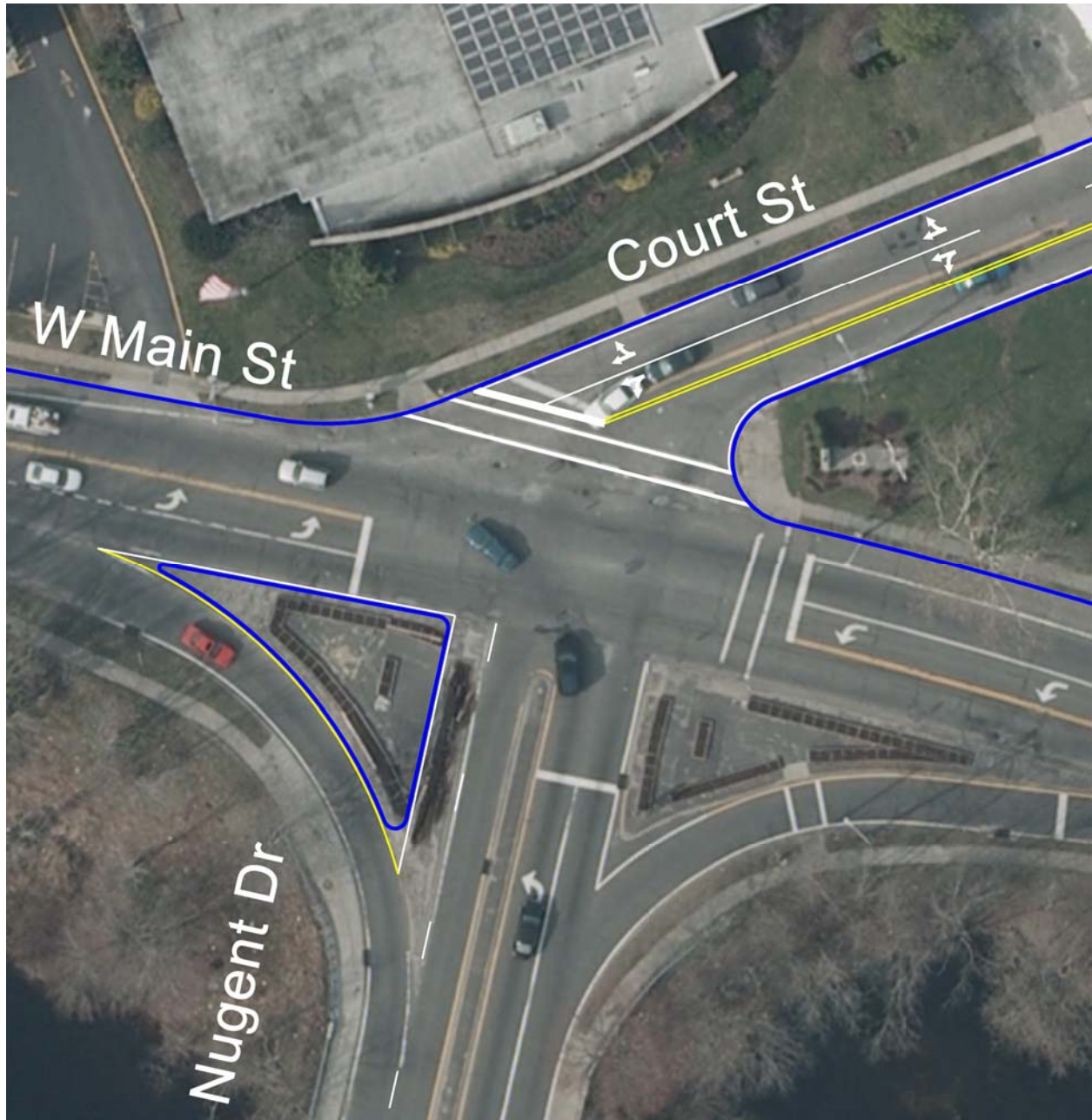
1. Realign Peconic Avenue and Roanoke Ave and replace the existing traffic signal.
2. Signal timing/phasing adjustments at the following intersections:
 - o West Main Street at Court Street/Nugent Drive
 - o East Main Street at McDermott Avenue
 - o West Main Street at Griffing Avenue
3. Coordinate traffic signals on the Main Street corridor from Court Street to McDermott Avenue.
4. As part of the Suffolk County Roundabout project, redesign the one lane five- leg roundabout to a two lane five- leg roundabout with two-way travel on Peconic Avenue.

The following figures show the proposed improvements under Mitigation 1 and Mitigation 2.

**Peconic Avenue one-way northbound and modification of the intersections of
West/East Main Street at Peconic Avenue/Roanoke Avenue (Mitigation 1)**



West Main Street at Court Street/Nugent Drive improvements (Mitigation 1)



Roundabout improvements (Mitigation 1)



Realign Roanoke Avenue and Peconic Avenue (Mitigation 2)



Two Lane Roundabout (Mitigation 2)



Based upon the results of the analyses, traffic and pedestrian flow can be improved with the implementation of either of the identified mitigation measures.

PURPOSE OF REPORT

As part of its on-going TOD Growth Plan for the Town of Riverhead Peconic River/NYS Route 25 Corridor –BOA Step II Nomination “The Project”, the Town of Riverhead requested Nelson & Pope to conduct a Cumulative Traffic Impact Study for downtown Riverhead to identify any traffic impacts that will be created by the Base Condition Scenario and a preferred Build Out Scenario. Part 1 of the Study, which contains the results of the Base Scenario Conditions, has already been completed and was submitted to the Town of Riverhead in _____. This traffic report is based on the Full Build Out Scenario (identified as Alternative Development Scenario 2 in the Step II Nomination) as described below:

Full Build Out Scenario

The Full Build Out Scenario represents traffic conditions expected at the study intersections in the future year 2019. The Full Build Out Scenario traffic volumes are estimated based on the following factors:

- Included assumptions under the Base Condition Scenario.
- Assumed 100% of current vacant uses within the downtown area are occupied by 2019.
- Increase in traffic due to the proposed Build Out Scenario within the study area are constructed and in operation by 2019.

The Town of Riverhead is located about 80 miles east of Manhattan, New York City, within Suffolk County on the east end of Long Island, generally at the split between the north and south forks of the island. Eastern Long Island, with its proximity to parks, beaches, vineyards, recreation and shopping is a popular tourist destination as well as a place of many second homes and/or vacation homes (most prevalent on the north and south forks). In spite of several attractions including a Tanger Outlet Mall, an aquarium, and many unique restaurants, the downtown area has been experiencing vacancies and lack of pedestrian activity on its main streets.

The study area follows NYS Route 25 generally from the eastern end of the Long Island Expressway and the Peconic River into the historic downtown. The downtown is the historic County Seat but like many downtowns across the United States, Riverhead experienced a loss of

residents and retail shops as well as many of the problems associated with a larger city. Since the 1970s, there have been many efforts to revitalize the area and planning studies prepared (including the preparation of a blight study, and Urban Renewal Plan and updated Comprehensive Plan) which has resulted in new zoning districts to encourage development.

Due in part to these efforts, in more recent years the downtown area has been experiencing a renewal. The downtown now has several attractions including the Atlantis Aquarium, the Long Island Science Museum, a reopened performing arts theatre (which originally opened in the 1940s), several new restaurants, and a new apartment building. The Town has created a riverwalk along a portion of the Peconic River, a new park on the waterfront with a community garden, and has made improvements to the infrastructure to enhance the setting along the river. In addition, the downtown has many historic buildings, is home to the Suffolk County NY State Supreme Courthouse, the Town Hall and Public Library, an abundance of unique restaurants (of varying cuisines and price levels), small independent shops, and professional office space. The Town has recently created a historic district (recognized by the National Register), attracted a Hyatt Hotel, and there are several new projects on Main Street being implemented.

However, there are still obstacles to overcome, including poor traffic circulation, a need to understand the market potential for economically sustainable uses, and the need to rebrand to overcome a negative image. However, this report is specific to a Transportation Growth Plan which identifies traffic circulation solutions, parking management strategies, transit and pedestrian enhancements.

This study evaluates the traffic impact associated with the proposed Full Build Out Scenario as previously described. This Full Build Out Scenario will result in the following changes over the next 6 years:

- an increase in residential, retail, office, recreational, lodging and restaurant uses;
- an increase in open/green space and other public/institutional uses;
- a decrease in industrial uses; and,
- an increase in the Town of Riverhead population.

These changes in land use and population will result in an increase in traffic on the roadways in the downtown area of the Town, and hence the need to conduct this traffic study to identify any potential impacts by the increase in traffic and to develop executable measures to mitigate those impacts. Typical potential impacts include congestion, delay and traffic safety concerns.

This report summarizes the results of a detailed investigation of the traffic impacts associated with the proposed Full Build Out Scenario by reviewing the area's existing roadway characteristics and traffic conditions, estimating the vehicular volume and pattern that this scenario will generate during peak hours, and analyzing the effect of the additional volume on the surrounding roadway network. The report also summarizes mitigation or improvements identified to accommodate future traffic.

The following figures show the study area map and study intersections investigated in this study.



LEGEND:



STUDY INTERSECTIONS

FIGURE No. 1

CORALSP



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LEGEND:

○ STUDY INTERSECTIONS

FIGURE No. 2

CONSULTANT

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STUDY METHODOLOGY

This study assesses the traffic impacts associated with the proposed Full Build Out Scenario as previously described and identifies appropriate mitigation, where necessary. The following steps were undertaken in executing the scope of this study:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, location/geometry of existing intersections along with signing, signal timings and phasing, pedestrian accommodations, bike routes and existing transit facilities. Also documented were other traffic control devices including yield and stop signs, speed limits and crosswalks.
- Turning movement traffic counts were conducted on Thursday May 16, 2013 during the weekday morning (7AM to 9AM), weekday midday (12PM-2PM) and weekday evening (4PM to 6PM) peak periods and on Saturday May 18, 2013 from 11AM-2PM. The counts were conducted at the following intersections (study intersections – see Figures 1 and 2):
 - o West Main Street (NYS 25) at River Road
 - o West Main Street (NYS 25) at Tanger Mall Drive
 - o West Main Street (NYS 25) at Kroemer Avenue/Forge Road
 - o West Main Street (NTS 25) at Mill Road
 - o West Main Street (NYS 25) at Nugent Drive/Court Street
 - o West Main Street (NYS 25) at Osborne Avenue
 - o West Main Street (NYS 25) at Griffing Avenue
 - o West Main Street (NYS 25) at Peconic Avenue
 - o East Main Street (NYS 25) at Roanoke Avenue (CR 73)
 - o East Main Street (NYS 25) at Ostrander Avenue
 - o East Main Street (NYS 25) at Riverside Drive
 - o East Main Street (NYS 25) at Hubbard Avenue
 - o Griffing Avenue at W 2nd Street
 - o Griffing Avenue at Court Street

- o Griffing Avenue at Railroad Avenue
 - o Roanoke Avenue at E 2nd Street
 - o Roanoke Avenue at Railroad Avenue/Northville Turnpike
- Turning movement count data within the files of Nelson & Pope and traffic studies recently conducted in the study area was obtained for the following locations:
 - o CR94/CR104/CR 63/NYS 24/Peconic Avenue Traffic Circle
 - o Court Street at Osborne Street
 - o East Main Street (NYS 25) at East Avenue
 - o East Main Street (NYS 25) at McDermott Avenue/Maple Avenue
 - o East Main Street (NYS 25) at Union Avenue
- Automatic Traffic Recorder (ATR) machines were installed on the following roadways for a period of one (1) week (May 16th thru May 22nd, 2013) to obtain hourly volumes to supplement the turning movement counts:
 - o West Main Street (NYS 25) west of Tanger Mall Driveway
 - o West Main Street (NYS 25) just east of Kroemer Street
 - o West Main Street (NYS 25) west of Nugent Drive
 - o East Main Street (NYS 25) between Peconic Avenue and Roanoke Avenue
 - o East Main Street (NYS 25) just east of Howell Street
- The turning movement counts were tabulated and peak hour factors computed. Adjustments for seasonal variations were evaluated. From the review of the traffic volumes, the PM and Saturday peak hour volumes were higher than the AM and Midday peak hours. Therefore traffic analyses were only conducted for the PM and Saturday peak periods.
- During the traffic data collection period, there were several vacant land uses within the study area. In order to account for traffic that could be generated by the vacant land uses, the Institute of Transportation Engineering (ITE) Trip Generation manual was utilized to estimate the number of trips based on the square footage and land use. These trips were added to traffic data collected to determine the existing traffic volumes as if these vacant parcels were occupied.

- Information on other planned projects within the study area that may influence the operation of the study intersections were obtained from the various local and county departments and agencies. Traffic generated from these planned developments was obtained from traffic studies where available and data contained in the ITE Trip Generation Manual.
- The traffic volumes for the Base Condition Scenario ‘No Build Condition’ were estimated under the following assumptions:
 - Assumed a base year of 2019 (6 years). The 2013 existing traffic volumes as counted were adjusted to 2019 traffic conditions by applying a 1.88% annual growth factor obtained from the LITP 2000 Study for a period of 6 years.
 - Estimated traffic volumes for the vacant land uses were included assuming the vacant parcels will be occupied by 2019.
 - Traffic volumes from other planned projects were included.
- Estimates of traffic that would be generated by the proposed Full Build Out Scenario were prepared utilizing trip generation data published by the Institute of Transportation Engineers (“ITE”) publication, *Trip Generation, Ninth Edition*.
- The new traffic volumes generated by the proposed Full Built Out Scenario were assigned to the adjacent street system based upon the trip distribution model developed by Nelson & Pope.
- The estimated traffic generated by the proposed Full Build Out Scenario was then added to the 2019 No Build traffic volumes to generate the proposed 2019 Build Volumes.
- Capacity analyses were performed at the Study Intersections for the following conditions for the weekday PM and Saturday midday peak hours since they represent the worst traffic conditions:
 - 2019 Full Build Out Conditions
 - 2019 Full Build Out Conditions with Mitigations.

- The results of the analyses for the 2019 Full Build Out Condition Scenario were reviewed to identify locations with traffic issues.
- Recommendations to mitigate traffic impacts at the identified locations were developed and analyzed.

EXISTING CONDITIONS

Land Use

The existing land uses in the Downtown area of Riverhead are comprised of commercial (small local retail shops, specialty retail stores and restaurants), residential, recreational and institutional uses.

Roadway Conditions

Since the traffic generated by the Base Conditions Scenario will be distributed throughout the roadway network, the following description outlines the existing roadway network. The general descriptions provided here refer only to the sections of the roadways that exist near the study area. It is noted that roadway cross-sections may vary further away from the study area but those are not a part of the study. The Average Annual Daily Traffic (AADT) is listed for each roadway where available.

The following is a list of major roadways within the study area:

Main Street (NYS 25) is an east/west NYSDOT roadway within the study area and runs through the downtown area of the Town of Riverhead. Within the Study area, Main Street provides one lane per travel direction. The posted speed limit on Main Street is 30 MPH within the Riverhead downtown area. The section of Main Street in the Downtown area has an average annual daily traffic (AADT) volume of approximately 12,500 vehicles per day (source: ATR Data collected by Nelson & Pope - 2013). Sidewalks equipped with planters and decorative street lighting are provided on both sides of Main Street in the Downtown area. Pedestrian crossings are painted across Main Street and supplemented with pedestrian crossing signs. Midblock crossings are located in front of the Suffolk Theater south of East Avenue and in front of Town Hall north of Howell Avenue.

Traffic Volume Data

Weekday turning movement counts were collected at the study intersections on Thursday May 16, 2013 during the weekday morning (7AM to 9AM), weekday midday (12PM-2PM) and weekday evening (4PM to 6PM) peak periods and on Saturday May 18, 2013 from 11AM-2PM.

Weekday and weekend seasonal adjustment factors for May (month of the counts) and for the peak month of the year (June) were obtained from data contained in the 2012 NYSDOT Traffic Data Report and compared. The following table summarizes the seasonal adjustment factor comparison:

Table 1: Seasonal Adjustment factors

Month	Seasonal Adjustment factor	
	Weekday	Weekend
May (Month of Count)	1.086	0.935
June (highest month)	1.113	0.992
Percent change	2.5%	6.1%

From the review of Table 1 above, it can be seen that the traffic from the peak month of the year (June) is approximately 2.5% and 6.1% higher than in May during weekdays and weekends respectively. Hence, the May traffic data was adjusted by these percentages to reflect traffic from the peak month of the year. The adjusted traffic volumes were utilized in the analyses and are contained in Appendix A.

NO BUILD CONDITION

The No Build Condition as previously described represents traffic conditions expected at the study intersections in the future year 2019. The No Build traffic volumes are estimated based on the following factors:

- Assumed 100% of current vacant uses within the downtown area are occupied by 2019.
- Increase in traffic due to general population growth and assume other planned projects within and outside the study area are constructed and in operation by 2019.

Traffic Growth

Based on the New York State Department of Transportation (NYSDOT) Long Island Transportation Plan 2000 Study (LITP2000), the Town of Riverhead was envisioned to experience an annual traffic growth of 1.88%. Based on this NYSDOT annual growth factor of

1.88%, the traffic volumes in the Town of Riverhead will increase by 11.28% over a 6 year period (2019).

FULL BUILD OUT CONDITION

The Full Build Out Scenario will comprise of the following changes to the existing land uses over the next 6 years:

- Approximately 123, 302 SF of retail/commercial space
- Approximately 50,456 SF of restaurant space
- Approximately 50,028 SF of office space
- Approximately 28 multifamily/townhouse units
- Approximately 420 apartment units
- Approximately 63 camp site (recreational)
- Approximately 10,000 SF of open space/other public/quasi-public space
- Approximately 32,800 SF of lodging space (Bread and Breakfast)
- A reduction of approximately 24,419 SF of industrial space
- A reduction of approximately 5 single family housing units.

In addition to these changes, as part of this project the construction of up to three parking garages are envisioned.

Trip Generation

In order to identify the impacts of the Full Build Out Scenario on the adjacent street system in the Town of Riverhead, it is necessary to estimate the magnitude of the traffic volume generated during the peak hours and to estimate the directional distribution of the estimated traffic from proposed developments within the study area. The trip generation estimates for the Full Build Out Scenario were prepared utilizing data found under Land Use Codes within the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, 9th Edition* that will closely match the uses proposed and data contained in any traffic studies conducted for these projects. Generally, Land Use Codes contained in the ITE trip generation manual for restaurants, retail uses, office and residential uses were utilized. For some retail sites, average rates were calculated

from a combination of retail rates in ITE to develop a more representative rate for what could be constructed on the site. A table containing the ITE Land Use Codes utilized in the study is contained in Appendix B.

It should be noted that the trip generation data contained in the ITE Trip Generation Handbook is collected at single use/freestanding sites and does not take into account interaction between different uses in close proximity to each other. However a very high percentage of trips made to retail, restaurants and residential uses in close proximity to each other are linked. That is to say not all trips to retail and restaurant uses are new trips, some of the trips utilizing the new retail uses may have originated from the new restaurant or residential uses and vice-versa. For example a significant percentage of trips that are made by shoppers also result in secondary trips to nearby restaurants for lunch, dinner, coffee, etc. Therefore, this overlap needs to be factored into the trip generation estimation. Internal credits for these types of uses in accordance with ITE guidelines could be higher than 30%. However, to perform a conservative analysis a 20% internal credit was utilized.

It should also be noted that, according to studies conducted by the ITE, traffic associated with commercial uses is not 100% newly generated; a significant portion of these trips will be “pass-by” traffic. Therefore, we have applied passby credits for the retail uses in accordance with ITE guidelines.

The following Table summarizes the trip generation estimated from ITE for the Full Build Out Scenario after taking credit for internal trips and passby trips.

Table 2: Trip Generation Projections

Time Period	Distribution	Base Condition scenario
Weekday PM Peak Hour	Enter	547
	Exit	458
	Total	1005
Weekday	Enter	566
Saturday	Exit	512
Peak Hour	Total	1078

Source: Trip Generation, 9th Edition, published by ITE

As can be seen from Table 2 above, the Full Build Out Scenario is projected to generate approximately 1,005 trips (547 entering and 458 exiting the downtown area) during the weekday PM peak hour and approximately 1,078 trips (566 entering and 512 exiting the downtown area) during the Saturday midday peak hour.

Trip Distribution and Assignment

The traffic expected to be generated by Full Build Out Scenario during the peak hours was distributed and assigned to each intersection movement based on existing roadway volumes and travel patterns. The nature of the land uses and their associated travel patterns were considered as well. The estimated trips generated by the Full Build Out Scenario were then added to the weekday PM and Saturday 2019 No Build volumes to generate the 2019 Full Build Out Scenario volumes. The Full Build Out Scenario volumes are contained in Appendix A.

Traffic Analyses

In order to identify the operational characteristics of the study intersections, level of service, and capacity analyses were performed using the *SYNCHRO Version 8* Software. *SYNCHRO*, in conjunction with *SimTraffic*, is a software package that allows for an interactive analysis of a single intersection or a network of intersections and can also be used for modeling and optimizing traffic signal timings. The *SimTraffic* component provides simulations of operations with animation features. *SYNCHRO* implements the Intersection Capacity Utilization (ICU) 2003 method for determining intersection capacity. This method compares the current volume to the intersections ultimate capacity. *SYNCHRO* also implements the methods of the *2000 Highway Capacity Manual (HCM)* for urban streets, signalized intersections, and unsignalized intersections for determining intersection capacity analyses. The *HCM* contains procedures and methodologies for estimating capacity and determining level of service for many transportation facilities and modes including signalized and unsignalized intersections.

An intersection's level of service (LOS) describes its' quality of traffic flow. It ranges in grade from LOS "A" (relatively congestion-free) to LOS "F" (very congested). The level of service definitions and threshold values for each level vary according to the type of control utilized at that

intersection. A brief description is given here and a more detailed definition can be found in Appendix C.

The capacity of a signalized intersection is evaluated in terms of the ratio of demand flow rate to capacity (V/C ratio). The capacity for each approach represents the maximum rate of flow (for the subject approach) which may pass through the intersection under prevailing traffic, roadway and signal conditions. The level of service of a signalized intersection is evaluated on the basis of average control-delay measured in seconds per vehicle (sec/veh). The control-delay is calculated using an equation that combines the stopped-delay with the vehicle acceleration/deceleration delay that is caused by the signalized intersection. At the signalized intersections, factors that affect the various approach capacities include width of approach, number of lanes, signal “green time”, turning percentages, truck volumes, etc. However, delay cannot be related to capacity in a simple one-to-one fashion. For example, it is possible to have delays in the LOS “F” range without exceeding roadway capacity. Substantial delays can exist without exceeding capacity if one or more of the following conditions exist: long signal cycle length; a particular traffic movement experiences a long red time; or progressive movements for a particular lane are poor.

The flow at a two-way stop-controlled (TWSC) intersection is gauged in terms of LOS and capacity. The capacity of a stop-controlled leg is based on the distribution of gaps in the major street traffic, driver judgment in selecting a gap, and the follow-up time required by each driver in a queue. The LOS for a TWSC intersection is determined by the control-delay, and is defined for each movement rather than for the overall intersection. As with signalized intersections, HCS quantifies only the average control-delay, which is a function of the approach and the degree of saturation for any particular minor movement.

The six classes of LOS, ranging from LOS A (best) to F (worst), are defined in Appendix D.

The following tables summarized the results of the capacity analyses for the Full Build Out Condition Scenario.

Table 3: Level of Service Summary – Full Build Out Scenario (Signalized Intersections)

Signalized Intersection	Approach	Movement	PM Peak Hour		Saturday Midday Peak Hour	
			LOS	Delay (sec.)	LOS	Delay (sec.)
Nugent St/Court St & West Main St	EB	L	C	27.5	D	46.6
		T	C	22.9	D	35.8
		R	A	4.0	A	6.1
	WB	L	F	123.4	F	106.2
		TR	C	27.1	D	36.9
	NB	L	E	64.2	F	131.8
		T	B	12.1	B	11.4
		R	A	0.1	A	0.1
	SB	LTR	F	175.0	D	35.9
	Overall		E	58.0	D	49.6
Osborne Ave & West Main St	EB	LT	A	6.9	B	10.2
	WB	TR	A	9.3	B	10.0
	SB	LR	D	37.1	D	38.9
	Overall		B	10.8	B	13.2
Griffing Ave & West Main St	EB	LT	A	9.2	B	11.5
	WB	TR	B	10.5	B	10.4
	SB	LR	C	29.6	C	32.1
	Overall		B	12.6	B	13.7
Peconic Ave & West Main St	EB	T	F	131.7	F	163.0
		R	C	34.0	D	50.0
	WB	L	F	399.2	F	124.6
		T	A	6.0	A	8.0
	NB	L	F	98.3	F	107.0
		R	C	31.5	C	33.0
	Overall		F	125.9	F	81.0
Roanoke Ave & East Main St	EB	L	B	14.0	E	76.4
		T	A	9.5	D	48.6
	WB	TR	E	73.4	F	127.8
	SB	R	D	43.3	D	43.9
	Overall		D	37.8	E	80.0
McDermott Ave/Maple Ave & East Main St	EB	LTR	A	9.6	B	19.8
	WB	LTR	A	14.9	D	36.8
	NB	LTR	E	66.5	E	62.1
	SB	LTR	D	42.7	C	28.9
	Overall		C	22.2	C	33.6
Roanoke Ave & W 2 nd St/E 2 nd St	EB	LTR	B	17.6	B	14.3
	WB	LTR	B	18.6	B	13.4
	NB	LTR	A	6.8	A	5.6
	SB	LTR	A	8.3	A	6.0
	Overall		B	10.9	A	7.9
Roanoke Ave & Railroad St	WB	LR	D	36.5	C	33.3
	NB	TR	C	25.1	C	26.8
	SB	LT	A	1.4	A	1.0
	Overall		B	14.9	B	14.5
Roanoke Ave & Northville Tpke	WB	LR	C	27.2	C	24.6
	NB	T	A	1.9	A	0.9
		R	A	0.1	A	0.1
	SB	LT	C	23.4	C	22.9
	Overall		B	15.0	B	13.0
Osborne Ave & Court St	EB	LTR	A	7.3	A	8.8
	WB	LTR	A	7.8	A	5.1
	NB	LTR	B	13.5	B	13.9
	SB	LTR	C	22.4	C	24.2
	Overall		B	13.8	B	14.7

Table 4: Level of Service Summary – Full Buildout Scenario (Unsignalized Intersections)

Unsignalized Intersection	Approach	Movement	PM Peak Hour		Saturday Midday Peak Hour	
			LOS	Delay (sec.)	LOS	Delay (sec.)
East Ave & East Main St	EB	LT	A	2.9	A	2.8
	SB	LR	E	39.2	F	55.1
Union Ave/Parking Lot & East Main St	EB	LTR	A	0.8	A	0.9
	WB	LTR	A	1.0	A	1.1
	NB	LTR	F	62.3	E	49.4
	SB	LTR	F	314.0	F	657.3
Ostrander Ave & East Main St	EB	LTR	A	1.9	A	3.0
	WB	LTR	A	0.2	A	0.3
	NB	LTR	A	0.0	A	0.0
	SB	LTR	F	500.6	F	730.1
Riverside Dr & East Main St	WB	LR	F	610.0	F	202.0
	SB	LT	A	5.7	A	5.0
Fishel Ave & East Main St	WB	LR	F	112.8	E	49.2
	NB	LT	A	5.6	A	2.9
Hubbard Ave & East Main St	EB	LR	F	171.8	F	381.2
	SB	LT	A	1.8	A	2.1
Griffing Ave & Parking Lot/W 2 nd St	EB	LTR	B	14.0	B	11.8
	WB	LTR	B	12.8	B	10.4
	NB	LTR	A	0.0	A	0.0
	SB	LTR	A	2.6	A	1.7
Griffing Ave & Court St	EB	LR	C	16.2	B	11.8
	NB	LT	A	3.5	A	1.8
Griffing Ave & Railroad St	EB	LTR	B	10.2	A	8.6
	WB	LTR	B	10.6	A	9.0
	NB	LTR	B	11.7	A	9.3
	SB	LTR	B	11.2	A	8.9
Peconic Ave & Parking Lot	WB	L	F	74.8	F	105.2
		R	B	13.4	B	14.6
	SB	LT	A	2.1	A	0.6
Roundabout	Peconic Ave		C	17.3	B	14.5
	CR 94		C	18.3	F	60.2
	CR 63		B	13.9	A	8.2
	CR 104		D	27.2	B	11.6
	NYS 24		C	19.3	C	22.8

West Main Street at Nugent Drive/Court Street

The intersection of West Main Street at Nugent Drive/Court Street is a four leg intersection controlled by a traffic signal. The eastbound and northbound approaches provide one left turn lane, one through lane and one right turn lane. The westbound approach provides one left turn lane and one shared through/right turn lane and the southbound approach provides one lane for left turns, through and right turn movements.

Under the Full Build Out Scenario, the eastbound and westbound West Main Street approaches operate at LOS D or better during both the weekday PM and Saturday midday peak hours except

for the westbound left turn movement that operate at LOS F. The northbound Nugent Drive left turn movement operates at LOS E and F during the weekday PM and Saturday midday peak hours respectively. The northbound through and right turn movements operate at LOS B or better. The southbound Court Street approach operates at LOS F during the weekday PM peak hour and at LOS D during the Saturday midday peak hour. Overall, the intersection of West Main Street at Nugent Drive/Court Street operates at LOS E during the weekday PM peak hour and at LOS D during the Saturday midday peak hour.

West Main Street at Osborne Avenue

The intersection of West Main Street at Osborne Avenue is a three leg intersection controlled by a traffic signal. All the approaches to the intersection provide one lane for all traffic movements.

Under the Full Build Out Scenario, the eastbound and westbound West Main Street approaches operate at LOS A during the weekday PM peak hour and at LOS B during the Saturday midday peak hour. The southbound Osborne Avenue approach operates at LOS D during both the weekday PM and Saturday midday peak hours. Overall, the intersection of West Main Street at Osborne Avenue operates at LOS B during the weekday PM and Saturday midday peak hours.

West Main Street at Griffing Avenue

The intersection of West Main Street at Griffing Avenue is a three leg intersection controlled by a traffic signal. All the approaches to the intersection provide one lane for all traffic movements.

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS C or better during both the weekday PM and Saturday midday peak hours. Overall, the intersection of West Main Street at Griffing Avenue operates at LOS B during the weekday PM and Saturday midday peak hours.

Main Street at Peconic Avenue/Roanoke Avenue

The intersections of West Main Street at Peconic Avenue and East Main Street at Roanoke Avenue are approximately 55 feet apart as measured between stop lines. The distance between the two intersections provides one westbound through lane, one westbound left turn lane and a 22-foot wide eastbound lane that currently operates as a separate eastbound left turn lane and an

eastbound through lane. These two left turn lanes provide storage for two cars each. These two intersections are controlled by two traffic signals operating under the same controller.

Under the Full Build Out Scenario, the eastbound West Main Street through movement at Peconic Avenue, the northbound Peconic Avenue left turn movement and the westbound East Main Street left turn movement at Peconic Avenue operate at LOS F during both the weekday PM and Saturday midday peak hours. The westbound West Main Street approach at Roanoke Avenue operates at LOS E and F during the weekday PM and Saturday midday peak hours respectively and the eastbound left turn movement at Roanoke Avenue operate at LOS E during the Saturday midday peak hour. The rest of the traffic movements operate at LOS D or better during the weekday PM and Saturday midday peak hours. Overall, the intersection of West Main Street at Peconic Avenue operates at LOS F during both the weekday PM and Saturday midday peak hours and the intersection of East Main Street at Roanoke Avenue operates at overall LOS D and E during the weekday PM and Saturday midday peak hours respectively.

East Main Street at East Avenue

East Avenue intersects East Main Street to form the Stop controlled leg of a T-intersection. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, the eastbound East Main Street approach operates at LOS A and the southbound East Avenue approach operates at LOS E and F during the weekday PM and Saturday midday peak hours respectively.

East Main Street at McDermott Avenue/Maple Avenue

The northbound McDermott Avenue leg and southbound Maple Avenue leg at this intersection are slightly offset from each other (approximately 20 feet) with each approach providing one lane for all traffic movements. The intersection is controlled by a two phase traffic signal.

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS D or better during both the weekday PM and Saturday midday peak hours except for the northbound approach that operate with LOS E. Overall, the intersection of East Main Street at

McDermott Ave/Maple Avenue operates at LOS C during the weekday PM and Saturday midday peak hours.

East Main Street at Union Avenue/Parking Lot access

Union Avenue/Parking Lot access intersects East Main Street to form a four leg intersection with the Union Avenue and Parking Lot access approaches under Stop Control. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, the eastbound and westbound East Main Street approaches operate at LOS A. The northbound parking lot approach operates at LOS F and E during the weekday PM and Saturday midday peak hours respectively. The southbound Union Avenue approach operates at LOS F during both the weekday PM and Saturday midday peak hours. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps.

East Main Street at Ostrander Avenue/Hotel Access

Ostrander Avenue/Hotel Access intersects East Main Street to form a four leg intersection with the Ostrander Avenue approach under Stop Control. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, the eastbound and westbound East Main Street approaches operate at LOS A. The southbound Ostrander Avenue approach operates at LOS F during both the weekday PM and Saturday midday peak hours. It is not unexpected to see results of LOS D, E or F for traffic at the stop-controlled approach of an unsignalized intersection with a major roadway. The availability of gaps in the traffic on the major roadway determines the level of delay that is assigned to the stop-controlled traffic. Higher volumes along major roadways result in fewer available gaps.

East Main Street at Riverside Drive

Riverside Drive intersects East Main Street to form the Stop controlled leg of a T-intersection. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, the southbound East Main Street approach operates at LOS A and the westbound Riverside Drive approach operates at LOS F during the weekday PM and Saturday midday peak hours.

East Main Street at Fishel Avenue

Fishel Avenue intersects East Main Street just north of the LIRR tracks to form the Stop Controlled leg of a T-intersection. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, the northbound East Main Street approach operates at LOS A and the eastbound Fishel Avenue approach operates at LOS F and E during the weekday PM and Saturday midday peak hours respectively.

East Main Street at Hubbard Avenue

Hubbard Avenue intersects East Main Street to form the Stop Controlled leg of a T-intersection. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, the southbound East Main Street approach operates at LOS A and the westbound Hubbard Avenue approach operates at LOS F during the weekday PM and Saturday midday peak hours.

Peconic Avenue at Parking Lot Access

The parking lot access intersects Peconic Avenue to form the Stop Controlled leg of a T-intersection. Peconic Avenue provides one lane per travel direction with a two-way left turn lane. The westbound parking lot access provides one left turn lane and one right turn lane.

Under the Full Build Out Scenario, the southbound Peconic Avenue approach operates at LOS A. The westbound Parking lot access left turn movement operates at LOS F during both the

weekday PM and Saturday midday peak hours. The westbound right turn movement operates at LOS B during the weekday PM and Saturday midday peak hours.

Griffing Avenue at W 2nd Street/Parking Lot

W 2nd Street/Parking Lot intersects Griffing Avenue to form a four leg intersection with the W 2nd Street and Parking Lot access approaches under Stop control. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS B or better during both the PM and Saturday midday peak hours.

Griffing Avenue at Court Street

Court Street intersects Griffing Avenue to form the Stop controlled leg of a T-intersection. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS C or better during both the PM and Saturday midday peak hours.

Griffing Avenue at Railroad Avenue

Railroad Avenue intersects Griffing Avenue to form a four leg all-way stop controlled intersection. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS B or better during both the PM and Saturday midday peak hours.

Roanoke Avenue at E 2nd Street

The intersection of Roanoke Avenue at E 2nd Street is a four leg intersection controlled by a traffic signal. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS B or better during both the PM and Saturday midday peak hours. Overall, the intersection of Roanoke Avenue at E 2nd Street operates at LOS B and A during the weekday PM and Saturday midday peak hours respectively.

Roanoke Avenue at Railroad Avenue/Northville Turnpike

The intersections of Roanoke Avenue at Railroad Avenue and Roanoke Avenue at Northville Turnpike are approximately 50 feet apart as measured between stop lines. The distance between the two intersections provides one northbound lane and one southbound lane. These two intersections are controlled by two traffic signals operating under the same controller.

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS C or better during both the weekday PM and Saturday midday peak hours. Overall both intersections operate at LOS B during both the weekday PM and Saturday midday peak hours.

Osborne Street at Court street

The intersection of Osborne Street and Court Street is a four leg intersection controlled by a traffic signal. Each approach to this intersection provides one lane for all turning movements.

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS C or better during both the PM and Saturday midday peak hours. Overall, the intersection of Osborne Street and Court Street operate at LOS B during both the weekday PM and Saturday midday peak hours.

Roundabout – Peconic Avenue/CR 94/CR 63/CR104/NYS 24)

Peconic Ave, CR 94, CR 63, CR 104 and NYS 24 intersect to form a five leg one lane roundabout. Nelson and Pope conducted an extensive study of this roundabout for Suffolk County Department of Public Works. The analysis for this roundabout was included in this Rivehead Downtown Redevelopment Study. From the review of the Base Condition Scenario roundabout capacity analyses, it can be seen that the roundabout has exceeded its capacity and requires mitigations. Nelson and Pope has developed several improvement measures for this roundabout and provided Suffolk County with the most viable and preferred improvement measures. The analyses of the preferred mitigation measures have been incorporated in the mitigation measures developed for downtown Riverhead.

The improved design was analyzed for the future conditions of this project using Rodel software. Under Alternative 1, during the PM peak hour, Peconic Avenue, CR 94 and NYS Route 24 are anticipated to operate at LOS C. CR 63 is anticipated to operate at LOS B and CR 104 is anticipated to operate at LOS D. During the Saturday peak hour, CR 63 is anticipated to operate at LOS A. Peconic Ave and CR 104 are anticipated to operate at LOS B. NYS 24 is anticipated to operate at LOS C and CR 94 at LOS F.

Unsignalized intersection analyses

The analyses results for the unsignalized intersections may not be representative of the actual field conditions. It should also be noted that the critical gap acceptance calculated by the Synchro Software (Software utilized to conduct capacity analyses) is higher than the available gaps on the major roadways (East Main Street and West Main Street). This may be the reason why the capacity analyses are showing high delays on the side street approaches of the unsignalized intersections. However, motorists were observed in the field exiting side streets during short gaps. Therefore, the side street approaches are actually operating at better levels of service as compared to the calculated levels of service by the Synchro Software.

The following figures show the overall LOS for the Full Build Out Scenario at the signalized intersections studied during the weekday PM peak and Saturday peak periods.



- LEGEND:
LEVEL OF SERVICE (LOS)
- LEVEL 'A' OR 'B'
 - LEVEL 'C'
 - LEVEL 'D'
 - LEVEL 'E' OR 'F'

FIGURE 3: PM PEAK OVERALL LOS - FULL BUILD OUT



LEGEND:
LEVEL OF SERVICE (LOS)
● LEVEL 'A' OR 'B'
● LEVEL 'C'
● LEVEL 'D'
● LEVEL 'E' OR 'F'

FIGURE 4: SATURDAY PEAK OVERALL LOS - FULL BUILD OUT

PROPOSED MITIGATION FOR FULL BUILD OUT SCENARIO

From the review of the capacity analyses results of the Full Build Out Scenario, it can be seen that the following intersections are the locations with major traffic issues.

- West Main Street at Peconic Avenue
- East Main Street at Roanoke Avenue

Mitigation of the traffic issues at these intersections will improve traffic flow within downtown Riverhead. In order to improve the traffic flow in downtown Riverhead during the 2019 Full Build Out year, the following mitigation measures were developed and analyzed.

Mitigation 1

Mitigation 1 consists of the following proposed improvements:

1. Make Peconic Avenue a one-way roadway northbound with provision for a southbound emergency lane. This would require the rerouting of traffic to other locations which may require further study and analysis.
2. Restripe the intersection of West Main Street at Peconic Avenue to provide two eastbound through lanes and two westbound through lanes. One of the westbound through lanes will drop just west of Griffing Avenue. The section of Main Street between Peconic Avenue and Roanoke Avenue will be restriped to provide two westbound through lanes and one eastbound through lane and one eastbound left turn lane.
3. Re-stripe the southbound approach at the intersection of West Main Street and Court Street to provide an additional lane.
4. Signal timing/phasing adjustments at the following intersections:
 - o Main Street at Peconic Avenue/Roanoke Avenue
 - o West Main Street at Court Street/Nugent Drive
 - o East Main Street at McDermott Avenue
 - o West Main Street at Griffing Avenue
5. Coordinate traffic signals on the Main Street corridor from Court Street to McDermott Avenue.

6. As part of the Suffolk County Roundabout project, redesign the one lane five- leg roundabout to a two lane five- leg roundabout with one-way northbound on Peconic Avenue

With the aforementioned improvements proposed under Mitigation 1, the following assumptions were made:

- The current westbound left turn traffic volumes at the intersection of West Main Street and Peconic Avenue is a combination of some southbound Roanoke Avenue right turn traffic volume and some westbound through traffic volume at the intersection of West Main Street and Roanoke Avenue. To prohibit the westbound East Main Street left turn traffic and the eastbound West Main Street right turn traffic at Peconic Avenue and making Peconic Avenue one-way northbound the following was assumed:
 - o 60% of the Roanoke Avenue right turn traffic will reroute to the intersection of Court Street and West Main Street via Railroad Avenue, Griffing Avenue and Court Street.
 - o 15% of the West Main Street traffic originally heading east on NYS 24 via Peconic Avenue was rerouted to other roadways prior to entering downtown Riverhead. The rest of the West Main Street westbound traffic originally heading south via Peconic Avenue was rerouted to continue straight on West Main Street and will either make a westbound left turn or continue straight at the intersection of West Main Street and Court Street/Nugent Drive.
 - o The eastbound West Main Street right turn traffic at Peconic Avenue was rerouted to the intersection of West Main Street and Court Street/Nugent Drive.

Mitigation 2 – Realign Peconic Avenue and Roanoke Avenue to eliminate the offset intersections of West Main Street at Peconic Avenue and East Main Street at Roanoke Avenue. This mitigation will not require any improvements at the intersection of West Main Street and Court Street and no rerouting of traffic volumes will be required.

Mitigation 2 consists of the following proposed improvements:

1. Realign Peconic Avenue and Roanoke Avenue
2. Signal timing/phasing adjustments at the following intersections:
 - o Main Street at Peconic Avenue/Roanoke Avenue
 - o West Main Street at Court Street/Nugent Drive
 - o East Main Street at McDermott Avenue
 - o West Main Street at Griffing Avenue
3. Coordinate traffic signals on the Main Street corridor from Court Street to McDermott Avenue.
4. As part of the Suffolk County Roundabout project, redesign the one lane five- leg roundabout to a two lane five- leg roundabout with two-way travel on Peconic Avenue.

The proposed mitigation measures are shown on the following figures.

Figure 5: Peconic Avenue one-way northbound and modification of the intersections of West/East Main Street at Peconic Avenue/Roanoke Avenue (Mitigation 1)

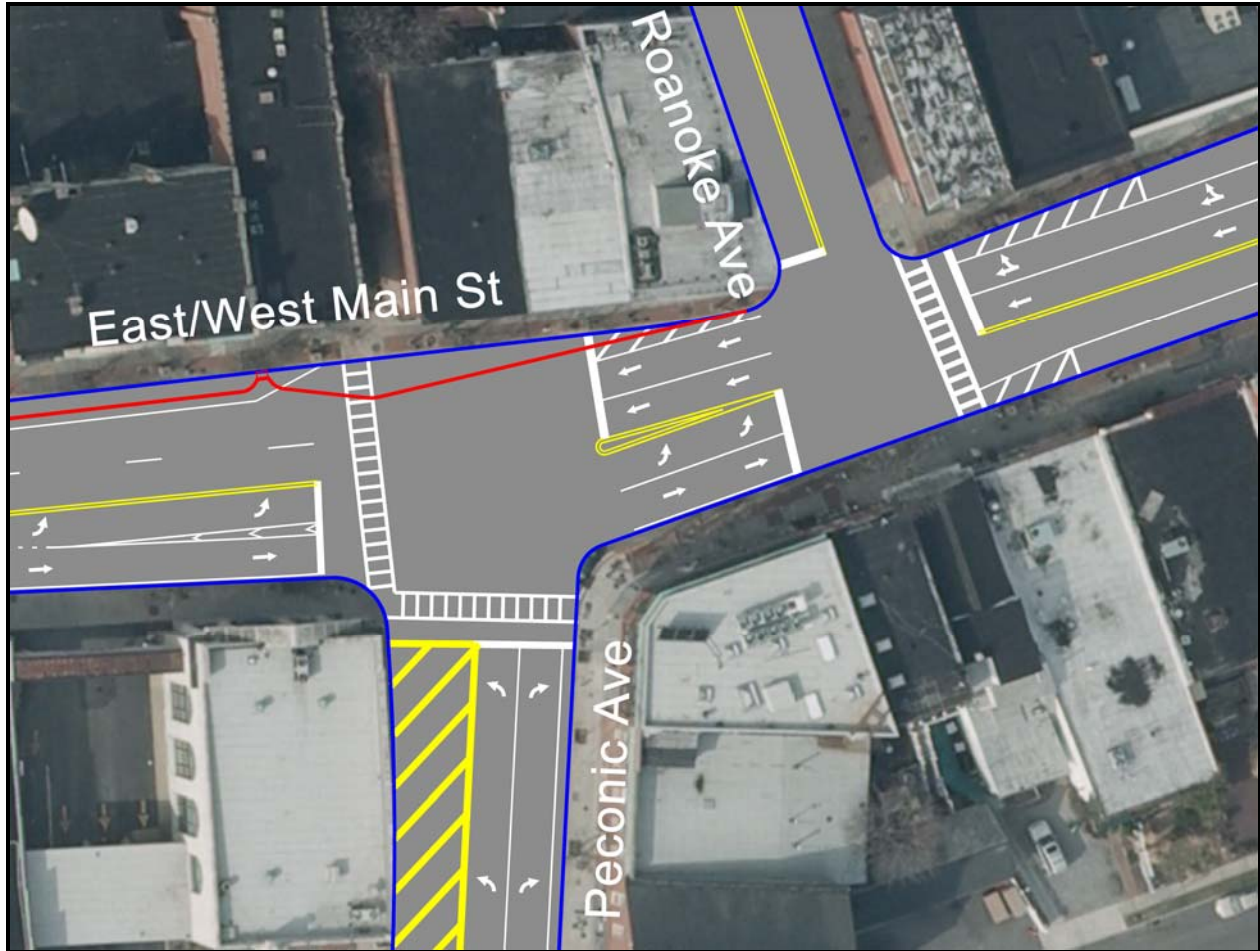
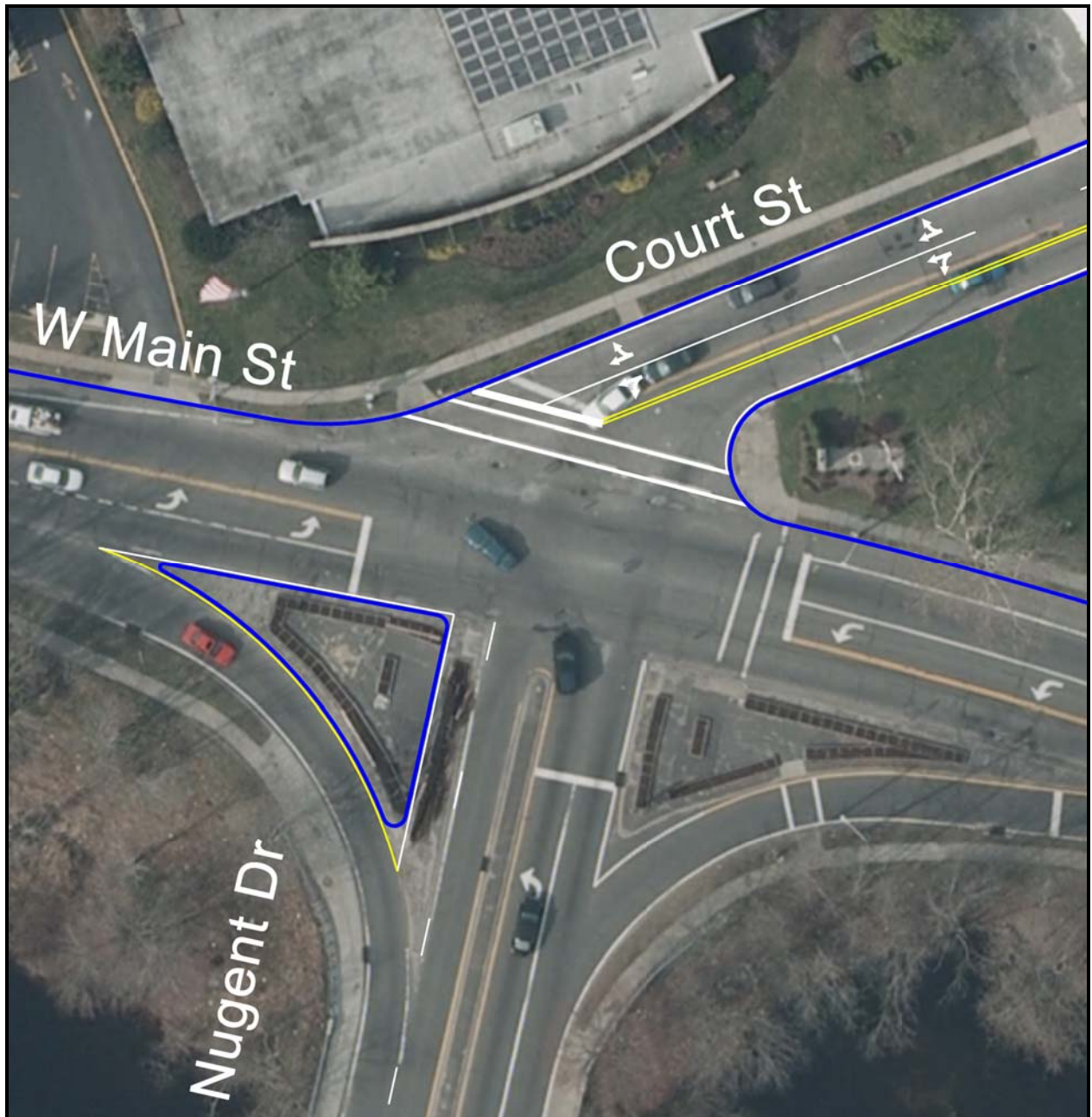


Figure 6: West Main Street at Court Street/Nugent Drive improvements (Mitigation 1)



**Figure 7: Roundabout improvements with Peconic Ave One-Way Northbound
(Mitigation 1)**



Figure 8: Realignment of Peconic Ave and Roanoke Ave (Mitigation 2)



Figure 9: Roundabout improvements (Mitigation 2)



The following is summary of the results of the capacity analyses at the signalized intersections under each of the proposed mitigations.

Table 5: Mitigation Level of Service Summary –PM Peak Hour

Signalized Intersection	Approach	Movement	Build Condition		Build Condition Mitigation 1		Build Condition Mitigation 2	
			LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Nugent St/Court St & West Main St	EB	L	C	27.5	F	93.0	C	26.1
		T	C	22.9	D	46.3	C	24.6
		R	A	4.0	B	13.3	A	6.7
	WB	L	F	123.4	F	99.7	E	75.9
		TR	C	27.1	C	32.9	C	32.3
	NB	L	E	64.2	F	97.4	F	117.6
		T	B	12.1	B	17.3	B	16.8
		R	A	0.1	A	0.1	A	0.1
	SB	LTR	F	175.0	E	73.0	F	109.7
	Overall		E	58.0	E	56.5	D	53.1
Osborne Ave & West Main St	EB	LT	A	6.9	B	18.0	A	7.4
	WB	TR	A	9.3	D	45.9	A	6.6
	SB	LR	D	37.1	D	39.7	D	45.4
	Overall		B	10.8	D	39.0	B	10.2
Griffing Ave & West Main St	EB	LT	A	9.2	A	1.9	A	10.0
	WB	TR	B	10.5	A	3.6	B	17.7
	SB	LR	C	29.6	C	23.7	D	46.1
	Overall		B	12.6	A	4.6	B	18.5
Peconic Ave & West Main St	EB	T	F	131.7	D	54.5		
		R	C	34.0	-	-		
	WB	L	F	399.2	-	-		
		T	A	6.0	A	3.9		
	NB	L	F	98.3	F	99.9		
		R	C	31.5	C	32.0		
	Overall		F	125.9	C	32.1		
Roanoke Ave & East Main St	EB	L	B	14.0	B	12.3		
		T	A	9.5	A	9.1		
	WB	TR	E	73.4	E	65.8		
	SB	R	D	43.3	C	33.7		
	Overall		D	37.8	C	33.1		
Main St at Peconic Ave/Roanoke Avenue	EB	L	-	-	-	-	C	21.0
		T					D	44.5
		R	-	-	-	-	B	13.8
	WB	L	-	-	-	-	E	60.6
		TR	-	-	-	-	C	20.7
	NB	L	-	-	-	-	D	41.0
		T	-	-	-	-	C	34.0
		R	-	-	-	-	A	5.5
	SB	L	-	-	-	-	B	17.4
		TR	-	-	-	-	E	60.9
	Overall		-	-	-	-	C	34.7
McDermott Ave/Maple Ave & East Main St	EB	LTR	A	9.6	B	14.4	A	9.6
	WB	LTR	A	14.9	B	19.3	B	14.9
	NB	LTR	E	66.5	F	169.5	E	66.5
	SB	LTR	D	42.7	C	28.6	D	42.7
	Overall		C	22.2	D	52.0	C	22.2
Roanoke Ave & W 2 nd St/E 2 nd St	EB	LTR	B	17.6	B	17.6	B	17.6
	WB	LTR	B	18.6	B	18.6	B	18.6
	NB	LTR	A	6.8	A	6.8	A	6.8
	SB	LTR	A	8.3	A	6.2	A	8.3
	Overall		B	10.9	B	10.9	B	10.9
Roanoke Ave & Railroad St	WB	LR	D	36.5	D	36.5	D	36.5
	NB	TR	C	25.1	C	21.5	C	25.2
	SB	LT	A	1.4	A	1.1	A	1.4
	Overall		B	14.9	B	10.2	B	14.8
Roanoke Ave & Northville Tpke	WB	LR	C	27.2	C	24.1	C	27.2

	NB	T	A	1.9	A	0.9	A	1.9
		R	A	0.1	A	0.1	A	0.1
	SB	LT	C	23.4	C	20.1	C	23.4
	Overall		B	15.0	B	13.4	B	14.6
Osborne Ave & Court St	EB	LTR	A	7.3	A	8.5	A	9.3
	WB	LTR	A	7.8	B	10.2	A	7.8
	NB	LTR	B	13.5	B	15.0	B	13.5
	SB	LTR	C	22.4	B	14.5	C	22.4
	Overall		B	13.8	B	11.3	B	13.8
Roundabout	Peconic Ave		C	17.3	-	-	C	17.2
	CR 94		C	18.3	A	5.8	C	18.3
	CR 63		B	13.9	A	7.3	B	13.9
	CR 104		D	27.2	B	14.1	D	27.2
	NYS 24		C	19.3	C	19.0	C	19.3

Table 6: Mitigation Level of Service Summary –Saturday Peak Hour

Signalized Intersection	Approach	Movement	Build Condition		Build Condition Mitigation 1		Build Condition Mitigation 2	
			LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
Nugent St/Court St & West Main St	EB	L	D	46.6	F	102.4	D	38.5
		T	D	35.8	C	28.3	C	32.3
		R	A	6.1	A	9.5	B	10.6
	WB	L	F	106.2	D	54.8	E	61.1
		TR	D	36.9	D	42.6	C	25.4
	NB	L	F	131.8	F	186.5	E	62.3
		T	B	11.4	B	19.5	B	15.3
		R	A	0.1	A	0.1	A	0.1
	SB	LTR	D	35.9	F	106.6	E	70.3
	Overall		D	49.6	E	67.2	D	35.4
Osborne Ave & West Main St	EB	LT	B	10.2	A	1.6	A	7.0
	WB	TR	B	10.0	B	12.6	A	5.9
	SB	LR	D	38.9	D	41.3	D	45.9
	Overall		B	13.2	B	11.0	B	10.8
Griffing Ave & West Main St	EB	LT	B	11.5	B	19.1	D	43.0
	WB	TR	B	10.4	B	20.0	A	8.2
	SB	LR	C	32.1	C	23.6	D	44.0
	Overall		B	13.7	B	20.0	C	28.7
Peconic Ave & West Main St	EB	T	F	163.0	D	50.8		
		R	D	50.0	-	-		
	WB	L	F	124.6	-	-		
		T	A	8.0	A	4.1		
	NB	L	F	107.0	F	159.3		
		R	C	33.0	D	47.2		
	Overall		F	81.0	D	46.3		
Roanoke Ave & East Main St	EB	L	E	76.4	E	65.4		
		T	D	48.6	A	7.0		
	WB	TR	F	127.8	E	71.1		
	SB	R	D	43.9	D	39.3		
	Overall		E	80.0	D	44.0		
Main St at Peconic Ave/Roanoke Avenue	EB	L	-	-	-	-	B	14.6
		T					D	47.6
		R	-	-	-	-	B	18.0
	WB	L	-	-	-	-	E	70.2
		TR	-	-	-	-	B	18.0
	NB	L	-	-	-	-	F	154.7
		T	-	-	-	-	C	34.2
		R	-	-	-	-	B	10.8
	SB	L	-	-	-	-	C	20.4
		TR	-	-	-	-	F	117.6
	Overall		-	-	-	-	D	52.6
McDermott Ave/Maple Ave & East Main St	EB	LTR	C	20.9	C	31.3	B	16.2
	WB	LTR	C	34.1	E	64.7	C	33.9
	NB	LTR	E	68.3	F	150.2	E	68.3
	SB	LTR	C	30.8	C	20.6	C	30.8
	Overall		C	34.2	E	69.3	C	32.3
Roanoke Ave & W 2 nd St/E 2 nd St	EB	LTR	B	14.3	B	14.3	B	14.3
	WB	LTR	B	13.4	B	13.4	B	14.7
	NB	LTR	A	5.6	A	5.5	A	5.5
	SB	LTR	A	6.0	A	4.5	A	5.9
	Overall		A	7.9	A	8.3	A	7.9
Roanoke Ave & Railroad St	WB	LR	C	33.3	C	33.3	C	33.3
	NB	TR	C	26.8	C	26.8	C	26.8
	SB	LT	A	1.0	A	0.9	A	1.0
	Overall		B	14.5	B	14.4	B	11.7
Roanoke Ave & Northville Tpke	WB	LR	C	24.6	C	24.6	C	22.6
	NB	T	A	0.9	A	0.9	A	.4
		R	A	0.1	A	0.1	A	0.1

	SB	LT	C	22.9	C	22.9	C	20.6
	Overall		B	13.0	B	13.0	B	12.4
Osborne Ave & Court St	EB	LTR	A	8.8	A	8.8	A	8.7
	WB	LTR	A	5.1	A	9.5	A	4.7
	NB	LTR	B	13.9	B	14.5	B	13.9
	SB	LTR	C	24.2	B	19.0	C	24.2
	Overall		B	14.7	B	12.4	B	14.9
Roundabout	Peconic Ave		B	14.5	-	-	B	14.6
	CR 94		F	60.2	C	23.3	F	61.2
	CR 63		A	8.2	A	7.6	A	8.3
	CR 104		B	11.6	B	10.8	B	11.7
	NYS 24		C	22.8	C	23.4	C	23.6

West Main Street at Nugent Drive/Court Street

Under the Full Build Out Scenario, the eastbound and westbound West Main Street approaches operate at LOS D or better during both the weekday PM and Saturday midday peak hours except for the westbound left turn movement that operate at LOS F. The northbound Nugent Drive left turn movement operates at LOS E and F during the weekday PM and Saturday midday peak hours respectively. The northbound through and right turn movements operate at LOS B or better. The southbound Court Street approach operates at LOS F during the weekday PM peak hour and at LOS D during the Saturday midday peak hour. Overall, the intersection of West Main Street at Nugent Drive/Court Street operates at LOS E during the weekday PM peak hour and at LOS D during the Saturday midday peak hour.

The improvements proposed under Mitigation 1 will require the rerouting of significant amount of traffic volumes to the southbound Court Street approach and the westbound West Main Street through and left turn movements. However, improvements proposed at this intersection under these mitigation scenarios attempted to reduce the impacts. The following is a summary of the LOS results at this intersection with the proposed mitigations.

Mitigation 1- Under this mitigation, the overall intersection will operate at LOS E during both the PM and Saturday midday peak hours with a slight decrease in delay during the PM peak hour and an increase in delay during the Saturday midday peak hour. With the proposed mitigations, some movements will improve and some movements will experience an increase in delay. The increase in delay at this intersection is primarily due to the traffic rerouted from the intersections of Main Street at Peconic Avenue and Roanoke Avenue.

Mitigation 2- Under this mitigation, rerouting of traffic to this intersection is not required. With the minor signal modifications, the overall operation and levels of service at most of the traffic movements will improve.

West Main Street at Osborne Avenue

Under the Full Build Out Scenario, the eastbound and westbound West Main Street approaches operate at LOS A during the weekday PM peak hour and at LOS B during the Saturday midday peak hour. The southbound Osborne Avenue approach operates at LOS D during both the

weekday PM and Saturday midday peak hours. Overall, the intersection of West Main Street at Osborne Avenue operates at LOS B during the weekday PM and Saturday midday peak hours.

With the improvements proposed under Mitigation 1 and Mitigation 2, the intersection will continue to operate at LOS B during the weekday PM and Saturday midday peak hours except during the PM peak hour under Mitigation 1 during which it operate at LOS D. All the traffic movements at this intersection will continue to operate at LOS D or better.

West Main Street at Griffing Avenue

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS C or better during both the weekday PM and Saturday midday peak hours. Overall, the intersection of West Main Street at Griffing Avenue operates at LOS B during the weekday PM and Saturday midday peak hours.

With the improvements proposed under Mitigation 1 and Mitigation 2, the intersection will operate at LOS C or better during both the weekday PM and Saturday midday peak hours.

Main Street at Peconic Avenue/Roanoke Avenue

Under the Full Build Out Scenario, the eastbound West Main Street through movement at Peconic Avenue, the northbound Peconic Avenue left turn movement and the westbound East Main Street left turn movement at Peconic Avenue operate at LOS F during both the weekday PM and Saturday midday peak hours. The westbound West Main Street approach at Roanoke Avenue operates at LOS E and F during the weekday PM and Saturday midday peak hours respectively and the eastbound left turn movement at Roanoke Avenue operate at LOS E during the Saturday midday peak hour. The rest of the traffic movements operate at LOS D or better during the weekday PM and Saturday midday peak hours. Overall, the intersection of West Main Street at Peconic Avenue operates at LOS F during both the weekday PM and Saturday midday peak hours and the intersection of East Main Street at Roanoke Avenue operates at overall LOS D and E during the weekday PM and Saturday midday peak hours respectively.

The improvements proposed under Mitigation 1 will require making Peconic Avenue a one-way roadway northbound and hence prohibiting westbound left turns and eastbound right turns from

East Main Street to Peconic Avenue. The following is a summary of the LOS results at this intersection with the proposed mitigation.

Mitigation 1- Under this scenario, the overall LOS at the intersection of West Main Street and Peconic Avenue will improve from LOS F to LOS C during the weekday PM peak hour and from LOS F to LOS D during the Saturday midday peak hour. This mitigation will eliminate the LOS F at the westbound left turn movement and improves the eastbound LOS F to LOS D during the weekday PM and Saturday midday peak hours. Under this scenario, the overall LOS at the intersection of East Main Street and Roanoke Avenue will improve from LOS D to LOS C during the weekday PM peak hour and will improve from LOS E to LOS D during the Saturday midday peak hour. The improvements seen at this intersection is mainly because of the removal of traffic from the intersection due to the one-way configuration. However, it should be noted that the traffic rerouted from this intersection is moved to the intersection of West Main Street at Nugent Street/Court Street, hence increasing the delays at the intersection of West Main Street and Nugent Street/Court Street.

Mitigation 2- This mitigation requires realigning Peconic Avenue and Roanoke Avenue to eliminate the offset intersections of West Main Street at Peconic Avenue and East Main Street at Roanoke Avenue. This mitigation will not require any improvements at the intersection of West Main Street and Court Street and no rerouting of traffic volumes.

Under this mitigation, the overall LOS at the intersection of West Main Street and Peconic Avenue/Roanoke Avenue will improve from LOS F to LOS C during the weekday PM peak hour and from LOS F to LOS D during the Saturday midday peak hour.

East Main Street at McDermott Avenue/Maple Avenue

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS D or better during both the weekday PM and Saturday midday peak hours except for the northbound approach that operate with LOS E. Overall, the intersection of East Main Street at McDermott Avenue/Maple Avenue operates at LOS C during the weekday PM and Saturday midday peak hours.

With the improvements proposed under Mitigation 1, the levels service at this intersection will change from LOS C to LOS D during the weekday PM peak hour and from LOS C to LOS E during the Saturday midday peak hours.

Under Mitigation 2, the intersection will continue to operate at LOS C during both the weekday and PM and Saturday midday peak hours.

Roanoke Avenue at E 2nd Street

Under the Full Build Out Scenario all the approach movements to this intersection operate at LOS B or better during both the PM and Saturday midday peak hours. Overall, the intersection of Roanoke Avenue at East 2nd Street operates at LOS B and A during the weekday PM and Saturday midday peak hours respectively.

Under Mitigations 1 and 2, the intersection will continue to operate at Full Build Out Scenario LOS.

Roanoke Avenue at Railroad Avenue/Northville Turnpike

Under the Full Build Out Scenario all the approach movements to this intersection operate at LOS D or better during both the weekday PM and Saturday midday peak hours. Overall both intersections operate at LOS B during both the weekday PM and Saturday midday peak hours.

Under Mitigations 1 and 2, the intersection will continue to operate at Full Build Out Scenario LOS.

Osborne Street at Court Street

Under the Full Build Out Scenario, all the approach movements to this intersection operate at LOS C or better during both the PM and Saturday midday peak hours. Overall, the intersection of Osborne Street and Court Street operates at LOS B during both the weekday PM and Saturday midday peak hours.

Under Mitigations 1 and 2, the intersection will operate at LOS better than the Full Build Out Scenario LOS.

Roundabout – Peconic Avenue/CR 94/CR 63/CR104/NYS 24)

Peconic Ave, CR 94, CR 63, CR 104 and NYS 24 intersect to form a five leg one lane roundabout. Nelson and Pope conducted an extensive study of this roundabout for Suffolk County Department of Public Works. The analysis for this roundabout was included in this Riverhead Downtown Redevelopment Study. Under the Full Build Out Scenario, the Peconic Avenue, CR 94 and NYS Route 24 operate at LOS F during the PM and Saturday midday peak hours. CR 63 operates at LOS B and E during the weekday PM and Saturday midday peak hours. CR 104 operates at LOS B and F during the weekday and PM Peak hours respectively. From the review of the roundabout capacity analyses, it can be seen that the roundabout has exceeded its capacity and requires mitigations. Nelson and Pope has developed several improvement measures for this roundabout and provided Suffolk County with the most viable and preferred improvement measures. The analyses of the preferred mitigation measures have been incorporated in the mitigation measures developed for downtown Riverhead.

Mitigation 1- In addition to the proposed mitigation for the roundabout, the improvements proposed under Mitigations 1 will require making Peconic Avenue a one-way roadway northbound and hence prohibiting westbound left turns and eastbound right turns from East Main Street to Peconic Avenue. The following is a summary of the LOS results at the five-leg roundabout with the proposed mitigation.

Under this Mitigation during the PM peak hour, CR 94 and CR 63 are anticipated to operate at LOS A. CR 104 is anticipated to operate at LOS B and NYS 24 is expected to operate at LOS C. During the Saturday peak hour, CR 63 is anticipated to operate at LOS A, CR 104 at LOS B and CR 94 and NYS 24 both at LOS C.

Mitigation 2- Under this Mitigation during the PM peak hour, CR 63 is anticipated to operate at LOS B. Peconic Ave, CR 94 and NYS 24 are all anticipated to operate at LOS C. CR 104 is expected to operate at LOS D. During the Saturday peak hour, CR 63 is anticipated to operate at LOS A. Peconic Ave and CR 104 are anticipated to operate at LOS B. NYS 24 is expected to operate at LOS C and CR 94 is anticipated to operate at LOS F.

The following figures show the overall LOS for Mitigations 1 and 2 at the signalized intersections studied during the weekday and Saturday peak periods.

Unsignalized intersection analyses

The unsignalized intersections in the study area will generally continue to operate at the Full Build Out Scenario levels of service. Some intersections will operate at acceptable LOS and some will operate at failing LOS. However, the analyses results for the unsignalized intersections may not be representative of the actual field conditions. It should also be noted that the critical gap acceptance calculated by the Synchro Software (Software utilized to conduct capacity analyses) is higher than the available gaps on the major roadways (East Main Street and West Main Street). This may be the reason why the capacity analyses are showing high delays on the side street approaches of the unsignalized intersections. However, motorists were observed in the field exiting side streets during short gaps. Therefore, the side street approaches are actually operating at better levels of service as compared to the calculated levels of service by the Synchro Software.

Figure 10: Overall Levels of Service for Mitigation 1 (PM Peak Hour)



LEGEND:
LEVEL OF SERVICE (LOS)

- LEVEL 'A' OR 'B'
- LEVEL 'C'
- LEVEL 'D'
- LEVEL 'E' OR 'F'

FIGURE 10: PM PEAK OVERALL LOS - MITIGATION 1

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LEGEND:
LEVEL OF SERVICE (LOS)

- LEVEL 'A' OR 'B'
- LEVEL 'C'
- LEVEL 'D'
- LEVEL 'E' OR 'F'

FIGURE 11: PM PEAK OVERALL LOS - MITIGATION 2

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LEGEND:
LEVEL OF SERVICE (LOS)
● LEVEL 'A' OR 'B'
● LEVEL 'C'
● LEVEL 'D'
● LEVEL 'E' OR 'F'

FIGURE 12: SATURDAY PEAK OVERALL LOS - MITIGATION 1



LEGEND:
LEVEL OF SERVICE (LOS)

- LEVEL 'A' OR 'B'
- LEVEL 'C'
- LEVEL 'D'
- LEVEL 'E' OR 'F'

FIGURE 13: SATURDAY PEAK OVERALL LOS - MITIGATION 2

CONCLUSION

Nelson & Pope conducted a Traffic Impact Study for downtown Riverhead to identify traffic impacts associated with the Full Build Out Scenario outlined below and evaluated how these traffic impacts can be mitigated to improve overall traffic flow within and around the downtown area.

The Full Build Out Scenario represents traffic conditions expected at study intersections in the future year 2019. The Full Build Out Scenario traffic volumes are estimated based on the following factors:

- Included assumptions under the Base Condition Scenario.
- Assumed 100% of current vacant uses within the downtown area are occupied by 2019.
- Increase in traffic due to the proposed Build Out Scenario within the study area are constructed and in operation by 2019.

The traffic impacts associated with the Full Build Out Scenario were identified by reviewing the area's existing roadway characteristics and traffic conditions, estimating the vehicular volume and pattern that the Full Build Out Scenario will generate during peak hours, and analyzing the effect of the additional volume on the surrounding roadway network. The following is a summary of this investigation and the findings thereof:

- Conducted a detailed field inventory of the study area.
- Collected turning movement counts at the study intersections during the weekday AM, Midday, PM and Saturday midday peak periods. From the review of the traffic data, it was determined that the weekday PM and Saturday midday peak hour volumes are higher than the weekday AM and weekday midday peak hours. Therefore, detailed analyses were only conducted for the weekday PM and Saturday midday peak hours.
- Additional hourly volume counts were collected on the study area roadway segments for a period of one week to supplement the turning movement counts.
- During the traffic data collection period, there were several vacant stores on West/East Main Street. In order to account for traffic that could be generated by these vacant stores,

the Institute of Transportation Engineering (ITE) Trip Generation Manual was utilized to estimate the number of trips based on the square footage and the use of the stores.

- Projections of the existing traffic volumes to obtain the 2016 traffic volumes (Base Condition Scenario) were made utilizing the following assumptions:
 - Assumed a base year of 2019 (6 years). The 2013 existing traffic volumes as counted were adjusted to 2019 traffic conditions by applying a 1.88% annual growth factor obtained from the LITP 2000 Study for a period of 6 years.
 - Estimated traffic volumes for the vacant land uses were included assuming the vacant parcels will be occupied by 2019.
 - Traffic volumes from other planned projects were included.
- Estimated traffic that would be generated by the proposed Full Build Out Scenario utilizing trip generation data published by the Institute of Transportation Engineers (“ITE”) publication, *Trip Generation, Ninth Edition*.
- The new traffic volumes generated by the proposed Full Built Out Scenario were assigned to the adjacent street system based upon the trip distribution model developed by Nelson & Pope.
- The estimated traffic generated by the proposed Full Build Out Scenario was then added to the 2019 No Build traffic volumes to generate the proposed 2019 Build Volumes.
- Capacity analyses were performed at the Study Intersections for the following conditions Scenario for the weekday PM and Saturday midday peak hours since they represent the worst traffic conditions:
 - 2019 Full Build Out Conditions
 - 2019 Full Build Out Conditions with Mitigations.

The analyses were conducted using the SYNCHRO version 8 software.

- Reviewed capacity analyses to identify intersection deficiencies.
- Developed realistically executable plans to improve the anticipated future geometric and/or traffic deficiencies in the project area.
- The developed plans were analyzed. The results of the analyses with and without the improvements were compared.

Based on the capacity analyses results of the Full Build Out Scenario, the following intersections were identified as the locations with major traffic issues.

- West Main Street at Peconic Avenue
- East Main Street at Roanoke Avenue

Mitigation of the traffic issues at these intersections will improve traffic flow within downtown Riverhead. In order to improve the traffic flow in downtown Riverhead during the 2019 Full Build Out year, the following mitigation measures were developed and analyzed.

Mitigation 1

1. Make Peconic Avenue a one-way roadway northbound with provision for a southbound emergency lane. This would require the rerouting of traffic to other locations which may require further study and analysis.
2. Restripe the intersection of West Main Street at Peconic Avenue to provide two eastbound through lanes and two westbound through lanes. One of the westbound through lanes will drop just west of Griffing Avenue. The section of Main Street between Peconic Avenue and Roanoke Avenue will be restriped to provide two westbound through lanes and one eastbound through lane and one eastbound left turn lane.
3. Re-stripe the southbound approach at the intersection of West Main Street and Court Street to provide an additional lane.
4. Signal timing/phasing adjustments at the following intersections:
 - o Main Street at Peconic Avenue/Roanoke Avenue
 - o West Main Street at Court Street/Nugent Drive
 - o East Main Street at McDermott Avenue
 - o West Main Street at Griffing Avenue
5. Coordinate traffic signals on the Main Street corridor from Court Street to McDermott Avenue.
6. As part of the Suffolk County Roundabout project, redesign the one lane five- leg roundabout to a two lane five- leg roundabout with one-way northbound on Peconic Avenue.

With the aforementioned improvements proposed under Mitigation 1, the following assumptions were made:

- The current westbound left turn traffic volumes at the intersection of West Main Street and Peconic Avenue is a combination of some southbound Roanoke Avenue right turn traffic volume and some westbound through traffic volume at the intersection of West Main Street and Roanoke Avenue. To prohibit the westbound East Main Street left turn traffic and the eastbound West Main Street right turn traffic at Peconic Avenue and making Peconic Avenue one-way northbound the following was assumed:
 - 60% of the Roanoke Avenue right turn traffic will reroute to the intersection of Court Street and West Main Street via Railroad Avenue, Griffing Avenue and Court Street.
 - 15% of the West Main Street traffic originally heading east on NYS 24 via Peconic Avenue was rerouted to other roadways prior to entering downtown Riverhead. The rest of the West Main Street westbound traffic originally heading south via Peconic Avenue was rerouted to continue straight on West Main Street and will either make a westbound left turn or continue straight at the intersection of West Main Street and Court Street/Nugent Drive.
 - The eastbound West Main Street right turn traffic at Peconic Avenue was rerouted to the intersection of West Main Street and Court Street/Nugent Drive.

Mitigation 2 – Realign Peconic Avenue and Roanoke Avenue to eliminate the offset intersections of West Main Street at Peconic Avenue and East Main Street at Roanoke Avenue. This mitigation will not require any improvements at the intersection of West Main Street and Court Street and no rerouting of traffic volumes will be required.

Mitigation 2 consists of the following proposed improvements:

1. Realign Peconic Avenue and Roanoke Ave
2. Signal timing/phasing adjustments at the following intersections:
 - Main Street at Peconic Avenue/Roanoke Avenue

- o West Main Street at Court Street/Nugent Drive
 - o East Main Street at McDermott Avenue
 - o West Main Street at Griffing Avenue
3. Coordinated the traffic signals on the Main Street corridor from Court Street to McDermott Avenue.
 4. As part of the Suffolk County Roundabout project, redesign the one lane five- leg roundabout to a two lane five- leg roundabout with two-way travel on Peconic Avenue.

The Riverhead Downtown Study attempted to determine the best plan forward for the Redevelopment and Revitalization of the downtown area. An assessment of the existing base conditions was completed and then future development scenarios were defined and analyzed.

The areas of our study included the needs of pedestrians, guidance for the motorists, parking availability as well as geometric and operational improvements.

Our study of the base scenario conditions indicated that there are several intersections that are operating under less than desirable levels of service. It was also noted that there is a large percentage of vehicles on Route 25 that are primarily passing through Riverhead seeking other destinations.

When future development scenarios were analyzed, it was obvious that in order to improve the Level of Service, it would require geometric improvements to certain locations.

One of the major intersections requiring improvement was Route 25/Peconic Avenue/Roanoke Avenue. By making Peconic Avenue one-way northbound, improvements in the operation of the intersection can be accomplished. However, it would require traffic to be rerouted to other locations, thereby necessitating further geometric improvements.

Another alternative would be to realign this intersection by the taking of property and building located on the northwest corner. This, too, would improve the delay and operational issues at this location.

To attempt to improve the future development operational issues, transit was looked at to determine what may be practical improvements. The reality that exists is that typically any improvements in the schedule of the LIRR or the bus transit system will not occur ahead of the need.

At the present time, the transit seeking downtown Riverhead will not change unless there are outside catalysts that provide a need, i.e. additional trains/buses. Historically transit would follow after the need has been identified not prior.

Although with a full build-out, some congestion will exist, it is sometimes desirable so that those that are passing through the downtown can visit the shops, restaurants and other attractions that would hopefully make them stop or desire to return to the downtown.

Creating a roadway system that allows the motorist to speed through the downtown may not be in the Town's best interest when seeking a redevelopment and revitalization. It becomes a delicate balancing act to provide an acceptable amount of delay and congestion that may discourage the true cut-thru traffic from those desiring to visit the downtown.

Providing clear guidance with signs and markings to existing parking facilities, points of interest for motorists, pedestrians and bicyclists, makes visiting the downtown desirable. Making sure that pedestrians can cross safely, providing sidewalks that are accessible and allowing for connectivity will enhance the downtown experience.

As the Town redevelopment moves forward, decisions will have to be made regarding this balance and the associated improvements that may be required. The Town will also have to consider additional study and analysis of CR94 at the intersection of Nugent Drive and CR51.

The report addresses a number of the improvements that can be implemented as the Town moves forward with their desire to improve the downtown Riverhead experience.

TRAFFIC STUDY
TOD GROWTH PLAN

TOWN OF RIVERHEAD

APPENDIX

September 2015

N & P JOB NO. 12207

Appendix A: Traffic Data

572 Walt Whitman Road
Melville, New York 11747

Site Code :

Page No : 1

	Parking Lot Southbound					NYS 25 Westbound					River Rd Northbound					NYS 25 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	0	1	0	2	5	29	0	0	34	0	0	7	0	7	2	42	1	0	45	88
07:15 AM	1	0	2	0	3	5	44	0	0	49	1	0	4	0	5	2	52	1	0	55	112
07:30 AM	1	0	1	0	2	7	44	1	0	52	2	0	8	0	10	0	74	0	0	74	138
07:45 AM	2	0	2	0	4	7	40	1	0	48	1	0	8	0	9	3	84	2	0	89	150
Total	5	0	6	0	11	24	157	2	0	183	4	0	27	0	31	7	252	4	0	263	488
08:00 AM	3	0	0	0	3	4	51	2	0	57	2	0	9	0	11	1	71	0	0	72	143
08:15 AM	3	0	1	0	4	6	30	1	0	37	1	0	9	0	10	3	82	3	0	88	139
08:30 AM	1	0	3	0	4	3	23	2	0	28	6	0	7	0	13	2	87	3	0	92	137
08:45 AM	2	0	2	0	4	6	34	0	0	40	3	0	10	0	13	2	92	2	0	96	153
Total	9	0	6	0	15	19	138	5	0	162	12	0	35	0	47	8	332	8	0	348	572
12:00 PM	2	0	1	3	6	5	61	1	0	67	0	0	16	0	16	2	66	3	0	71	160
12:15 PM	2	0	1	6	9	14	55	2	1	72	0	1	5	0	6	1	96	4	0	101	188
12:30 PM	4	0	0	1	5	11	53	1	0	65	5	0	12	0	17	1	79	3	0	83	170
12:45 PM	1	0	0	2	3	6	50	1	0	57	2	0	11	0	13	1	92	2	0	95	168
Total	9	0	2	12	23	36	219	5	1	261	7	1	44	0	52	5	333	12	0	350	686
01:00 PM	4	0	1	0	5	16	62	0	0	78	3	0	10	0	13	2	70	1	0	73	169
01:15 PM	1	0	1	0	2	8	59	1	0	68	3	0	12	0	15	1	83	3	0	87	172
01:30 PM	1	0	0	0	1	9	77	2	0	88	2	0	6	0	8	2	90	2	0	94	191
01:45 PM	5	0	1	0	6	11	60	8	0	79	1	1	12	0	14	0	65	2	0	67	166
Total	11	0	3	0	14	44	258	11	0	313	9	1	40	0	50	5	308	8	0	321	698
04:00 PM	3	0	2	0	5	10	88	5	0	103	1	0	8	0	9	0	71	1	0	72	189
04:15 PM	0	0	0	0	0	10	96	2	0	108	1	0	13	0	14	1	64	1	0	66	188
04:30 PM	2	0	5	0	7	11	114	3	0	128	2	0	10	0	12	2	89	1	0	92	239
04:45 PM	1	0	0	0	1	18	88	1	0	107	2	0	13	0	15	1	70	2	0	73	196
Total	6	0	7	0	13	49	386	11	0	446	6	0	44	0	50	4	294	5	0	303	812
05:00 PM	4	0	2	0	6	14	121	5	0	140	0	0	16	0	16	2	81</				

572 Walt Whitman Road
Melville, New York 11747

Page No : 1

	Tanger Mall Dr Southbound				NYS 25 Westbound				NYS 25 Eastbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
07:00 AM	0	1	0	1	33	2	0	35	2	48	0	50	86
07:15 AM	0	1	0	1	44	1	0	45	4	52	0	56	102
07:30 AM	0	0	0	0	52	5	0	57	5	74	0	79	136
07:45 AM	1	0	0	1	46	9	0	55	11	85	0	96	152
Total	1	2	0	3	175	17	0	192	22	259	0	281	476
08:00 AM	1	2	0	3	56	1	0	57	17	73	0	90	150
08:15 AM	2	3	0	5	33	10	0	43	20	69	0	89	137
08:30 AM	2	0	0	2	27	6	0	33	15	83	0	98	133
08:45 AM	3	6	0	9	35	15	0	50	11	97	0	108	167
Total	8	11	0	19	151	32	0	183	63	322	0	385	587
12:00 PM	16	18	0	34	50	35	0	85	25	65	0	90	209
12:15 PM	16	17	0	33	53	18	0	71	34	70	0	104	208
12:30 PM	12	18	0	30	48	28	0	76	25	70	0	95	201
12:45 PM	17	12	0	29	45	41	0	86	38	68	0	106	221
Total	61	65	0	126	196	122	0	318	122	273	0	395	839
01:00 PM	13	16	1	30	60	31	0	91	31	58	0	89	210
01:15 PM	25	17	0	42	51	24	0	75	27	69	0	96	213
01:30 PM	29	19	0	48	67	40	0	107	32	61	0	93	248
01:45 PM	17	13	0	30	69	29	0	98	24	62	0	86	214
Total	84	65	1	150	247	124	0	371	114	250	0	364	885
04:00 PM	19	25	0	44	79	34	0	113	21	63	0	84	241
04:15 PM	17	20	0	37	85	16	0	101	20	60	0	80	218
04:30 PM	15	32	0	47	93	28	0	121	34	68	0	102	270
04:45 PM	14	25	0	39	86	42	0	128	23	58	0	81	248
Total	65	102	0	167	343	120	0	463	98	249	0	347	977
05:00 PM	23	36	0	59	103	32	0	135	23	77	0	100	294
05:15 PM	17	29	0	46	78	18	0	96	21	64	0	85	227
05:30 PM	9	25	0	34	76	23	0	99	17	67	0	84	217
05:45 PM	23	23	0	46	60	24	0	84	21	71	0	92	222
Total	72	113	0	185	317	97	0	414	82	279	0	361	960
Grand Total	291	358	1	650	1429	512	0	1941	501	1632	0	2133	4724
Apprch %	44.8	55.1	0.2		73.6	26.4	0		23.5	76.5	0		
Total %	6.2	7.6	0	13.8	30.2	10.8	0	41.1	10.6	34.5	0	45.2	
Car	287	349	0	636	1312	509	0	1821	492	1499	0	1991	4448
% Car	98.6	97.5	0	97.8	91.8	99.4	0	93.8	98.2	91.9	0	93.3	94.2
Truck	4	8	0	12	107	2	0	109	9	107	0	116	237

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Kroemer Rd wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Kroemer Rd Southbound					NYS 25 Westbound					Forge Rd Northbound					NYS 25 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	5	2	4	0	11	1	39	5	0	45	0	3	5	0	8	4	46	0	0	50	114
07:15 AM	6	3	4	0	13	3	42	11	0	56	1	1	11	0	13	12	41	0	0	53	135
07:30 AM	10	1	3	0	14	1	51	10	0	62	1	8	9	0	18	13	82	0	0	95	189
07:45 AM	10	2	7	0	19	7	49	9	0	65	0	6	14	0	20	9	82	0	0	91	195
Total	31	8	18	0	57	12	181	35	0	228	2	18	39	0	59	38	251	0	0	289	633
08:00 AM	5	2	8	0	15	9	43	4	0	56	0	2	6	0	8	12	63	0	0	75	154
08:15 AM	13	2	7	0	22	6	32	11	0	49	2	3	6	1	12	11	68	0	0	79	162
08:30 AM	9	4	4	0	17	5	37	8	0	50	2	2	8	0	12	11	78	1	0	90	169
08:45 AM	8	2	4	0	14	4	48	15	0	67	1	8	12	0	21	4	95	0	0	99	201
Total	35	10	23	0	68	24	160	38	0	222	5	15	32	1	53	38	304	1	0	343	686
12:00 PM	12	0	3	0	15	10	76	15	0	101	0	5	9	0	14	6	74	1	0	81	211
12:15 PM	14	3	11	0	28	6	58	11	0	75	2	1	4	0	7	11	79	1	0	91	201
12:30 PM	11	4	3	0	18	6	80	14	0	100	1	2	9	0	12	7	76	0	0	83	213
12:45 PM	9	0	4	0	13	8	75	11	0	94	1	4	8	0	13	11	73	0	0	84	204
Total	46	7	21	0	74	30	289	51	0	370	4	12	30	0	46	35	302	2	0	339	829
01:00 PM	8	5	5	0	18	7	89	14	0	110	4	3	6	0	13	8	67	2	0	77	218
01:15 PM	17	2	13	0	32	3	72	11	0	86	0	0	10	0	10	3	81	4	0	88	216
01:30 PM	12	8	8	0	28	5	96	9	0	110	3	2	9	0	14	9	84	0	0	93	245
01:45 PM	17	8	10	0	35	7	81	10	0	98	0	5	8	0	13	9	70	2	0	81	227
Total	54	23	36	0	113	22	338	44	0	404	7	10	33	0	50	29	302	8	0	339	906
04:00 PM	9	6	11	0	26	11	98	17	0	126	2	2	10	0	14	6	79	0	0	85	251
04:15 PM	9	3	14	0	26	5	96	16	0	117	1	5	3	0	9	11	59	0	0	70	222
04:30 PM	15	4	15	0	34	9	104	9	0	122	3	2	5	0	10	6	71	1	0	78	244
04:45 PM	3	8	8	0	19	11	123	16	0	150	1	4	3	0	8	6	71	1	0	78	255
Total	36	21	48	0	105	36	421	58	0	515	7	13	21	0	41	29	280	2	0	311	972
05:00 PM	7	12	10	0	29	5	119	12	0	136	4	8	3	0	15	11	87	1	0	99	279
05:15 PM	10	5	8	0	23	15	86	7	0	108	1	3	5	0	9	0	85	2	0	87	227
05:30 PM	21	6	9	0	36	8	101	2	0	111	3	2	7	0	12	8	56	2	0	66	225
05:45 PM	5	9	9	0	23	4	73	9	0	86	2	1	8	0	11	11	88	2	0	101	221
Total	43	32	36	0	111	32	379	30	0	441	10	14	23	0	47	30	316	7	0	353	952
Grand Total	245	101	182	0	528	156	1768	256	0	2180	35	82	178	1	296	199	1755	20	0	1974	4978
Apprch %	46.4	19.1	34.5	0		7.2	81.1	11.7	0		11.8	27.7	60.1	0.3		10.1	88.9	1	0		
Total %	4.9	2	3.7	0	10.6	3.1	35.5	5.1	0	43.8	0.7	1.6	3.6	0	5.9	4	35.3	0.4	0	39.7	
Car	212	99	160	0	471	143	1667	231	0	2041	34	80	166	0	280	182	1638	19	0	1839	4631
% Car	86.5	98	87.9	0	89.2	91.7	94.3	90.2	0	93.6	97.1	97.6	93.3	0	94.6	91.5	93.3	95	0	93.2	93
Truck	30	2	19	0	51	7	88	25	0	120	1	1	3	0	5	12	90	1	0	103	279
% Truck	12.2	2	10.4	0	9.7	4.5	5	9.8	0	5.5	2.9	1.2	1.7	0	1.7	6	5.1	5	0	5.2	5.6
Bus	3	0	3	0	6	6	13	0	0	19	0	1	9	0	10	5	27	0	0	32	67
% Bus	1.2	0	1.6	0	1.1	3.8	0.7	0	0	0.9	0	1.2	5.1	0	3.4	2.5	1.5	0	0	1.6	1.3
Ped	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Ped	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.3	0	0	0	0	0	0

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead - _NYS_25_at Mill Rd Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

	Mill Road Southbound				NYS 25 Westbound					NYS 25 Eastbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
07:00 AM	24	9	0	33	0	45	18	0	63	8	48	0	56	152
07:15 AM	27	13	0	40	0	51	16	0	67	6	56	0	62	169
07:30 AM	19	9	0	28	0	56	24	0	80	9	76	0	85	193
07:45 AM	19	11	0	30	0	59	34	0	93	17	99	0	116	239
Total	89	42	0	131	0	211	92	0	303	40	279	0	319	753
08:00 AM	20	13	0	33	0	47	12	1	60	8	76	0	84	177
08:15 AM	14	10	0	24	0	44	19	0	63	10	77	0	87	174
08:30 AM	23	7	0	30	0	47	32	1	80	12	93	0	105	215
08:45 AM	29	12	1	42	0	57	30	0	87	12	107	0	119	248
Total	86	42	1	129	0	195	93	2	290	42	353	0	395	814
12:00 PM	35	13	0	48	0	90	52	0	142	14	94	0	108	298
12:15 PM	51	12	0	63	0	77	46	0	123	21	93	0	114	300
12:30 PM	53	12	0	65	0	95	37	0	132	17	90	0	107	304
12:45 PM	37	19	0	56	0	104	45	0	149	22	90	0	112	317
Total	176	56	0	232	0	366	180	0	546	74	367	0	441	1219
01:00 PM	47	15	0	62	0	111	57	0	168	11	86	0	97	327
01:15 PM	50	16	0	66	0	97	36	0	133	20	104	0	124	323
01:30 PM	44	17	0	61	1	105	42	0	148	18	93	0	111	320
01:45 PM	52	18	0	70	0	103	49	0	152	18	107	0	125	347
Total	193	66	0	259	1	416	184	0	601	67	390	0	457	1317
04:00 PM	40	26	0	66	0	118	48	0	166	17	100	0	117	349
04:15 PM	32	12	0	44	0	118	33	0	151	13	71	0	84	279
04:30 PM	36	13	0	49	0	127	34	0	161	20	98	0	118	328
04:45 PM	41	21	0	62	0	136	34	0	170	12	88	0	100	332
Total	149	72	0	221	0	499	149	0	648	62	357	0	419	1288
05:00 PM	50	10	0	60	0	139	33	0	172	15	87	0	102	334
05:15 PM	40	20	0	60	0	104	45	0	149	7	103	0	110	319
05:30 PM	36	23	0	59	0	100	29	0	129	17	89	0	106	294
05:45 PM	39	19	0	58	0	80	37	0	117	20	89	0	109	284
Total	165	72	0	237	0	423	144	0	567	59	368	0	427	1231
Grand Total	858	350	1	1209	1	2110	842	2	2955	344	2114	0	2458	6622
Apprch %	71	28.9	0.1		0	71.4	28.5	0.1		14	86	0		
Total %	13	5.3	0	18.3	0	31.9	12.7	0	44.6	5.2	31.9	0	37.1	
Car	807	317	0	1124	1	1998	793	0	2792	315	1984	0	2299	6215
% Car	94.1	90.6	0	93	100	94.7	94.2	0	94.5	91.6	93.9	0	93.5	93.9
Truck	38	25	0	63	0	97	40	0	137	21	102	0	123	323
% Truck	4.4	7.1	0	5.2	0	4.6	4.8	0	4.6	6.1	4.8	0	5	4.9
Bus	13	8	0	21	0	15	9	0	24	8	28	0	36	81
% Bus	1.5	2.3	0	1.7	0	0.7	1.1	0	0.8	2.3	1.3	0	1.5	1.2
Ped	0	0	1	1	0	0	0	2	2	0	0	0	0	3
% Ped	0	0	100	0.1	0	0	0	100	0.1	0	0	0	0	0

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Center St-Nugent St Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

	Court St Southbound					NYS 25 Westbound					Nugent St Northbound					NYS 25 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	27	7	0	34	8	36	0	0	44	37	28	7	0	72	4	26	74	0	104	254
07:15 AM	0	24	8	0	32	8	26	0	0	34	56	29	5	0	90	6	25	67	0	98	254
07:30 AM	0	12	7	2	21	11	32	1	1	45	56	39	10	2	107	12	33	64	0	109	282
07:45 AM	0	37	9	0	46	11	40	0	0	51	74	52	27	0	153	19	43	61	0	123	373
Total	0	100	31	2	133	38	134	1	1	174	223	148	49	2	422	41	127	266	0	434	1163
08:00 AM	0	24	8	0	32	14	28	0	0	42	39	39	17	0	95	10	51	46	0	107	276
08:15 AM	1	31	6	0	38	7	33	2	0	42	67	42	22	0	131	8	41	63	0	112	323
08:30 AM	0	15	5	0	20	12	39	0	0	51	74	52	19	0	145	17	53	61	0	131	347
08:45 AM	0	25	11	0	36	10	40	0	1	51	94	74	32	1	201	25	55	70	0	150	438
Total	1	95	30	0	126	43	140	2	1	186	274	207	90	1	572	60	200	240	0	500	1384
12:00 PM	0	32	20	0	52	11	53	0	6	70	72	44	11	0	127	10	68	59	0	137	386
12:15 PM	2	44	23	2	71	13	61	1	0	75	56	35	6	0	97	24	84	33	0	141	384
12:30 PM	6	41	23	0	70	13	55	5	0	73	60	35	17	0	112	15	64	35	0	114	369
12:45 PM	0	52	28	0	80	14	68	2	0	84	94	46	12	0	152	16	65	26	0	107	423
Total	8	169	94	2	273	51	237	8	6	302	282	160	46	0	488	65	281	153	0	499	1562
01:00 PM	1	38	17	1	57	19	67	1	1	88	103	46	15	0	164	15	68	78	0	161	470
01:15 PM	0	35	13	0	48	20	64	1	0	85	78	35	16	1	130	17	62	79	0	158	421
01:30 PM	1	53	16	0	70	20	84	3	0	107	78	50	21	0	149	28	56	81	0	165	491
01:45 PM	0	52	22	0	74	25	58	4	0	87	86	45	17	0	148	8	54	92	0	154	463
Total	2	178	68	1	249	84	273	9	1	367	345	176	69	1	591	68	240	330	0	638	1845
04:00 PM	0	77	23	0	100	33	79	0	1	113	78	43	10	0	131	16	54	83	0	153	497
04:15 PM	0	63	16	1	80	32	63	0	0	95	67	28	6	0	101	16	63	71	0	150	426
04:30 PM	1	72	26	0	99	30	63	1	0	94	83	30	5	2	120	16	50	76	0	142	455
04:45 PM	0	69	28	0	97	47	82	0	0	129	84	49	11	0	144	9	60	73	0	142	512
Total	1	281	93	1	376	142	287	1	1	431	312	150	32	2	496	57	227	303	0	587	1890
05:00 PM	0	79	24	0	103	40	49	0	3	92	69	34	21	0	124	13	48	88	1	150	469
05:15 PM	0	62	17	0	79	34	56	0	0	90	86	40	8	0	134	17	63	80	0	160	463
05:30 PM	0	50	20	1	71	17	62	1	0	80	75	30	14	0	119	11	55	91	0	157	427
05:45 PM	0	38	17	0	55	10	46	3	0	59	51	37	5	0	93	9	58	69	0	136	343
Total	0	229	78	1	308	101	213	4	3	321	281	141	48	0	470	50	224	328	1	603	1702
Grand Total	12	1052	394	7	1465	459	1284	25	13	1781	1717	982	334	6	3039	341	1299	1620	1	3261	9546
Apprch %	0.8	71.8	26.9	0.5		25.8	72.1	1.4	0.7		56.5	32.3	11	0.2		10.5	39.8	49.7	0		
Total %	0.1	11	4.1	0.1	15.3	4.8	13.5	0.3	0.1	18.7	18	10.3	3.5	0.1	31.8	3.6	13.6	17	0	34.2	
Car	9	1004	377	0	1390	446	1220	25	0	1691	1641	934	325	0	2900	329	1232	1519	0	3080	9061
% Car	75	95.4	95.7	0	94.9	97.2	95	100	0	94.9	95.6	95.1	97.3	0	95.4	96.5	94.8	93.8	0	94.4	94.9
Truck	3	16	6	0	25	10	57	0	0	67	62	8	8	0	78	7	56	85	0	148	318
% Truck	25	1.5	1.5	0	1.7	2.2	4.4	0	0	3.8	3.6	0.8	2.4	0	2.6	2.1	4.3	5.2	0	4.5	3.3
Bus	0	32	11	0	43	3	7	0	0	10	14	40	1	0	55	5	11	16	0	32	140
% Bus	0	3	2.8	0	2.9	0.7	0.5	0	0	0.6	0.8	4.1	0.3	0	1.8	1.5	0.8	1	0	1	1.5
Ped	0	0	0	7	7	0	0	0	13	13	0	0	0	6	6	0	0	0	1	1	27
% Ped	0	0	0	100	0.5	0	0	0	100	0.7	0	0	0	100	0.2	0	0	0	100	0	0.3

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Osborn Ave Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

	Osborn Ave Southbound				NYS 25 Westbound					Eastbound St Eastbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
07:00 AM	6	0	0	6	0	42	4	0	46	0	36	0	36	88
07:15 AM	15	0	0	15	0	34	3	0	37	0	31	0	31	83
07:30 AM	12	1	2	15	0	43	10	1	54	2	41	0	43	112
07:45 AM	8	0	0	8	1	50	11	0	62	2	65	0	67	137
Total	41	1	2	44	1	169	28	1	199	4	173	0	177	420
08:00 AM	14	1	1	16	0	43	11	0	54	2	69	0	71	141
08:15 AM	6	1	0	7	0	38	14	0	52	3	58	0	61	120
08:30 AM	10	0	0	10	0	48	16	0	64	3	72	0	75	149
08:45 AM	22	2	1	25	0	46	11	0	57	1	78	0	79	161
Total	52	4	2	58	0	175	52	0	227	9	277	0	286	571
12:00 PM	33	0	1	34	0	62	20	0	82	3	75	0	78	194
12:15 PM	29	0	0	29	0	78	19	0	97	2	83	0	85	211
12:30 PM	22	0	0	22	0	74	9	0	83	3	88	0	91	196
12:45 PM	34	0	0	34	0	87	11	0	98	2	77	0	79	211
Total	118	0	1	119	0	301	59	0	360	10	323	0	333	812
01:00 PM	22	4	1	27	0	79	16	0	95	0	85	0	85	207
01:15 PM	23	1	2	26	0	84	22	0	106	1	75	0	76	208
01:30 PM	27	1	1	29	0	106	16	0	122	1	82	0	83	234
01:45 PM	15	4	0	19	0	79	23	0	102	3	59	0	62	183
Total	87	10	4	101	0	348	77	0	425	5	301	0	306	832
04:00 PM	18	2	1	21	0	118	17	0	135	1	74	0	75	231
04:15 PM	28	2	1	31	0	76	20	0	96	3	63	0	66	193
04:30 PM	22	4	1	27	0	96	7	0	103	2	55	0	57	187
04:45 PM	25	3	0	28	0	122	20	1	143	0	73	0	73	244
Total	93	11	3	107	0	412	64	1	477	6	265	0	271	855
05:00 PM	25	0	0	25	0	87	14	0	101	1	66	0	67	193
05:15 PM	25	2	0	27	0	87	12	0	99	1	71	0	72	198
05:30 PM	17	0	2	19	0	80	17	1	98	1	73	0	74	191
05:45 PM	11	1	2	14	0	56	17	0	73	0	63	0	63	150
Total	78	3	4	85	0	310	60	1	371	3	273	0	276	732
Grand Total	469	29	16	514	1	1715	340	3	2059	37	1612	0	1649	4222
Apprch %	91.2	5.6	3.1		0	83.3	16.5	0.1		2.2	97.8	0		
Total %	11.1	0.7	0.4	12.2	0	40.6	8.1	0.1	48.8	0.9	38.2	0	39.1	
Car	427	28	0	455	1	1633	314	0	1948	33	1526	0	1559	3962
% Car	91	96.6	0	88.5	100	95.2	92.4	0	94.6	89.2	94.7	0	94.5	93.8
Truck	25	1	0	26	0	70	23	0	93	2	75	0	77	196
% Truck	5.3	3.4	0	5.1	0	4.1	6.8	0	4.5	5.4	4.7	0	4.7	4.6
Bus	17	0	0	17	0	12	3	0	15	2	11	0	13	45
% Bus	3.6	0	0	3.3	0	0.7	0.9	0	0.7	5.4	0.7	0	0.8	1.1
Ped	0	0	16	16	0	0	0	3	3	0	0	0	0	19
% Ped	0	0	100	3.1	0	0	0	100	0.1	0	0	0	0	0.5

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Griffing Ave Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

	Griffing Ave Southbound				NYS 25 Westbound					NYS 25 Eastbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
07:00 AM	29	4	0	33	0	38	29	0	67	5	34	2	41	141
07:15 AM	27	0	0	27	0	40	24	0	64	2	45	1	48	139
07:30 AM	15	3	1	19	0	57	17	2	76	0	47	0	47	142
07:45 AM	22	2	0	24	0	64	32	1	97	4	57	2	63	184
Total	93	9	1	103	0	199	102	3	304	11	183	5	199	606
08:00 AM	17	2	0	19	0	54	10	0	64	4	69	1	74	157
08:15 AM	13	5	0	18	0	52	22	0	74	8	48	0	56	148
08:30 AM	12	6	2	20	0	61	28	1	90	6	76	0	82	192
08:45 AM	17	6	3	26	0	51	32	2	85	9	70	2	81	192
Total	59	19	5	83	0	218	92	3	313	27	263	3	293	689
12:00 PM	19	11	3	33	0	70	18	9	97	8	99	5	112	242
12:15 PM	29	13	12	54	0	80	26	2	108	8	98	1	107	269
12:30 PM	23	12	5	40	0	74	15	3	92	6	107	4	117	249
12:45 PM	30	11	2	43	0	80	30	2	112	4	105	3	112	267
Total	101	47	22	170	0	304	89	16	409	26	409	13	448	1027
01:00 PM	27	3	2	32	0	92	29	4	125	7	95	5	107	264
01:15 PM	31	9	6	46	0	94	32	4	130	4	84	7	95	271
01:30 PM	22	17	8	47	0	110	27	0	137	11	102	4	117	301
01:45 PM	21	6	8	35	0	92	28	3	123	9	75	6	90	248
Total	101	35	24	160	0	388	116	11	515	31	356	22	409	1084
04:00 PM	35	14	3	52	0	97	34	3	134	10	85	6	101	287
04:15 PM	26	13	3	42	0	79	21	4	104	7	80	1	88	234
04:30 PM	29	12	1	42	0	88	30	2	120	2	75	5	82	244
04:45 PM	24	16	3	43	0	97	26	4	127	10	91	2	103	273
Total	114	55	10	179	0	361	111	13	485	29	331	14	374	1038
05:00 PM	31	17	0	48	1	88	20	4	113	9	81	0	90	251
05:15 PM	20	10	3	33	0	86	28	8	122	9	87	1	97	252
05:30 PM	27	9	4	40	0	81	20	1	102	10	82	3	95	237
05:45 PM	10	3	2	15	0	68	34	1	103	8	68	4	80	198
Total	88	39	9	136	1	323	102	14	440	36	318	8	362	938
Grand Total	556	204	71	831	1	1793	612	60	2466	160	1860	65	2085	5382
Apprch %	66.9	24.5	8.5		0	72.7	24.8	2.4		7.7	89.2	3.1		
Total %	10.3	3.8	1.3	15.4	0	33.3	11.4	1.1	45.8	3	34.6	1.2	38.7	
Car	516	197	0	713	1	1696	557	0	2254	155	1746	0	1901	4868
% Car	92.8	96.6	0	85.8	100	94.6	91	0	91.4	96.9	93.9	0	91.2	90.4
Truck	11	7	0	18	0	85	12	0	97	3	84	0	87	202
% Truck	2	3.4	0	2.2	0	4.7	2	0	3.9	1.9	4.5	0	4.2	3.8
Bus	29	0	0	29	0	12	43	0	55	2	30	0	32	116
% Bus	5.2	0	0	3.5	0	0.7	7	0	2.2	1.2	1.6	0	1.5	2.2
Ped	0	0	71	71	0	0	0	60	60	0	0	65	65	196
% Ped	0	0	100	8.5	0	0	0	100	2.4	0	0	100	3.1	3.6

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_- _NYS_25_at Peconic Ave Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	NYS 25 Westbound				Peconic Ave Northbound				NYS 25 Eastbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
07:00 AM	90	31	0	121	38	72	1	111	27	30	0	57	289
07:15 AM	72	42	0	114	25	103	1	129	23	51	0	74	317
07:30 AM	100	41	0	141	30	116	0	146	28	32	0	60	347
07:45 AM	77	46	0	123	47	155	1	203	35	29	1	65	391
Total	339	160	0	499	140	446	3	589	113	142	1	256	1344
08:00 AM	64	43	0	107	27	121	0	148	42	46	1	89	344
08:15 AM	80	39	0	119	32	140	0	172	37	27	0	64	355
08:30 AM	85	56	0	141	39	121	2	162	43	43	1	87	390
08:45 AM	113	51	0	164	38	125	1	164	48	40	1	89	417
Total	342	189	0	531	136	507	3	646	170	156	3	329	1506
12:00 PM	98	66	0	164	29	111	4	144	68	53	5	126	434
12:15 PM	87	61	0	148	43	116	6	165	59	59	2	120	433
12:30 PM	86	56	0	142	33	112	1	146	72	63	1	136	424
12:45 PM	97	64	0	161	49	133	3	185	67	50	2	119	465
Total	368	247	0	615	154	472	14	640	266	225	10	501	1756
01:00 PM	100	82	0	182	43	128	5	176	81	58	3	142	500
01:15 PM	85	78	0	163	45	121	6	172	65	52	6	123	458
01:30 PM	84	69	0	153	78	128	6	212	66	55	1	122	487
01:45 PM	102	62	2	166	47	121	9	177	60	39	9	108	451
Total	371	291	2	664	213	498	26	737	272	204	19	495	1896
04:00 PM	98	71	0	169	53	100	6	159	55	60	3	118	446
04:15 PM	115	51	0	166	50	112	2	164	52	51	5	108	438
04:30 PM	102	73	0	175	46	144	3	193	50	52	0	102	470
04:45 PM	101	75	1	177	49	122	6	177	50	57	4	111	465
Total	416	270	1	687	198	478	17	693	207	220	12	439	1819
05:00 PM	105	69	0	174	39	124	1	164	64	52	0	116	454
05:15 PM	110	70	0	180	44	122	2	168	47	49	0	96	444
05:30 PM	76	57	0	133	49	92	2	143	56	57	0	113	389
05:45 PM	89	49	2	140	48	114	7	169	47	33	0	80	389
Total	380	245	2	627	180	452	12	644	214	191	0	405	1676
Grand Total	2216	1402	5	3623	1021	2853	75	3949	1242	1138	45	2425	9997
Apprch %	61.2	38.7	0.1		25.9	72.2	1.9		51.2	46.9	1.9		
Total %	22.2	14	0.1	36.2	10.2	28.5	0.8	39.5	12.4	11.4	0.5	24.3	
Car	2135	1323	0	3458	933	2774	0	3707	1185	1035	0	2220	9385
% Car	96.3	94.4	0	95.4	91.4	97.2	0	93.9	95.4	90.9	0	91.5	93.9
Truck	48	55	0	103	53	45	0	98	42	54	0	96	297
% Truck	2.2	3.9	0	2.8	5.2	1.6	0	2.5	3.4	4.7	0	4	3
Bus	33	24	0	57	35	34	0	69	15	49	0	64	190
% Bus	1.5	1.7	0	1.6	3.4	1.2	0	1.7	1.2	4.3	0	2.6	1.9
Ped	0	0	5	5	0	0	75	75	0	0	45	45	125
% Ped	0	0	100	0.1	0	0	100	1.9	0	0	100	1.9	1.3

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Roanoke Ave Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Roanoke Ave Southbound				NYS 25 Westbound				NYS 25 Eastbound				Int. Total
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	
07:00 AM	0	40	0	40	94	2	0	96	43	55	0	98	234
07:15 AM	0	30	2	32	91	1	0	92	55	72	0	127	251
07:30 AM	0	40	0	40	94	2	0	96	65	77	0	142	278
07:45 AM	0	28	0	28	89	6	0	95	82	122	0	204	327
Total	0	138	2	140	368	11	0	379	245	326	0	571	1090
08:00 AM	0	45	2	47	68	5	1	74	46	105	0	151	272
08:15 AM	0	57	0	57	64	1	0	65	73	105	0	178	300
08:30 AM	0	44	0	44	97	5	1	103	60	105	0	165	312
08:45 AM	0	50	1	51	93	9	2	104	68	109	1	178	333
Total	0	196	3	199	322	20	4	346	247	424	1	672	1217
12:00 PM	0	74	14	88	99	10	10	119	57	123	1	181	388
12:15 PM	0	46	4	50	87	9	4	100	55	120	0	175	325
12:30 PM	0	70	15	85	88	4	11	103	55	123	0	178	366
12:45 PM	0	48	24	72	95	12	17	124	83	129	0	212	408
Total	0	238	57	295	369	35	42	446	250	495	1	746	1487
01:00 PM	0	85	3	88	96	6	7	109	85	111	0	196	393
01:15 PM	0	59	4	63	104	11	4	119	80	100	0	180	362
01:30 PM	0	68	16	84	102	14	8	124	86	98	0	184	392
01:45 PM	0	74	20	94	85	11	17	113	79	113	0	192	399
Total	0	286	43	329	387	42	36	465	330	422	0	752	1546
04:00 PM	0	80	7	87	92	8	3	103	61	98	1	160	350
04:15 PM	0	78	6	84	90	7	4	101	77	101	0	178	363
04:30 PM	0	63	11	74	117	12	1	130	80	97	0	177	381
04:45 PM	0	71	2	73	95	9	5	109	78	100	2	180	362
Total	0	292	26	318	394	36	13	443	296	396	3	695	1456
05:00 PM	0	78	7	85	93	7	5	105	77	108	0	185	375
05:15 PM	0	71	7	78	104	6	2	112	63	112	3	178	368
05:30 PM	0	52	9	61	89	5	2	96	53	91	0	144	301
05:45 PM	0	65	3	68	63	15	6	84	75	91	0	166	318
Total	0	266	26	292	349	33	15	397	268	402	3	673	1362
Grand Total	0	1416	157	1573	2189	177	110	2476	1636	2465	8	4109	8158
Apprch %	0	90	10		88.4	7.1	4.4		39.8	60	0.2		
Total %	0	17.4	1.9	19.3	26.8	2.2	1.3	30.4	20.1	30.2	0.1	50.4	
Car	0	1370	0	1370	2077	171	0	2248	1595	2359	0	3954	7572
% Car	0	96.8	0	87.1	94.9	96.6	0	90.8	97.5	95.7	0	96.2	92.8
Truck	0	24	0	24	79	5	0	84	22	77	0	99	207
% Truck	0	1.7	0	1.5	3.6	2.8	0	3.4	1.3	3.1	0	2.4	2.5
Bus	0	22	0	22	33	1	0	34	19	29	0	48	104
% Bus	0	1.6	0	1.4	1.5	0.6	0	1.4	1.2	1.2	0	1.2	1.3
Ped	0	0	157	157	0	0	110	110	0	0	8	8	275
% Ped	0	0	100	10	0	0	100	4.4	0	0	100	0.2	3.4

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Ostrander Ave wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

	Southbound St. Southbound					Westbound St. Westbound					Northbound St. Northbound					Eastbound St. Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	5	0	6	2	13	0	82	1	0	83	0	0	0	0	0	1	58	0	2	61	157
07:15 AM	4	0	6	2	12	0	85	0	0	85	0	0	0	0	0	3	67	0	1	71	168
07:30 AM	6	0	10	0	16	0	99	5	0	104	0	0	0	0	0	4	69	2	1	76	196
07:45 AM	7	0	7	1	15	0	95	8	0	103	0	0	0	0	0	9	111	0	1	121	239
Total	22	0	29	5	56	0	361	14	0	375	0	0	0	0	0	17	305	2	5	329	760
08:00 AM	6	0	7	0	13	0	72	3	0	75	0	0	0	3	3	5	95	3	2	105	196
08:15 AM	5	0	6	1	12	0	84	6	1	91	0	0	0	3	3	6	117	3	2	128	234
08:30 AM	4	0	11	0	15	0	110	9	5	124	0	0	1	1	2	4	102	0	0	106	247
08:45 AM	3	0	19	2	24	1	119	11	0	131	0	0	0	5	5	6	96	2	2	106	266
Total	18	0	43	3	64	1	385	29	6	421	0	0	1	12	13	21	410	8	6	445	943
12:00 PM	6	0	13	25	44	0	130	6	0	136	0	0	1	7	8	8	111	1	27	147	335
12:15 PM	9	0	13	11	33	1	95	14	0	110	0	0	0	6	6	11	108	1	21	141	290
12:30 PM	6	1	15	25	47	0	102	4	2	108	0	0	0	6	6	8	99	3	45	155	316
12:45 PM	12	1	24	16	53	1	108	9	0	118	0	0	0	13	13	19	123	1	22	165	349
Total	33	2	65	77	177	2	435	33	2	472	0	0	1	32	33	46	441	6	115	608	1290
01:00 PM	4	0	15	13	32	2	122	16	2	142	0	0	0	12	12	10	116	0	28	154	340
01:15 PM	2	3	15	13	33	0	91	9	0	100	0	0	0	6	6	6	93	0	23	122	261
01:30 PM	7	0	15	13	35	3	100	7	0	110	0	0	0	9	9	12	93	4	16	125	279
01:45 PM	6	0	11	13	30	1	77	8	0	86	0	0	0	8	8	8	104	1	23	136	260
Total	19	3	56	52	130	6	390	40	2	438	0	0	0	35	35	36	406	5	90	537	1140
04:00 PM	4	0	12	6	22	0	150	12	0	162	0	0	0	1	1	6	111	1	19	137	322
04:15 PM	13	0	12	9	34	0	105	16	1	122	0	0	0	4	4	11	110	4	13	138	298
04:30 PM	7	0	15	7	29	0	148	12	0	160	0	0	0	4	4	5	115	3	20	143	336
04:45 PM	5	0	16	5	26	3	129	13	0	145	0	0	0	2	2	7	93	3	9	112	285
Total	29	0	55	27	111	3	532	53	1	589	0	0	0	11	11	29	429	11	61	530	1241
05:00 PM	4	1	17	6	28	1	127	16	2	146	0	0	0	12	12	13	125	1	9	148	334
05:15 PM	8	0	9	3	20	1	113	6	2	122	0	0	0	4	4	8	109	6	0	123	269
05:30 PM	5	0	13	6	24	1	106	10	0	117	0	0	0	2	2	7	101	3	3	114	257
05:45 PM	5	1	8	3	17	2	100	4	0	106	0	0	0	3	3	6	96	1	0	103	229
Total	22	2	47	18	89	5	446	36	4	491	0	0	0	21	21	34	431	11	12	488	1089
Grand Total	143	7	295	182	627	17	2549	205	15	2786	0	0	2	111	113	183	2422	43	289	2937	6463
Apprch %	22.8	1.1	47	29		0.6	91.5	7.4	0.5		0	0	1.8	98.2		6.2	82.5	1.5	9.8		
Total %	2.2	0.1	4.6	2.8	9.7	0.3	39.4	3.2	0.2	43.1	0	0	0	1.7	1.7	2.8	37.5	0.7	4.5	45.4	
Car	137	7	279	0	423	17	2432	195	0	2644	0	0	2	0	2	181	2324	42	0	2547	5616
% Car	95.8	100	94.6	0	67.5	100	95.4	95.1	0	94.9	0	0	100	0	1.8	98.9	96	97.7	0	86.7	86.9
Truck	2	0	3	0	5	0	90	5	0	95	0	0	0	0	0	1	72	1	0	74	174
% Truck	1.4	0	1	0	0.8	0	3.5	2.4	0	3.4	0	0	0	0	0	0.5	3	2.3	0	2.5	2.7
Bus	4	0	13	0	17	0	27	5	0	32	0	0	0	0	0	1	26	0	0	27	76
% Bus	2.8	0	4.4	0	2.7	0	1.1	2.4	0	1.1	0	0	0	0	0	0.5	1.1	0	0	0.9	1.2
Ped	0	0	0	182	182	0	0	0	15	15	0	0	0	111	111	0	0	0	289	289	597
% Ped	0	0	0	100	29	0	0	0	100	0.5	0	0	0	100	98.2	0	0	0	100	9.8	9.2

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Riverside Dr Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

	NYS 25 Southbound					Riverside Dr Westbound					NYS 25 Northbound					Fishel Ln Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	10	79	1	0	90	4	8	4	2	18	2	44	11	0	57	2	8	1	3	14	179
07:15 AM	10	74	1	0	85	7	7	1	3	18	0	60	10	0	70	1	10	1	1	13	186
07:30 AM	7	91	9	0	107	8	9	10	0	27	0	69	5	0	74	0	12	1	0	13	221
07:45 AM	3	92	7	0	102	13	12	13	2	40	0	100	6	0	106	3	11	4	0	18	266
Total	30	336	18	0	384	32	36	28	7	103	2	273	32	0	307	6	41	7	4	58	852
08:00 AM	7	64	1	0	72	9	5	9	0	23	0	83	7	0	90	3	7	1	0	11	196
08:15 AM	7	79	4	0	90	18	8	8	1	35	0	103	6	0	109	2	0	4	0	6	240
08:30 AM	7	97	8	0	112	14	9	7	0	30	0	96	9	0	105	3	13	5	0	21	268
08:45 AM	7	111	5	0	123	18	12	7	4	41	0	90	3	0	93	0	9	4	0	13	270
Total	28	351	18	0	397	59	34	31	5	129	0	372	25	0	397	8	29	14	0	51	974
12:00 PM	14	123	10	0	147	5	9	16	3	33	6	98	9	0	113	3	10	4	1	18	311
12:15 PM	13	91	5	3	112	3	13	18	4	38	2	106	7	0	115	2	5	5	1	13	278
12:30 PM	9	90	10	1	110	4	12	20	5	41	4	83	5	0	92	0	14	5	0	19	262
12:45 PM	8	108	7	0	123	6	13	23	10	52	5	123	11	0	139	3	6	3	0	12	326
Total	44	412	32	4	492	18	47	77	22	164	17	410	32	0	459	8	35	17	2	62	1177
01:00 PM	7	115	7	0	129	7	16	8	3	34	12	110	11	0	133	6	12	2	2	22	318
01:15 PM	9	90	4	0	103	8	9	10	3	30	8	75	8	0	91	4	13	6	0	23	247
01:30 PM	9	100	8	0	117	4	8	10	4	26	5	96	10	0	111	4	15	0	2	21	275
01:45 PM	13	83	2	0	98	13	10	6	8	37	10	97	10	0	117	3	13	1	0	17	269
Total	38	388	21	0	447	32	43	34	18	127	35	378	39	0	452	17	53	9	4	83	1109
04:00 PM	15	139	8	2	164	10	21	8	4	43	0	100	17	0	117	2	13	4	0	19	343
04:15 PM	20	102	6	2	130	13	12	14	1	40	1	99	19	0	119	4	13	2	0	19	308
04:30 PM	28	132	11	2	173	15	23	11	5	54	0	93	20	0	113	3	12	2	0	17	357
04:45 PM	13	101	7	1	122	18	18	20	6	62	0	83	13	0	96	2	27	3	0	32	312
Total	76	474	32	7	589	56	74	53	16	199	1	375	69	0	445	11	65	11	0	87	1320
05:00 PM	22	121	9	0	152	16	21	13	7	57	3	103	27	0	133	8	16	2	9	35	377
05:15 PM	34	90	7	0	131	16	31	17	3	67	3	84	20	0	107	3	28	2	0	33	338
05:30 PM	14	103	7	0	124	16	31	11	1	59	5	80	25	0	110	7	15	7	1	30	323
05:45 PM	7	78	3	0	88	23	20	5	7	55	4	85	13	0	102	3	14	4	2	23	268
Total	77	392	26	0	495	71	103	46	18	238	15	352	85	0	452	21	73	15	12	121	1306
Grand Total	293	2353	147	11	2804	268	337	269	86	960	70	2160	282	0	2512	71	296	73	22	462	6738
Apprch %	10.4	83.9	5.2	0.4		27.9	35.1	28	9		2.8	86	11.2	0		15.4	64.1	15.8	4.8		
Total %	4.3	34.9	2.2	0.2	41.6	4	5	4	1.3	14.2	1	32.1	4.2	0	37.3	1.1	4.4	1.1	0.3	6.9	
Car	288	2253	143	0	2684	257	336	266	0	859	70	2069	270	0	2409	68	296	71	0	435	6387
% Car	98.3	95.8	97.3	0	95.7	95.9	99.7	98.9	0	89.5	100	95.8	95.7	0	95.9	95.8	100	97.3	0	94.2	94.8
Truck	4	78	1	0	83	6	1	2	0	9	0	65	7	0	72	1	0	0	0	1	165
% Truck	1.4	3.3	0.7	0	3	2.2	0.3	0.7	0	0.9	0	3	2.5	0	2.9	1.4	0	0	0	0.2	2.4
Bus	1	22	3	0	26	5	0	1	0	6	0	26	5	0	31	2	0	2	0	4	67
% Bus	0.3	0.9	2	0	0.9	1.9	0	0.4	0	0.6	0	1.2	1.8	0	1.2	2.8	0	2.7	0	0.9	1
Ped	0	0	0	11	11	0	0	0	86	86	0	0	0	0	0	0	0	0	22	22	119
% Ped	0	0	0	100	0.4	0	0	0	100	9	0	0	0	0	0	0	0	0	100	4.8	1.8

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead-_NYS_25_at_Hubbard Ave Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	NYS 25 Southbound				Hubbard Ave Westbound				NYS 25 Northbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
07:00 AM	5	44	0	49	34	0	0	34	31	15	0	46	129
07:15 AM	4	38	0	42	29	4	0	33	35	17	0	52	127
07:30 AM	3	49	0	52	44	10	0	54	34	14	0	48	154
07:45 AM	1	64	0	65	44	7	2	53	35	9	0	44	162
Total	13	195	0	208	151	21	2	174	135	55	0	190	572
08:00 AM	4	46	0	50	30	2	0	32	45	11	0	56	138
08:15 AM	2	53	0	55	36	5	1	42	49	12	0	61	158
08:30 AM	5	58	0	63	46	7	0	53	51	11	0	62	178
08:45 AM	2	73	0	75	49	6	0	55	52	9	0	61	191
Total	13	230	0	243	161	20	1	182	197	43	0	240	665
12:00 PM	4	74	0	78	20	8	0	28	69	30	0	99	205
12:15 PM	3	63	0	66	19	7	0	26	70	25	0	95	187
12:30 PM	5	55	0	60	22	3	2	27	65	22	0	87	174
12:45 PM	6	75	0	81	22	7	0	29	81	31	0	112	222
Total	18	267	0	285	83	25	2	110	285	108	0	393	788
01:00 PM	12	59	0	71	24	11	0	35	93	18	0	111	217
01:15 PM	4	63	0	67	22	9	0	31	64	16	0	80	178
01:30 PM	8	62	0	70	24	9	0	33	53	15	0	68	171
01:45 PM	4	68	0	72	21	7	1	29	58	27	0	85	186
Total	28	252	0	280	91	36	1	128	268	76	0	344	752
04:00 PM	11	91	0	102	30	11	0	41	79	37	0	116	259
04:15 PM	10	73	0	83	28	12	0	40	75	38	0	113	236
04:30 PM	13	77	0	90	23	16	1	40	67	35	0	102	232
04:45 PM	12	64	0	76	27	9	0	36	62	35	0	97	209
Total	46	305	0	351	108	48	1	157	283	145	0	428	936
05:00 PM	8	70	0	78	41	11	0	52	64	36	0	100	230
05:15 PM	9	67	0	76	34	10	0	44	59	31	0	90	210
05:30 PM	8	50	0	58	30	4	0	34	49	35	0	84	176
05:45 PM	1	42	0	43	29	8	0	37	49	36	0	85	165
Total	26	229	0	255	134	33	0	167	221	138	0	359	781
Grand Total	144	1478	0	1622	728	183	7	918	1389	565	0	1954	4494
Apprch %	8.9	91.1	0		79.3	19.9	0.8		71.1	28.9	0		
Total %	3.2	32.9	0	36.1	16.2	4.1	0.2	20.4	30.9	12.6	0	43.5	
Car	129	1417	0	1546	692	159	0	851	1322	539	0	1861	4258
% Car	89.6	95.9	0	95.3	95.1	86.9	0	92.7	95.2	95.4	0	95.2	94.7
Truck	11	48	0	59	27	22	0	49	45	15	0	60	168
% Truck	7.6	3.2	0	3.6	3.7	12	0	5.3	3.2	2.7	0	3.1	3.7
Bus	4	13	0	17	9	2	0	11	22	11	0	33	61
% Bus	2.8	0.9	0	1	1.2	1.1	0	1.2	1.6	1.9	0	1.7	1.4
Ped	0	0	0	0	0	0	7	7	0	0	0	0	7
% Ped	0	0	0	0	0	0	100	0.8	0	0	0	0	0.2

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Roanoke Ave at E 2nd St Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Roanoke Ave Southbound					E 2nd St Westbound					Roanoke Ave Northbound					E 2nd St Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	1	43	1	1	46	0	4	5	0	9	1	46	0	0	47	0	5	0	1	6	108
07:15 AM	3	28	1	2	34	1	4	3	0	8	1	49	2	0	52	0	3	0	0	3	97
07:30 AM	3	38	2	0	43	1	6	2	2	11	0	52	1	0	53	1	8	1	0	10	117
07:45 AM	3	32	4	2	41	2	4	4	1	11	6	73	2	0	81	1	5	1	0	7	140
Total	10	141	8	5	164	4	18	14	3	39	8	220	5	0	233	2	21	2	1	26	462
08:00 AM	7	45	1	1	54	1	10	0	1	12	2	55	1	0	58	3	6	1	0	10	134
08:15 AM	7	54	3	2	66	5	9	5	1	20	2	64	1	0	67	1	5	1	1	8	161
08:30 AM	7	36	3	1	47	2	6	7	0	15	0	62	1	0	63	4	5	2	0	11	136
08:45 AM	7	45	3	1	56	5	18	9	1	33	6	58	4	0	68	2	7	4	1	14	171
Total	28	180	10	5	223	13	43	21	3	80	10	239	7	0	256	10	23	8	2	43	602
12:00 PM	5	75	7	0	87	0	10	8	3	21	3	61	2	0	66	4	10	1	3	18	192
12:15 PM	9	51	10	2	72	0	13	9	3	25	5	71	1	1	78	2	17	7	8	34	209
12:30 PM	14	60	1	2	77	0	12	6	0	18	7	61	1	3	72	4	7	6	3	20	187
12:45 PM	13	54	5	2	74	0	9	7	1	17	4	78	7	5	94	4	15	4	1	24	209
Total	41	240	23	6	310	0	44	30	7	81	19	271	11	9	310	14	49	18	15	96	797
01:00 PM	7	65	7	0	79	1	14	7	1	23	8	81	7	2	98	7	22	5	0	34	234
01:15 PM	7	65	4	0	76	2	8	6	0	16	6	86	6	1	99	5	8	0	2	15	206
01:30 PM	11	68	5	1	85	3	12	7	1	23	5	93	3	5	106	5	4	3	0	12	226
01:45 PM	11	75	6	2	94	0	15	9	1	25	6	72	10	5	93	5	12	1	3	21	233
Total	36	273	22	3	334	6	49	29	3	87	25	332	26	13	396	22	46	9	5	82	899
04:00 PM	6	83	7	3	99	2	22	8	3	35	4	62	2	0	68	9	9	2	3	23	225
04:15 PM	12	72	3	0	87	2	19	8	0	29	1	74	1	2	78	5	22	4	0	31	225
04:30 PM	8	63	5	1	77	5	32	6	2	45	4	76	3	7	90	7	11	1	1	20	232
04:45 PM	10	72	8	0	90	1	24	9	6	40	5	73	1	3	82	5	7	6	2	20	232
Total	36	290	23	4	353	10	97	31	11	149	14	285	7	12	318	26	49	13	6	94	914
05:00 PM	9	71	4	0	84	0	20	6	5	31	7	69	4	4	84	5	15	10	3	33	232
05:15 PM	8	75	5	0	88	0	18	10	4	32	1	72	0	2	75	5	9	2	4	20	215
05:30 PM	6	60	2	0	68	0	15	6	0	21	4	67	2	0	73	3	6	0	3	12	174
05:45 PM	7	53	2	2	64	0	7	6	0	13	3	71	3	0	77	3	9	5	0	17	171
Total	30	259	13	2	304	0	60	28	9	97	15	279	9	6	309	16	39	17	10	82	792
Grand Total	181	1383	99	25	1688	33	311	153	36	533	91	1626	65	40	1822	90	227	67	39	423	4466
Apprch %	10.7	81.9	5.9	1.5		6.2	58.3	28.7	6.8		5	89.2	3.6	2.2		21.3	53.7	15.8	9.2		
Total %	4.1	31	2.2	0.6	37.8	0.7	7	3.4	0.8	11.9	2	36.4	1.5	0.9	40.8	2	5.1	1.5	0.9	9.5	
Car	178	1338	97	0	1613	33	306	152	0	491	90	1591	62	0	1743	87	222	66	0	375	4222
% Car	98.3	96.7	98	0	95.6	100	98.4	99.3	0	92.1	98.9	97.8	95.4	0	95.7	96.7	97.8	98.5	0	88.7	94.5
Truck	1	27	1	0	29	0	3	0	0	3	1	22	2	0	25	2	2	0	0	4	61
% Truck	0.6	2	1	0	1.7	0	1	0	0	0.6	1.1	1.4	3.1	0	1.4	2.2	0.9	0	0	0.9	1.4
Bus	2	18	1	0	21	0	2	1	0	3	0	13	1	0	14	1	3	1	0	5	43
% Bus	1.1	1.3	1	0	1.2	0	0.6	0.7	0	0.6	0	0.8	1.5	0	0.8	1.1	1.3	1.5	0	1.2	1
Ped	0	0	0	25	25	0	0	0	36	36	0	0	0	40	40	0	0	0	39	39	140
% Ped	0	0	0	100	1.5	0	0	0	100	6.8	0	0	0	100	2.2	0	0	0	100	9.2	3.1

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Griffing_at E 2nd wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Southbound St. Southbound					Westbound St. Westbound					Northbound St. Northbound					Eastbound St. Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	7	32	0	1	40	1	0	7	0	8	0	32	3	0	35	1	0	0	2	3	86
07:15 AM	5	26	0	0	31	1	0	5	0	6	0	23	1	0	24	0	0	0	1	1	62
07:30 AM	12	16	0	1	29	4	0	5	4	13	0	16	0	0	16	0	0	0	0	0	58
07:45 AM	7	24	0	0	31	3	1	8	1	13	0	31	2	0	33	0	0	0	1	1	78
Total	31	98	0	2	131	9	1	25	5	40	0	102	6	0	108	1	0	0	4	5	284
08:00 AM	8	25	3	2	38	2	1	9	0	12	0	14	1	0	15	0	1	0	1	2	67
08:15 AM	4	17	0	2	23	3	0	9	2	14	1	21	3	0	25	0	1	0	0	1	63
08:30 AM	5	17	0	0	22	8	1	7	0	16	0	27	8	2	37	0	0	0	2	2	77
08:45 AM	10	26	1	2	39	12	1	15	1	29	0	33	2	0	35	1	0	0	2	3	106
Total	27	85	4	6	122	25	3	40	3	71	1	95	14	2	112	1	2	0	5	8	313
12:00 PM	6	23	0	2	31	8	1	13	2	24	0	20	4	0	24	1	0	1	4	6	85
12:15 PM	13	27	1	0	41	9	0	19	2	30	0	30	7	0	37	0	0	1	12	13	121
12:30 PM	4	31	0	0	35	5	0	15	1	21	0	23	6	0	29	0	2	0	6	8	93
12:45 PM	12	41	1	4	58	5	1	14	5	25	0	29	5	1	35	3	3	0	6	12	130
Total	35	122	2	6	165	27	2	61	10	100	0	102	22	1	125	4	5	2	28	39	429
01:00 PM	21	23	2	2	48	9	2	17	2	30	0	30	3	1	34	2	2	3	7	14	126
01:15 PM	6	31	0	1	38	7	0	17	4	28	0	41	3	0	44	0	4	0	4	8	118
01:30 PM	4	22	0	2	28	14	0	14	8	36	0	36	3	4	43	0	0	0	9	9	116
01:45 PM	7	25	1	3	36	3	3	19	7	32	0	44	4	1	49	2	1	1	1	5	122
Total	38	101	3	8	150	33	5	67	21	126	0	151	13	6	170	4	7	4	21	36	482
04:00 PM	10	37	0	1	48	16	0	27	1	44	0	34	4	0	38	0	4	0	4	8	138
04:15 PM	20	31	0	2	53	12	0	21	1	34	0	28	5	0	33	0	0	0	4	4	124
04:30 PM	11	31	0	4	46	13	0	33	6	52	0	28	3	0	31	1	1	0	3	5	134
04:45 PM	10	23	0	2	35	19	1	22	2	44	0	38	0	0	38	6	2	1	6	15	132
Total	51	122	0	9	182	60	1	103	10	174	0	128	12	0	140	7	7	1	17	32	528
05:00 PM	15	31	1	1	48	12	0	29	0	41	1	23	7	1	32	0	1	0	2	3	124
05:15 PM	7	19	0	0	26	10	0	19	5	34	0	27	2	0	29	0	0	1	1	2	91
05:30 PM	4	29	0	0	33	6	1	22	0	29	0	31	2	0	33	0	1	1	1	3	98
05:45 PM	14	6	0	3	23	1	0	8	4	13	0	42	4	2	48	0	0	0	6	6	90
Total	40	85	1	4	130	29	1	78	9	117	1	123	15	3	142	0	2	2	10	14	403
Grand Total	222	613	10	35	880	183	13	374	58	628	2	701	82	12	797	17	23	9	85	134	2439
Apprch %	25.2	69.7	1.1	4		29.1	2.1	59.6	9.2		0.3	88	10.3	1.5		12.7	17.2	6.7	63.4		
Total %	9.1	25.1	0.4	1.4	36.1	7.5	0.5	15.3	2.4	25.7	0.1	28.7	3.4	0.5	32.7	0.7	0.9	0.4	3.5	5.5	
Car	216	562	10	0	788	181	13	368	0	562	2	640	77	0	719	17	23	9	0	49	2118
% Car	97.3	91.7	100	0	89.5	98.9	100	98.4	0	89.5	100	91.3	93.9	0	90.2	100	100	100	0	36.6	86.8
Truck	3	18	0	0	21	2	0	3	0	5	0	21	3	0	24	0	0	0	0	0	50
% Truck	1.4	2.9	0	0	2.4	1.1	0	0.8	0	0.8	0	3	3.7	0	3	0	0	0	0	0	2.1
Bus	3	33	0	0	36	0	0	3	0	3	0	40	2	0	42	0	0	0	0	0	81
% Bus	1.4	5.4	0	0	4.1	0	0	0.8	0	0.5	0	5.7	2.4	0	5.3	0	0	0	0	0	3.3
Ped	0	0	0	35	35	0	0	0	58	58	0	0	0	12	12	0	0	0	85	85	190
% Ped	0	0	0	100	4	0	0	0	100	9.2	0	0	0	100	1.5	0	0	0	100	63.4	7.8

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Roanoke Ave at Railroad Ave Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Roanoke Ave Southbound				Roanoke Ave Northbound				Railroad Ave Eastbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
07:15 AM	34	14	0	48	1	51	0	52	9	2	0	11	111
07:30 AM	42	5	0	47	0	50	0	50	7	0	0	7	104
07:45 AM	51	15	1	67	3	69	0	72	8	1	0	9	148
Total	127	34	1	162	4	170	0	174	24	3	0	27	363
08:00 AM	56	16	1	73	2	49	2	53	10	4	1	15	141
08:15 AM	63	20	0	83	0	64	1	65	8	2	1	11	159
08:30 AM	51	6	2	59	0	60	0	60	12	2	1	15	134
08:45 AM	54	16	0	70	1	59	1	61	6	1	1	8	139
Total	224	58	3	285	3	232	4	239	36	9	4	49	573
11:45 AM	8	1	0	9	0	15	10	25	1	1	0	2	36
Total	8	1	0	9	0	15	10	25	1	1	0	2	36
12:00 PM	79	10	0	89	1	83	1	85	18	5	1	24	198
12:15 PM	74	18	1	93	3	72	0	75	19	5	6	30	198
12:30 PM	75	20	1	96	1	63	0	64	19	4	6	29	189
12:45 PM	76	17	0	93	1	88	0	89	16	2	3	21	203
Total	304	65	2	371	6	306	1	313	72	16	16	104	788
01:00 PM	94	25	0	119	5	95	3	103	11	3	3	17	239
01:15 PM	74	23	0	97	3	95	4	102	17	3	0	20	219
01:30 PM	89	26	0	115	5	97	1	103	26	4	2	32	250
01:45 PM	85	30	0	115	4	71	1	76	13	1	1	15	206
Total	342	104	0	446	17	358	9	384	67	11	6	84	914
03:45 PM	8	3	0	11	1	4	0	5	7	3	0	10	26
Total	8	3	0	11	1	4	0	5	7	3	0	10	26
04:00 PM	92	23	0	115	3	83	0	86	17	3	1	21	222
04:15 PM	82	19	1	102	1	84	0	85	12	6	0	18	205
04:30 PM	79	34	0	113	7	86	2	95	18	3	0	21	229
04:45 PM	87	27	0	114	3	84	0	87	24	7	2	33	234
Total	340	103	1	444	14	337	2	353	71	19	3	93	890
05:00 PM	77	25	5	107	6	73	1	80	21	3	4	28	215
05:15 PM	88	22	1	111	3	90	1	94	13	5	1	19	224
05:30 PM	71	25	2	98	3	66	3	72	21	1	0	22	192
05:45 PM	49	18	1	68	8	68	2	78	10	1	1	12	158
Total	285	90	9	384	20	297	7	324	65	10	6	81	789
Grand Total	1638	458	16	2112	65	1719	33	1817	343	72	35	450	4379
Apprch %	77.6	21.7	0.8		3.6	94.6	1.8		76.2	16	7.8		
Total %	37.4	10.5	0.4	48.2	1.5	39.3	0.8	41.5	7.8	1.6	0.8	10.3	
Car	1591	453	0	2044	63	1674	0	1737	340	70	0	410	4191
% Car	97.1	98.9	0	96.8	96.9	97.4	0	95.6	99.1	97.2	0	91.1	95.7
Truck	23	2	0	25	1	19	0	20	2	1	0	3	48
% Truck	1.4	0.4	0	1.2	1.5	1.1	0	1.1	0.6	1.4	0	0.7	1.1
Bus	24	3	0	27	1	26	0	27	1	1	0	2	56
% Bus	1.5	0.7	0	1.3	1.5	1.5	0	1.5	0.3	1.4	0	0.4	1.3
Ped	0	0	16	16	0	0	33	33	0	0	35	35	84
% Ped	0	0	100	0.8	0	0	100	1.8	0	0	100	7.8	1.9

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Roanoke Ave at Northville Tpke Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Roanoke Ave Southbound				Northville Tpke Westbound				Roanoke Ave Northbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
07:00 AM	0	28	0	28	24	6	0	30	50	14	0	64	122
07:15 AM	2	24	0	26	19	4	0	23	36	17	0	53	102
07:30 AM	1	33	1	35	23	6	1	30	41	15	0	56	121
07:45 AM	2	33	0	35	24	7	2	33	62	14	0	76	144
Total	5	118	1	124	90	23	3	116	189	60	0	249	489
08:00 AM	4	43	0	47	28	8	2	38	56	14	0	70	155
08:15 AM	3	54	3	60	31	10	2	43	55	15	0	70	173
08:30 AM	5	44	12	61	18	11	8	37	57	21	0	78	176
08:45 AM	6	48	8	62	31	7	4	42	59	16	0	75	179
Total	18	189	23	230	108	36	16	160	227	66	0	293	683
12:00 PM	2	61	0	63	29	9	3	41	76	27	0	103	207
12:15 PM	10	61	0	71	25	5	5	35	69	24	0	93	199
12:30 PM	4	64	1	69	35	5	4	44	56	26	0	82	195
12:45 PM	2	72	0	74	26	6	1	33	75	25	0	100	207
Total	18	258	1	277	115	25	13	153	276	102	0	378	808
01:00 PM	4	80	0	84	29	6	0	35	82	23	0	105	224
01:15 PM	3	63	0	66	37	6	0	43	87	28	0	115	224
01:30 PM	4	70	1	75	41	6	5	52	76	31	0	107	234
01:45 PM	3	81	0	84	48	9	0	57	75	22	0	97	238
Total	14	294	1	309	155	27	5	187	320	104	0	424	920
04:00 PM	10	77	0	87	36	3	0	39	81	23	1	105	231
04:15 PM	4	62	0	66	33	7	0	40	60	24	0	84	190
04:30 PM	5	60	0	65	49	4	3	56	80	29	0	109	230
04:45 PM	4	73	0	77	43	4	1	48	78	28	0	106	231
Total	23	272	0	295	161	18	4	183	299	104	1	404	882
05:00 PM	10	70	0	80	39	5	6	50	65	30	0	95	225
05:15 PM	6	65	0	71	40	8	0	48	73	26	0	99	218
05:30 PM	11	58	0	69	27	4	0	31	67	28	2	97	197
05:45 PM	6	61	0	67	27	4	0	31	64	22	2	88	186
Total	33	254	0	287	133	21	6	160	269	106	4	379	826
Grand Total	111	1385	26	1522	762	150	47	959	1580	542	5	2127	4608
Apprch %	7.3	91	1.7		79.5	15.6	4.9		74.3	25.5	0.2		
Total %	2.4	30.1	0.6	33	16.5	3.3	1	20.8	34.3	11.8	0.1	46.2	
Car	107	1352	0	1459	746	146	0	892	1537	537	0	2074	4425
% Car	96.4	97.6	0	95.9	97.9	97.3	0	93	97.3	99.1	0	97.5	96
Truck	0	17	0	17	10	0	0	10	17	4	0	21	48
% Truck	0	1.2	0	1.1	1.3	0	0	1	1.1	0.7	0	1	1
Bus	4	16	0	20	6	4	0	10	26	1	0	27	57
% Bus	3.6	1.2	0	1.3	0.8	2.7	0	1	1.6	0.2	0	1.3	1.2
Ped	0	0	26	26	0	0	47	47	0	0	5	5	78
% Ped	0	0	100	1.7	0	0	100	4.9	0	0	100	0.2	1.7

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Griffing_at Court wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Southbound St. Southbound				Griffing Ave Northbound				Court St Eastbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
07:00 AM	33	5	0	38	0	39	0	39	5	8	2	15	92
07:15 AM	27	11	0	38	4	23	0	27	12	3	3	18	83
07:30 AM	16	5	0	21	3	17	0	20	16	16	2	34	75
07:45 AM	24	9	0	33	3	36	0	39	18	13	2	33	105
Total	100	30	0	130	10	115	0	125	51	40	9	100	355
08:00 AM	24	8	0	32	7	14	0	21	22	11	0	33	86
08:15 AM	15	14	0	29	9	23	0	32	15	11	0	26	87
08:30 AM	18	7	0	25	10	26	0	36	25	12	0	37	98
08:45 AM	19	18	1	38	14	30	0	44	16	22	0	38	120
Total	76	47	1	124	40	93	0	133	78	56	0	134	391
12:00 PM	19	7	1	27	12	23	2	37	13	11	3	27	91
12:15 PM	26	9	1	36	18	36	8	62	20	16	4	40	138
12:30 PM	30	14	0	44	13	25	5	43	23	9	4	36	123
12:45 PM	30	14	0	44	7	40	3	50	14	20	4	38	132
Total	105	44	2	151	50	124	18	192	70	56	15	141	484
01:00 PM	21	20	2	43	14	34	5	53	11	22	3	36	132
01:15 PM	26	14	1	41	16	41	4	61	17	11	2	30	132
01:30 PM	22	18	0	40	11	46	4	61	19	7	5	31	132
01:45 PM	20	24	1	45	10	50	3	63	15	12	6	33	141
Total	89	76	4	169	51	171	16	238	62	52	16	130	537
04:00 PM	41	28	0	69	21	40	1	62	20	10	5	35	166
04:15 PM	39	20	0	59	16	39	2	57	10	9	3	22	138
04:30 PM	27	34	0	61	30	32	3	65	16	10	5	31	157
04:45 PM	24	20	0	44	25	53	0	78	19	14	0	33	155
Total	131	102	0	233	92	164	6	262	65	43	13	121	616
05:00 PM	27	31	0	58	20	33	0	53	15	12	5	32	143
05:15 PM	23	24	0	47	13	32	0	45	20	5	1	26	118
05:30 PM	22	15	0	37	16	41	0	57	13	5	3	21	115
05:45 PM	12	19	0	31	11	39	0	50	13	8	8	29	110
Total	84	89	0	173	60	145	0	205	61	30	17	108	486
Grand Total	585	388	7	980	303	812	40	1155	387	277	70	734	2869
Apprch %	59.7	39.6	0.7		26.2	70.3	3.5		52.7	37.7	9.5		
Total %	20.4	13.5	0.2	34.2	10.6	28.3	1.4	40.3	13.5	9.7	2.4	25.6	
Car	538	378	0	916	297	752	0	1049	369	270	0	639	2604
% Car	92	97.4	0	93.5	98	92.6	0	90.8	95.3	97.5	0	87.1	90.8
Truck	13	1	0	14	5	16	0	21	3	6	0	9	44
% Truck	2.2	0.3	0	1.4	1.7	2	0	1.8	0.8	2.2	0	1.2	1.5
Bus	34	9	0	43	1	44	0	45	15	1	0	16	104
% Bus	5.8	2.3	0	4.4	0.3	5.4	0	3.9	3.9	0.4	0	2.2	3.6
Ped	0	0	7	7	0	0	40	40	0	0	70	70	117
% Ped	0	0	100	0.7	0	0	100	3.5	0	0	100	9.5	4.1

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_- _CR_94_at_Nugent St Wkday

Site Code :

Start Date : 5/16/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

[illegible]

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at River Rd Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Parking Lot Southbound					NYS 25 Westbound					River Rd Northbound					NYS 25 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	4	0	1	0	5	11	42	2	0	55	2	1	14	0	17	3	113	1	0	117	194
11:15 AM	1	0	1	0	2	9	52	6	0	67	1	0	16	0	17	3	115	2	0	120	206
11:30 AM	3	0	6	0	9	6	46	3	0	55	1	0	7	0	8	4	144	4	0	152	224
11:45 AM	4	0	4	0	8	9	55	3	0	67	1	0	22	0	23	0	149	1	0	150	248
Total	12	0	12	0	24	35	195	14	0	244	5	1	59	0	65	10	521	8	0	539	872
12:00 PM	2	0	4	0	6	9	49	4	0	62	1	0	9	0	10	6	131	2	0	139	217
12:15 PM	3	0	1	0	4	10	60	5	0	75	2	0	10	0	12	5	132	2	0	139	230
12:30 PM	1	0	1	0	2	8	58	3	0	69	2	0	13	0	15	3	123	0	0	126	212
12:45 PM	1	0	4	0	5	10	62	6	0	78	3	0	19	0	22	3	134	5	0	142	247
Total	7	0	10	0	17	37	229	18	0	284	8	0	51	0	59	17	520	9	0	546	906
01:00 PM	4	0	2	0	6	13	68	1	0	82	0	1	20	0	21	6	154	2	0	162	271
01:15 PM	7	0	0	0	7	16	58	8	0	82	2	0	15	0	17	6	111	2	0	119	225
01:30 PM	9	0	4	0	13	9	79	15	0	103	0	1	6	1	8	4	111	1	0	116	240
01:45 PM	11	0	3	0	14	17	77	12	0	106	1	0	8	0	9	7	120	1	0	128	257
Total	31	0	9	0	40	55	282	36	0	373	3	2	49	1	55	23	496	6	0	525	993
Grand Total	50	0	31	0	81	127	706	68	0	901	16	3	159	1	179	50	1537	23	0	1610	2771
Apprch %	61.7	0	38.3	0		14.1	78.4	7.5	0		8.9	1.7	88.8	0.6		3.1	95.5	1.4	0		
Total %	1.8	0	1.1	0	2.9	4.6	25.5	2.5	0	32.5	0.6	0.1	5.7	0	6.5	1.8	55.5	0.8	0	58.1	
Car	50	0	30	0	80	124	689	68	0	881	16	3	156	0	175	49	1516	23	0	1588	2724
% Car	100	0	96.8	0	98.8	97.6	97.6	100	0	97.8	100	100	98.1	0	97.8	98	98.6	100	0	98.6	98.3
Truck	0	0	1	0	1	1	17	0	0	18	0	0	0	0	0	1	17	0	0	18	37
% Truck	0	0	3.2	0	1.2	0.8	2.4	0	0	2	0	0	0	0	0	2	1.1	0	0	1.1	1.3
Bus	0	0	0	0	0	2	0	0	0	2	0	0	3	0	3	0	4	0	0	4	9
% Bus	0	0	0	0	0	1.6	0	0	0	0.2	0	0	1.9	0	1.7	0	0.3	0	0	0.2	0.3
Ped	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Ped	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0.6	0	0	0	0	0	0

572 Walt Whitman Road
Melville, New York 11747

Page No : 1

[illegible]

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : NYS 25 at Kromere Ave Sat

Site Code : 00000000

Start Date : 5/18/2013

Page No : 1

Groups Printed- Cars - Trucks - Buses

Start Time	Kroemer Ave Southbound					NYS 25 Westbound					Forge Rd Northbound					NYS 25 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	8	1	12	0	21	5	63	12	0	80	5	5	8	0	18	9	81	2	1	93	212
11:15 AM	13	5	7	0	25	11	69	7	0	87	1	4	5	1	11	8	64	0	0	72	195
11:30 AM	15	2	3	0	20	3	75	8	0	86	1	5	4	0	10	11	97	2	0	110	226
11:45 AM	7	8	7	1	23	5	79	12	0	96	2	5	5	0	12	10	88	0	0	98	229
Total	43	16	29	1	89	24	286	39	0	349	9	19	22	1	51	38	330	4	1	373	862
12:00 PM	10	5	7	0	22	15	68	18	1	102	2	2	5	0	9	10	90	4	0	104	237
12:15 PM	13	0	9	0	22	2	94	13	0	109	1	1	7	0	9	7	79	0	0	86	226
12:30 PM	10	5	9	0	24	7	75	8	0	90	0	3	7	0	10	10	88	0	0	98	222
12:45 PM	11	2	8	0	21	5	96	15	0	116	3	1	4	0	8	8	96	0	0	104	249
Total	44	12	33	0	89	29	333	54	1	417	6	7	23	0	36	35	353	4	0	392	934
01:00 PM	9	1	5	0	15	4	86	20	0	110	5	3	7	0	15	8	93	2	0	103	243
01:15 PM	16	5	15	0	36	12	95	12	0	119	3	4	8	0	15	8	107	1	0	116	286
01:30 PM	10	2	6	0	18	8	108	11	0	127	1	2	8	0	11	4	87	0	0	91	247
01:45 PM	10	4	11	0	25	7	103	11	0	121	4	5	6	0	15	8	85	1	0	94	255
Total	45	12	37	0	94	31	392	54	0	477	13	14	29	0	56	28	372	4	0	404	1031
Grand Total	132	40	99	1	272	84	1011	147	1	1243	28	40	74	1	143	101	1055	12	1	1169	2827
Apprch %	48.5	14.7	36.4	0.4		6.8	81.3	11.8	0.1		19.6	28	51.7	0.7		8.6	90.2	1	0.1		
Total %	4.7	1.4	3.5	0	9.6	3	35.8	5.2	0	44	1	1.4	2.6	0	5.1	3.6	37.3	0.4	0	41.4	
Cars	127	40	95	1	263	84	988	129	1	1202	28	39	72	1	140	93	1021	12	1	1127	2732
% Cars	96.2	100	96	100	96.7	100	97.7	87.8	100	96.7	100	97.5	97.3	100	97.9	92.1	96.8	100	100	96.4	96.6
Trucks	5	0	4	0	9	0	19	16	0	35	0	1	2	0	3	7	32	0	0	39	86
% Trucks	3.8	0	4	0	3.3	0	1.9	10.9	0	2.8	0	2.5	2.7	0	2.1	6.9	3	0	0	3.3	3
Buses	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	1	2	0	0	3	9
% Buses	0	0	0	0	0	0	0.4	1.4	0	0.5	0	0	0	0	0	1	0.2	0	0	0.3	0.3

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_- _NYS_25_at Mill Rd Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

[illegible]

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Center St-Nugent St Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Center St Southbound					NYS 25 Westbound					Nugent St Northbound					NYS 25 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	0	16	10	0	26	7	56	2	1	66	95	27	18	2	142	11	74	69	0	154	388
11:15 AM	0	21	8	0	29	9	54	2	0	65	100	32	26	1	159	10	82	62	0	154	407
11:30 AM	0	25	16	0	41	10	75	0	0	85	90	14	22	0	126	13	72	85	0	170	422
11:45 AM	1	33	10	0	44	15	54	0	4	73	104	36	17	0	157	15	61	85	0	161	435
Total	1	95	44	0	140	41	239	4	5	289	389	109	83	3	584	49	289	301	0	639	1652
12:00 PM	1	28	16	0	45	11	64	1	0	76	84	40	27	1	152	13	67	94	0	174	447
12:15 PM	1	27	15	0	43	16	67	1	0	84	93	29	21	0	143	12	84	88	0	184	454
12:30 PM	0	35	13	1	49	23	67	1	0	91	82	29	22	0	133	11	89	83	0	183	456
12:45 PM	0	28	13	1	42	13	69	1	1	84	106	37	29	0	172	13	67	67	0	147	445
Total	2	118	57	2	179	63	267	4	1	335	365	135	99	1	600	49	307	332	0	688	1802
01:00 PM	0	24	11	0	35	20	75	0	0	95	99	28	16	1	144	11	89	68	0	168	442
01:15 PM	0	25	18	0	43	9	76	2	0	87	86	24	18	0	128	15	86	82	0	183	441
01:30 PM	2	40	8	0	50	12	75	1	3	91	100	31	14	0	145	18	78	89	0	185	471
01:45 PM	0	26	14	0	40	19	85	2	0	106	98	22	20	0	140	20	81	92	0	193	479
Total	2	115	51	0	168	60	311	5	3	379	383	105	68	1	557	64	334	331	0	729	1833
Grand Total	5	328	152	2	487	164	817	13	9	1003	1137	349	250	5	1741	162	930	964	0	2056	5287
Apprch %	1	67.4	31.2	0.4		16.4	81.5	1.3	0.9		65.3	20	14.4	0.3		7.9	45.2	46.9	0		
Total %	0.1	6.2	2.9	0	9.2	3.1	15.5	0.2	0.2	19	21.5	6.6	4.7	0.1	32.9	3.1	17.6	18.2	0	38.9	
Car	5	316	147	0	468	158	795	13	0	966	1107	335	249	0	1691	161	920	936	0	2017	5142
% Car	100	96.3	96.7	0	96.1	96.3	97.3	100	0	96.3	97.4	96	99.6	0	97.1	99.4	98.9	97.1	0	98.1	97.3
Truck	0	4	2	0	6	6	19	0	0	25	27	3	1	0	31	1	9	25	0	35	97
% Truck	0	1.2	1.3	0	1.2	3.7	2.3	0	0	2.5	2.4	0.9	0.4	0	1.8	0.6	1	2.6	0	1.7	1.8
Bus	0	8	3	0	11	0	3	0	0	3	3	11	0	0	14	0	1	3	0	4	32
% Bus	0	2.4	2	0	2.3	0	0.4	0	0	0.3	0.3	3.2	0	0	0.8	0	0.1	0.3	0	0.2	0.6
Ped	0	0	0	2	2	0	0	0	9	9	0	0	0	5	5	0	0	0	0	0	16
% Ped	0	0	0	100	0.4	0	0	0	100	0.9	0	0	0	100	0.3	0	0	0	0	0	0.3

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Osborn Ave Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Osborn Ave Southbound				NYS 25 Westbound					NYS 25 Eastbound				Int. Total
	Left	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	
11:00 AM	27	1	0	28	0	61	17	1	79	1	87	0	88	195
11:15 AM	19	1	1	21	0	65	13	2	80	0	109	1	110	211
11:30 AM	25	0	0	25	0	87	16	0	103	1	96	0	97	225
11:45 AM	46	1	0	47	0	68	13	1	82	0	77	0	77	206
Total	117	3	1	121	0	281	59	4	344	2	369	1	372	837
12:00 PM	31	1	0	32	0	71	13	0	84	1	89	1	91	207
12:15 PM	24	0	1	25	0	88	17	1	106	1	113	0	114	245
12:30 PM	19	5	0	24	0	86	16	0	102	1	109	0	110	236
12:45 PM	29	0	1	30	0	82	20	0	102	0	97	0	97	229
Total	103	6	2	111	0	327	66	1	394	3	408	1	412	917
01:00 PM	18	2	2	22	1	90	13	0	104	2	101	0	103	229
01:15 PM	30	4	0	34	1	85	14	0	100	1	95	0	96	230
01:30 PM	33	3	0	36	0	85	9	3	97	2	100	0	102	235
01:45 PM	37	3	0	40	0	101	15	0	116	3	97	0	100	256
Total	118	12	2	132	2	361	51	3	417	8	393	0	401	950
Grand Total	338	21	5	364	2	969	176	8	1155	13	1170	2	1185	2704
Apprch %	92.9	5.8	1.4		0.2	83.9	15.2	0.7		1.1	98.7	0.2		
Total %	12.5	0.8	0.2	13.5	0.1	35.8	6.5	0.3	42.7	0.5	43.3	0.1	43.8	
Car	330	21	0	351	2	944	168	0	1114	13	1157	0	1170	2635
% Car	97.6	100	0	96.4	100	97.4	95.5	0	96.5	100	98.9	0	98.7	97.4
Truck	4	0	0	4	0	24	7	0	31	0	13	0	13	48
% Truck	1.2	0	0	1.1	0	2.5	4	0	2.7	0	1.1	0	1.1	1.8
Bus	4	0	0	4	0	1	1	0	2	0	0	0	0	6
% Bus	1.2	0	0	1.1	0	0.1	0.6	0	0.2	0	0	0	0	0.2
Ped	0	0	5	5	0	0	0	8	8	0	0	2	2	15
% Ped	0	0	100	1.4	0	0	0	100	0.7	0	0	100	0.2	0.6

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Griffing Ave Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Griffing Ave Southbound				NYS 25 Westbound				NYS 25 Eastbound				Int. Total
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	
11:00 AM	11	9	4	24	64	17	5	86	4	111	5	120	230
11:15 AM	9	6	2	17	74	13	2	89	7	123	1	131	237
11:30 AM	13	7	2	22	95	21	0	116	5	123	3	131	269
11:45 AM	22	8	2	32	71	24	11	106	7	112	2	121	259
Total	55	30	10	95	304	75	18	397	23	469	11	503	995
12:00 PM	15	5	4	24	89	23	7	119	6	112	13	131	274
12:15 PM	36	12	6	54	99	28	3	130	7	132	7	146	330
12:30 PM	30	9	2	41	91	17	7	115	3	131	6	140	296
12:45 PM	14	11	3	28	94	22	7	123	3	130	2	135	286
Total	95	37	15	147	373	90	24	487	19	505	28	552	1186
01:00 PM	17	4	5	26	94	15	5	114	3	110	3	116	256
01:15 PM	9	13	14	36	91	20	5	116	4	129	11	144	296
01:30 PM	17	11	5	33	92	23	3	118	8	130	5	143	294
01:45 PM	19	8	2	29	121	20	9	150	5	128	8	141	320
Total	62	36	26	124	398	78	22	498	20	497	27	544	1166
Grand Total	212	103	51	366	1075	243	64	1382	62	1471	66	1599	3347
Apprch %	57.9	28.1	13.9		77.8	17.6	4.6		3.9	92	4.1		
Total %	6.3	3.1	1.5	10.9	32.1	7.3	1.9	41.3	1.9	43.9	2	47.8	
Car	211	102	0	313	1043	237	0	1280	61	1451	0	1512	3105
% Car	99.5	99	0	85.5	97	97.5	0	92.6	98.4	98.6	0	94.6	92.8
Truck	1	1	0	2	28	2	0	30	1	16	0	17	49
% Truck	0.5	1	0	0.5	2.6	0.8	0	2.2	1.6	1.1	0	1.1	1.5
Bus	0	0	0	0	4	4	0	8	0	4	0	4	12
% Bus	0	0	0	0	0.4	1.6	0	0.6	0	0.3	0	0.3	0.4
Ped	0	0	51	51	0	0	64	64	0	0	66	66	181
% Ped	0	0	100	13.9	0	0	100	4.6	0	0	100	4.1	5.4

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Peconic Ave Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

	NYS 25 Westbound				Peconic Ave Northbound				NYS 25 Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	83	44	0	127	38	131	1	170	61	51	3	115	412
11:15 AM	73	40	0	113	54	115	4	173	94	47	1	142	428
11:30 AM	95	58	0	153	55	144	6	205	93	47	2	142	500
11:45 AM	104	52	0	156	44	122	7	173	64	68	2	134	463
Total	355	194	0	549	191	512	18	721	312	213	8	533	1803
12:00 PM	81	54	0	135	62	136	12	210	62	48	2	112	457
12:15 PM	84	77	0	161	60	123	5	188	84	78	2	164	513
12:30 PM	86	42	0	128	56	112	9	177	87	72	0	159	464
12:45 PM	91	55	0	146	53	124	12	189	79	58	3	140	475
Total	342	228	0	570	231	495	38	764	312	256	7	575	1909
01:00 PM	89	61	0	150	53	119	11	183	67	65	3	135	468
01:15 PM	83	56	1	140	38	120	10	168	80	51	5	136	444
01:30 PM	102	64	0	166	54	104	6	164	97	56	2	155	485
01:45 PM	93	67	0	160	64	113	1	178	80	50	8	138	476
Total	367	248	1	616	209	456	28	693	324	222	18	564	1873
Grand Total	1064	670	1	1735	631	1463	84	2178	948	691	33	1672	5585
Apprch %	61.3	38.6	0.1		29	67.2	3.9		56.7	41.3	2		
Total %	19.1	12	0	31.1	11.3	26.2	1.5	39	17	12.4	0.6	29.9	
Car	1049	644	0	1693	617	1449	0	2066	936	685	0	1621	5380
% Car	98.6	96.1	0	97.6	97.8	99	0	94.9	98.7	99.1	0	96.9	96.3
Truck	11	20	0	31	12	11	0	23	9	5	0	14	68
% Truck	1	3	0	1.8	1.9	0.8	0	1.1	0.9	0.7	0	0.8	1.2
Bus	4	6	0	10	2	3	0	5	3	1	0	4	19
% Bus	0.4	0.9	0	0.6	0.3	0.2	0	0.2	0.3	0.1	0	0.2	0.3
Ped	0	0	1	1	0	0	84	84	0	0	33	33	118
% Ped	0	0	100	0.1	0	0	100	3.9	0	0	100	2	2.1

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Roanoke Ave Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Roanoke Ave Southbound				NYS 25 Westbound				NYS 25 Eastbound				Int. Total
	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	
11:00 AM	0	56	3	59	68	11	9	88	77	110	0	187	334
11:15 AM	0	48	3	51	76	4	4	84	73	135	0	208	343
11:30 AM	0	53	2	55	82	10	2	94	88	147	0	235	384
11:45 AM	0	69	7	76	91	1	5	97	58	122	1	181	354
Total	0	226	15	241	317	26	20	363	296	514	1	811	1415
12:00 PM	0	52	5	57	84	8	4	96	79	117	1	197	350
12:15 PM	0	71	4	75	99	10	4	113	73	127	0	200	388
12:30 PM	0	70	13	83	69	5	7	81	61	130	1	192	356
12:45 PM	0	58	15	73	81	9	7	97	78	132	0	210	380
Total	0	251	37	288	333	32	22	387	291	506	2	799	1474
01:00 PM	0	57	6	63	87	7	5	99	80	106	0	186	348
01:15 PM	0	63	8	71	79	14	3	96	69	137	0	206	373
01:30 PM	1	67	7	75	90	6	8	104	61	136	1	198	377
01:45 PM	0	61	11	72	114	14	5	133	55	147	0	202	407
Total	1	248	32	281	370	41	21	432	265	526	1	792	1505
Grand Total	1	725	84	810	1020	99	63	1182	852	1546	4	2402	4394
Apprch %	0.1	89.5	10.4		86.3	8.4	5.3		35.5	64.4	0.2		
Total %	0	16.5	1.9	18.4	23.2	2.3	1.4	26.9	19.4	35.2	0.1	54.7	
Car	1	714	0	715	991	99	0	1090	844	1525	0	2369	4174
% Car	100	98.5	0	88.3	97.2	100	0	92.2	99.1	98.6	0	98.6	95
Truck	0	9	0	9	22	0	0	22	7	15	0	22	53
% Truck	0	1.2	0	1.1	2.2	0	0	1.9	0.8	1	0	0.9	1.2
Bus	0	2	0	2	7	0	0	7	1	6	0	7	16
% Bus	0	0.3	0	0.2	0.7	0	0	0.6	0.1	0.4	0	0.3	0.4
Ped	0	0	84	84	0	0	63	63	0	0	4	4	151
% Ped	0	0	100	10.4	0	0	100	5.3	0	0	100	0.2	3.4

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Ostrander Ave Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Ostrander Ave Southbound					NYS 25 Westbound					Ostrander Ave Northbound					NYS 25 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	7	0	11	11	29	5	91	15	1	112	0	0	0	9	9	16	105	6	54	181	331
11:15 AM	2	0	13	45	60	1	69	11	0	81	0	0	0	9	9	26	87	4	59	176	326
11:30 AM	8	0	17	19	44	2	96	8	0	106	0	0	0	12	12	21	107	7	55	190	352
11:45 AM	5	1	9	42	57	1	95	8	4	108	0	0	0	8	8	14	93	2	69	178	351
Total	22	1	50	117	190	9	351	42	5	407	0	0	0	38	38	77	392	19	237	725	1360
12:00 PM	7	2	13	22	44	2	95	7	0	104	0	0	0	7	7	21	97	2	36	156	311
12:15 PM	2	0	11	36	49	0	102	11	7	120	0	0	0	13	13	17	108	3	52	180	362
12:30 PM	8	1	15	30	54	2	75	11	1	89	0	1	0	13	14	14	116	6	46	182	339
12:45 PM	9	0	14	34	57	0	97	9	0	106	0	0	0	36	36	18	95	3	75	191	390
Total	26	3	53	122	204	4	369	38	8	419	0	1	0	69	70	70	416	14	209	709	1402
01:00 PM	8	1	23	40	72	1	90	10	2	103	0	0	0	8	8	14	99	3	74	190	373
01:15 PM	7	0	21	18	46	0	86	8	0	94	0	0	0	10	10	27	123	2	44	196	346
01:30 PM	9	2	14	34	59	0	93	11	1	105	0	0	0	11	11	13	106	3	72	194	369
01:45 PM	6	0	31	48	85	5	100	10	4	119	0	0	0	20	20	21	105	4	70	200	424
Total	30	3	89	140	262	6	369	39	7	421	0	0	0	49	49	75	433	12	260	780	1512
Grand Total	78	7	192	379	656	19	1089	119	20	1247	0	1	0	156	157	222	1241	45	706	2214	4274
Apprch %	11.9	1.1	29.3	57.8		1.5	87.3	9.5	1.6		0	0.6	0	99.4		10	56.1	2	31.9		
Total %	1.8	0.2	4.5	8.9	15.3	0.4	25.5	2.8	0.5	29.2	0	0	0	3.6	3.7	5.2	29	1.1	16.5	51.8	
Car	78	6	192	0	276	19	1065	119	0	1203	0	1	0	0	1	221	1226	45	0	1492	2972
% Car	100	85.7	100	0	42.1	100	97.8	100	0	96.5	0	100	0	0	0.6	99.5	98.8	100	0	67.4	69.5
Truck	0	1	0	0	1	0	21	0	0	21	0	0	0	0	0	1	11	0	0	12	34
% Truck	0	14.3	0	0	0.2	0	1.9	0	0	1.7	0	0	0	0	0	0.5	0.9	0	0	0.5	0.8
Bus	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
% Bus	0	0	0	0	0	0	0.3	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.2	0.2
Ped	0	0	0	379	379	0	0	0	20	20	0	0	0	156	156	0	0	0	706	706	1261
% Ped	0	0	0	100	57.8	0	0	0	100	1.6	0	0	0	100	99.4	0	0	0	100	31.9	29.5

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_NYS_25_at Riverside Dr Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	NYS 25 Southbound					Westbound St. Westbound					NYS 25 Northbound					Eastbound St. Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	8	74	3	0	85	14	11	6	1	32	1	91	13	0	105	4	10	10	2	26	248
11:15 AM	12	72	8	2	94	13	13	12	1	39	0	79	9	0	88	4	10	3	1	18	239
11:30 AM	8	80	16	1	105	6	15	10	2	33	0	101	13	0	114	4	15	6	0	25	277
11:45 AM	10	74	5	2	91	14	15	9	2	40	0	80	13	0	93	3	14	2	0	19	243
Total	38	300	32	5	375	47	54	37	6	144	1	351	48	0	400	15	49	21	3	88	1007
12:00 PM	11	75	8	0	94	12	10	7	3	32	2	94	9	0	105	4	13	3	3	23	254
12:15 PM	12	92	5	2	111	8	16	9	1	34	4	88	10	0	102	4	18	5	1	28	275
12:30 PM	12	68	12	0	92	4	17	6	2	29	1	106	14	0	121	5	12	3	2	22	264
12:45 PM	20	91	8	0	119	8	15	9	8	40	3	82	13	0	98	0	9	2	4	15	272
Total	55	326	33	2	416	32	58	31	14	135	10	370	46	0	426	13	52	13	10	88	1065
01:00 PM	11	76	7	0	94	11	12	10	0	33	2	90	7	0	99	1	19	4	2	26	252
01:15 PM	4	73	3	0	80	9	15	12	0	36	2	119	13	0	134	6	15	1	0	22	272
01:30 PM	8	103	3	0	114	8	8	9	0	25	6	99	14	0	119	8	20	3	1	32	290
01:45 PM	9	84	6	0	99	12	19	11	0	42	2	90	14	0	106	7	5	3	0	15	262
Total	32	336	19	0	387	40	54	42	0	136	12	398	48	0	458	22	59	11	3	95	1076
Grand Total	125	962	84	7	1178	119	166	110	20	415	23	1119	142	0	1284	50	160	45	16	271	3148
Apprch %	10.6	81.7	7.1	0.6		28.7	40	26.5	4.8		1.8	87.1	11.1	0		18.5	59	16.6	5.9		
Total %	4	30.6	2.7	0.2	37.4	3.8	5.3	3.5	0.6	13.2	0.7	35.5	4.5	0	40.8	1.6	5.1	1.4	0.5	8.6	
Car	123	936	82	0	1141	119	162	108	0	389	23	1106	141	0	1270	50	160	43	0	253	3053
% Car	98.4	97.3	97.6	0	96.9	100	97.6	98.2	0	93.7	100	98.8	99.3	0	98.9	100	100	95.6	0	93.4	97
Truck	2	21	2	0	25	0	4	2	0	6	0	9	1	0	10	0	0	2	0	2	43
% Truck	1.6	2.2	2.4	0	2.1	0	2.4	1.8	0	1.4	0	0.8	0.7	0	0.8	0	0	4.4	0	0.7	1.4
Bus	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	9
% Bus	0	0.5	0	0	0.4	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0.3
Ped	0	0	0	7	7	0	0	0	20	20	0	0	0	0	0	0	0	0	16	16	43
% Ped	0	0	0	100	0.6	0	0	0	100	4.8	0	0	0	0	0	0	0	0	100	5.9	1.4

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead-_NYS_25_at_Hubbard Ave Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	NYS 25 Southbound				Hubbard Ave Westbound				NYS 25 Northbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
11:00 AM	10	43	0	53	25	8	0	33	62	38	0	100	186
11:15 AM	13	49	0	62	35	25	0	60	57	25	0	82	204
11:30 AM	11	48	0	59	35	13	0	48	81	22	0	103	210
11:45 AM	9	51	0	60	26	8	0	34	59	25	0	84	178
Total	43	191	0	234	121	54	0	175	259	110	0	369	778
12:00 PM	8	52	0	60	33	11	1	45	62	25	0	87	192
12:15 PM	11	61	0	72	28	10	0	38	63	35	0	98	208
12:30 PM	14	52	0	66	25	8	0	33	71	24	0	95	194
12:45 PM	12	70	0	82	32	14	0	46	67	23	0	90	218
Total	45	235	0	280	118	43	1	162	263	107	0	370	812
01:00 PM	6	56	0	62	29	8	0	37	67	14	0	81	180
01:15 PM	11	50	0	61	29	13	0	42	76	24	0	100	203
01:30 PM	18	74	0	92	25	6	0	31	95	25	0	120	243
01:45 PM	9	61	0	70	29	9	0	38	67	20	0	87	195
Total	44	241	0	285	112	36	0	148	305	83	0	388	821
Grand Total	132	667	0	799	351	133	1	485	827	300	0	1127	2411
Apprch %	16.5	83.5	0		72.4	27.4	0.2		73.4	26.6	0		
Total %	5.5	27.7	0	33.1	14.6	5.5	0	20.1	34.3	12.4	0	46.7	
Car	130	651	0	781	343	131	0	474	819	293	0	1112	2367
% Car	98.5	97.6	0	97.7	97.7	98.5	0	97.7	99	97.7	0	98.7	98.2
Truck	2	14	0	16	6	2	0	8	6	5	0	11	35
% Truck	1.5	2.1	0	2	1.7	1.5	0	1.6	0.7	1.7	0	1	1.5
Bus	0	2	0	2	2	0	0	2	2	2	0	4	8
% Bus	0	0.3	0	0.3	0.6	0	0	0.4	0.2	0.7	0	0.4	0.3
Ped	0	0	0	0	0	0	1	1	0	0	0	0	1
% Ped	0	0	0	0	0	0	100	0.2	0	0	0	0	0

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Griffing Ave at Court St Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Griffing Ave Southbound				Griffing Ave Northbound				Court St Eastbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
11:00 AM	11	9	0	20	4	21	0	25	8	6	3	17	62
11:15 AM	13	3	1	17	5	27	1	33	18	9	2	29	79
11:30 AM	19	4	0	23	7	26	0	33	7	6	7	20	76
11:45 AM	22	9	0	31	4	33	0	37	9	9	4	22	90
Total	65	25	1	91	20	107	1	128	42	30	16	88	307
12:00 PM	20	8	1	29	11	35	0	46	17	9	6	32	107
12:15 PM	41	8	0	49	1	29	0	30	12	8	0	20	99
12:30 PM	23	7	0	30	13	21	0	34	8	15	5	28	92
12:45 PM	19	10	0	29	7	24	0	31	15	10	4	29	89
Total	103	33	1	137	32	109	0	141	52	42	15	109	387
01:00 PM	19	3	0	22	6	24	0	30	6	6	7	19	71
01:15 PM	16	7	0	23	3	30	0	33	10	4	11	25	81
01:30 PM	16	6	0	22	10	26	0	36	13	9	6	28	86
01:45 PM	18	8	0	26	9	22	0	31	11	7	8	26	83
Total	69	24	0	93	28	102	0	130	40	26	32	98	321
Grand Total	237	82	2	321	80	318	1	399	134	98	63	295	1015
Apprch %	73.8	25.5	0.6		20.1	79.7	0.3		45.4	33.2	21.4		
Total %	23.3	8.1	0.2	31.6	7.9	31.3	0.1	39.3	13.2	9.7	6.2	29.1	
Car	236	82	0	318	79	310	0	389	132	98	0	230	937
% Car	99.6	100	0	99.1	98.8	97.5	0	97.5	98.5	100	0	78	92.3
Truck	1	0	0	1	1	4	0	5	1	0	0	1	7
% Truck	0.4	0	0	0.3	1.2	1.3	0	1.3	0.7	0	0	0.3	0.7
Bus	0	0	0	0	0	4	0	4	1	0	0	1	5
% Bus	0	0	0	0	0	1.3	0	1	0.7	0	0	0.3	0.5
Ped	0	0	2	2	0	0	1	1	0	0	63	63	66
% Ped	0	0	100	0.6	0	0	100	0.3	0	0	100	21.4	6.5

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Griffing_at E 2nd Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Griffing Ave Southbound					W 2nd Street Westbound					Griffing Ave Northbound					Parking Lot Access Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	7	13	0	1	21	7	0	8	2	17	0	19	3	0	22	0	0	0	1	1	61
11:15 AM	8	13	0	0	21	5	0	10	0	15	0	15	4	0	19	0	0	0	1	1	56
11:30 AM	3	18	0	0	21	7	0	7	0	14	0	25	3	0	28	0	0	0	8	8	71
11:45 AM	10	23	0	0	33	8	0	13	0	21	0	28	2	0	30	0	0	0	4	4	88
Total	28	67	0	1	96	27	0	38	2	67	0	87	12	0	99	0	0	0	14	14	276
12:00 PM	8	23	0	0	31	8	0	13	2	23	0	34	3	0	37	0	0	0	4	4	95
12:15 PM	2	47	0	0	49	3	0	5	0	8	0	25	4	0	29	1	1	0	0	2	88
12:30 PM	12	29	0	1	42	7	0	12	1	20	0	22	3	1	26	0	1	0	4	5	93
12:45 PM	10	17	0	0	27	7	0	9	3	19	0	18	4	1	23	1	0	0	5	6	75
Total	32	116	0	1	149	25	0	39	6	70	0	99	14	2	115	2	2	0	13	17	351
01:00 PM	5	17	0	0	22	7	0	14	3	24	0	19	4	2	25	0	0	0	1	1	72
01:15 PM	5	16	0	0	21	9	0	9	2	20	0	23	2	1	26	0	0	0	1	1	68
01:30 PM	6	19	0	1	26	8	0	8	3	19	0	25	8	1	34	0	0	0	2	2	81
01:45 PM	8	15	1	2	26	8	0	10	1	19	0	18	6	0	24	0	0	0	1	1	70
Total	24	67	1	3	95	32	0	41	9	82	0	85	20	4	109	0	0	0	5	5	291
Grand Total	84	250	1	5	340	84	0	118	17	219	0	271	46	6	323	2	2	0	32	36	918
Apprch %	24.7	73.5	0.3	1.5		38.4	0	53.9	7.8		0	83.9	14.2	1.9		5.6	5.6	0	88.9		
Total %	9.2	27.2	0.1	0.5	37	9.2	0	12.9	1.9	23.9	0	29.5	5	0.7	35.2	0.2	0.2	0	3.5	3.9	
Car	84	249	1	0	334	84	0	116	0	200	0	266	46	0	312	2	2	0	0	4	850
% Car	100	99.6	100	0	98.2	100	0	98.3	0	91.3	0	98.2	100	0	96.6	100	100	0	0	11.1	92.6
Truck	0	1	0	0	1	0	0	2	0	2	0	1	0	0	1	0	0	0	0	0	4
% Truck	0	0.4	0	0	0.3	0	0	1.7	0	0.9	0	0.4	0	0	0.3	0	0	0	0	0	0.4
Bus	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
% Bus	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	1.2	0	0	0	0	0	0.4
Ped	0	0	0	5	5	0	0	0	17	17	0	0	0	6	6	0	0	0	32	32	60
% Ped	0	0	0	100	1.5	0	0	0	100	7.8	0	0	0	100	1.9	0	0	0	100	88.9	6.5

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Roanoke Ave at E 2nd St Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Roanoke Ave Southbound					E 2nd St Westbound					Roanoke Ave Northbound					E 2nd St Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
11:00 AM	1	44	4	4	53	5	9	4	3	21	3	78	2	0	83	5	9	2	5	21	178
11:15 AM	3	53	6	0	62	1	9	11	3	24	2	78	1	0	81	4	12	2	0	18	185
11:30 AM	8	50	5	0	63	3	5	4	1	13	1	90	0	0	91	3	5	2	3	13	180
11:45 AM	3	60	6	0	69	5	6	10	0	21	5	58	3	0	66	5	6	5	1	17	173
Total	15	207	21	4	247	14	29	29	7	79	11	304	6	0	321	17	32	11	9	69	716
12:00 PM	5	56	7	0	68	1	12	6	0	19	0	77	3	0	80	3	7	1	1	12	179
12:15 PM	9	80	3	0	92	1	1	3	0	5	2	82	4	0	88	4	4	3	1	12	197
12:30 PM	2	62	7	2	73	3	11	3	0	17	2	69	2	0	73	2	16	3	1	22	185
12:45 PM	8	56	3	0	67	0	7	4	0	11	4	74	8	0	86	3	7	3	1	14	178
Total	24	254	20	2	300	5	31	16	0	52	8	302	17	0	327	12	34	10	4	60	739
01:00 PM	9	51	5	1	66	5	10	5	1	21	2	77	1	0	80	4	6	1	0	11	178
01:15 PM	6	59	5	2	72	4	10	3	1	18	3	77	2	1	83	2	7	2	4	15	188
01:30 PM	2	65	3	0	70	1	11	6	1	19	3	70	2	2	77	4	7	3	0	14	180
01:45 PM	5	60	3	1	69	5	14	5	1	25	4	68	2	5	79	4	11	3	3	21	194
Total	22	235	16	4	277	15	45	19	4	83	12	292	7	8	319	14	31	9	7	61	740
Grand Total	61	696	57	10	824	34	105	64	11	214	31	898	30	8	967	43	97	30	20	190	2195
Apprch %	7.4	84.5	6.9	1.2		15.9	49.1	29.9	5.1		3.2	92.9	3.1	0.8		22.6	51.1	15.8	10.5		
Total %	2.8	31.7	2.6	0.5	37.5	1.5	4.8	2.9	0.5	9.7	1.4	40.9	1.4	0.4	44.1	2	4.4	1.4	0.9	8.7	
Car	60	685	57	0	802	34	103	64	0	201	30	890	30	0	950	43	97	30	0	170	2123
% Car	98.4	98.4	100	0	97.3	100	98.1	100	0	93.9	96.8	99.1	100	0	98.2	100	100	100	0	89.5	96.7
Truck	1	9	0	0	10	0	2	0	0	2	1	7	0	0	8	0	0	0	0	0	20
% Truck	1.6	1.3	0	0	1.2	0	1.9	0	0	0.9	3.2	0.8	0	0	0.8	0	0	0	0	0	0.9
Bus	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% Bus	0	0.3	0	0	0.2	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.1
Ped	0	0	0	10	10	0	0	0	11	11	0	0	0	8	8	0	0	0	20	20	49
% Ped	0	0	0	100	1.2	0	0	0	100	5.1	0	0	0	100	0.8	0	0	0	100	10.5	2.2

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-Roanoke Ave at Railroad Ave Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Roanoke Ave Southbound				Roanoke Ave Northbound				Railroad Ave Eastbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
11:00 AM	48	12	0	60	1	87	2	90	8	1	6	15	165
11:15 AM	63	11	0	74	5	74	0	79	13	2	0	15	168
11:30 AM	62	14	0	76	5	99	0	104	13	3	3	19	199
11:45 AM	75	21	2	98	2	70	0	72	11	1	2	14	184
Total	248	58	2	308	13	330	2	345	45	7	11	63	716
12:00 PM	68	16	0	84	4	69	1	74	16	0	1	17	175
12:15 PM	89	22	0	111	1	89	1	91	12	2	1	15	217
12:30 PM	73	13	0	86	1	70	0	71	14	3	2	19	176
12:45 PM	67	13	2	82	3	80	0	83	15	1	2	18	183
Total	297	64	2	363	9	308	2	319	57	6	6	69	751
01:00 PM	67	12	0	79	4	83	2	89	10	1	0	11	179
01:15 PM	76	17	0	93	3	84	2	89	11	1	1	13	195
01:30 PM	74	17	2	93	2	78	0	80	18	0	0	18	191
01:45 PM	64	25	0	89	3	74	4	81	12	3	1	16	186
Total	281	71	2	354	12	319	8	339	51	5	2	58	751
Grand Total	826	193	6	1025	34	957	12	1003	153	18	19	190	2218
Apprch %	80.6	18.8	0.6		3.4	95.4	1.2		80.5	9.5	10		
Total %	37.2	8.7	0.3	46.2	1.5	43.1	0.5	45.2	6.9	0.8	0.9	8.6	
Car	815	192	0	1007	34	950	0	984	152	18	0	170	2161
% Car	98.7	99.5	0	98.2	100	99.3	0	98.1	99.3	100	0	89.5	97.4
Truck	10	0	0	10	0	6	0	6	1	0	0	1	17
% Truck	1.2	0	0	1	0	0.6	0	0.6	0.7	0	0	0.5	0.8
Bus	1	1	0	2	0	1	0	1	0	0	0	0	3
% Bus	0.1	0.5	0	0.2	0	0.1	0	0.1	0	0	0	0	0.1
Ped	0	0	6	6	0	0	12	12	0	0	19	19	37
% Ped	0	0	100	0.6	0	0	100	1.2	0	0	100	10	1.7

NELSON & POPE

572 Walt Whitman Road
Melville, New York 11747

File Name : Riverhead_-_Roanoke Ave at Northville Tpke Sat

Site Code :

Start Date : 5/18/2013

Page No : 1

Groups Printed- Car - Truck - Bus - Ped

Start Time	Roanoke Ave Southbound				Northville Tpke Westbound				Roanoke Ave Northbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
11:00 AM	5	39	0	44	20	6	0	26	68	25	0	93	163
11:15 AM	1	49	0	50	25	0	0	25	65	19	0	84	159
11:30 AM	2	51	0	53	28	1	0	29	78	31	0	109	191
11:45 AM	3	58	0	61	35	5	2	42	68	20	0	88	191
Total	11	197	0	208	108	12	2	122	279	95	0	374	704
12:00 PM	4	55	0	59	34	7	0	41	59	25	0	84	184
12:15 PM	6	75	0	81	34	3	1	38	71	32	0	103	222
12:30 PM	4	59	0	63	28	1	1	30	60	24	0	84	177
12:45 PM	3	46	0	49	32	4	3	39	68	24	0	92	180
Total	17	235	0	252	128	15	5	148	258	105	0	363	763
01:00 PM	3	56	0	59	24	8	0	32	76	17	0	93	184
01:15 PM	2	63	0	65	29	7	0	36	64	25	0	89	190
01:30 PM	3	62	0	65	29	7	0	36	66	34	0	100	201
01:45 PM	2	49	0	51	36	5	1	42	60	27	0	87	180
Total	10	230	0	240	118	27	1	146	266	103	0	369	755
Grand Total	38	662	0	700	354	54	8	416	803	303	0	1106	2222
Apprch %	5.4	94.6	0		85.1	13	1.9		72.6	27.4	0		
Total %	1.7	29.8	0	31.5	15.9	2.4	0.4	18.7	36.1	13.6	0	49.8	
Car	38	651	0	689	354	52	0	406	799	300	0	1099	2194
% Car	100	98.3	0	98.4	100	96.3	0	97.6	99.5	99	0	99.4	98.7
Truck	0	10	0	10	0	2	0	2	4	3	0	7	19
% Truck	0	1.5	0	1.4	0	3.7	0	0.5	0.5	1	0	0.6	0.9
Bus	0	1	0	1	0	0	0	0	0	0	0	0	1
% Bus	0	0.2	0	0.1	0	0	0	0	0	0	0	0	0
Ped	0	0	0	0	0	0	8	8	0	0	0	0	8
% Ped	0	0	0	0	0	0	100	1.9	0	0	0	0	0.4

NELSON & POPE

572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 1

Site Code:
Station ID:
NYS 25 East of Kromer Rd

Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	*	*	14	29	22	26	18	28	45	43	52	39
01:00	*	*	*	*	*	*	15	20	13	18	14	19	36	36	29	22
02:00	*	*	*	*	*	*	13	27	13	29	13	28	17	24	15	26
03:00	*	*	*	*	*	*	10	19	11	21	10	20	15	19	21	27
04:00	*	*	*	*	*	*	19	20	20	23	20	22	26	30	18	19
05:00	*	*	*	*	*	*	58	84	64	70	61	77	35	52	20	31
06:00	*	*	*	*	*	*	135	182	126	176	130	179	77	124	53	56
07:00	*	*	*	*	*	*	219	307	218	296	218	302	154	177	89	71
08:00	*	*	*	*	*	*	205	365	218	355	212	360	188	243	112	137
09:00	*	*	*	*	*	*	258	394	253	347	256	370	225	256	181	188
10:00	*	*	*	*	*	*	326	310	308	327	317	318	322	308	273	233
11:00	*	*	*	*	*	*	371	308	314	339	342	324	338	384	404	262
12:00 PM	*	*	*	*	*	*	347	356	370	369	358	362	370	373	442	301
01:00	*	*	*	*	*	*	375	372	388	383	382	378	422	399	430	333
02:00	*	*	*	*	*	*	392	338	407	348	400	343	448	368	431	308
03:00	*	*	*	*	*	*	428	344	414	350	421	347	443	324	379	289
04:00	*	*	*	*	*	*	482	354	483	408	482	381	449	348	373	289
05:00	*	*	*	*	*	*	422	356	444	362	433	359	350	330	282	234
06:00	*	*	*	*	*	*	330	337	317	311	324	324	293	289	207	198
07:00	*	*	*	*	*	*	257	238	267	319	262	278	277	252	155	178
08:00	*	*	*	*	*	*	238	204	221	248	230	226	185	152	124	185
09:00	*	*	*	*	131	138	157	126	150	164	146	143	146	160	78	88
10:00	*	*	*	*	78	65	89	63	124	101	97	76	105	133	47	48
11:00	*	*	*	*	37	60	40	52	81	94	53	69	108	94	31	48
Total	0	0	0	0	246	263	5200	5205	5246	5484	5199	5333	5074	4918	4246	3610
Day	0	0	0	0	509		10405		10730		10532		9992		7856	
AM Peak							11:00	09:00	11:00	08:00	11:00	09:00	11:00	11:00	11:00	11:00
Vol.							371	394	314	355	342	370	338	384	404	262
PM Peak					21:00	21:00	16:00	13:00	16:00	16:00	16:00	16:00	16:00	13:00	12:00	13:00
Vol.					131	138	482	372	483	408	482	381	449	399	442	333

NELSON & POPE

572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 2

Site Code:
Station ID:
NYS 25 East of Kromer Rd

Latitude: 0' 0.000 Undefined

Start Time	20-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	20	24	18	28	21	31	*	*	*	*	20	28	*	*	*	*
01:00	14	21	13	22	10	16	*	*	*	*	12	20	*	*	*	*
02:00	13	23	18	30	19	32	*	*	*	*	17	28	*	*	*	*
03:00	10	29	19	22	13	21	*	*	*	*	14	24	*	*	*	*
04:00	15	26	25	17	28	24	*	*	*	*	23	22	*	*	*	*
05:00	64	67	70	70	70	75	*	*	*	*	68	71	*	*	*	*
06:00	136	177	133	175	136	168	*	*	*	*	135	173	*	*	*	*
07:00	218	254	205	307	210	298	*	*	*	*	211	286	*	*	*	*
08:00	228	389	223	377	191	358	*	*	*	*	214	375	*	*	*	*
09:00	205	376	219	379	254	408	*	*	*	*	226	388	*	*	*	*
10:00	288	282	301	351	304	296	*	*	*	*	298	310	*	*	*	*
11:00	375	306	375	284	380	279	*	*	*	*	377	290	*	*	*	*
12:00 PM	387	293	394	303	387	338	*	*	*	*	389	311	*	*	*	*
01:00	382	305	374	367	358	356	*	*	*	*	371	343	*	*	*	*
02:00	318	330	388	307	356	346	*	*	*	*	354	328	*	*	*	*
03:00	399	348	421	318	421	336	*	*	*	*	414	334	*	*	*	*
04:00	465	326	473	350	452	316	*	*	*	*	463	331	*	*	*	*
05:00	393	348	406	354	428	361	*	*	*	*	409	354	*	*	*	*
06:00	280	288	310	259	289	261	*	*	*	*	293	269	*	*	*	*
07:00	242	210	287	225	244	228	*	*	*	*	258	221	*	*	*	*
08:00	178	168	195	158	227	183	*	*	*	*	200	170	*	*	*	*
09:00	123	128	119	154	131	131	*	*	*	*	124	138	*	*	*	*
10:00	79	65	83	81	46	59	*	*	*	*	69	68	*	*	*	*
11:00	30	41	28	60	*	*	*	*	*	*	29	50	*	*	*	*
Total	4862	4824	5097	4998	4975	4921	0	0	0	0	4988	4932	0	0	0	0
Day	9686		10095		9896		0		0		9920		0		0	
AM Peak	11:00	08:00	11:00	09:00	11:00	09:00					11:00	09:00				
Vol.	375	389	375	379	380	408					377	388				
PM Peak	16:00	15:00	16:00	13:00	16:00	17:00					16:00	17:00				
Vol.	465	348	473	367	452	361					463	354				

Comb. Total	9686	10095	10405	10405	10730	20452	9992	7856
ADT	ADT 9,794		AADT 9,794					

NELSON & POPE

572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 1

Site Code:
Station ID:
NYS 25 between Peconic Ave and
Roanoke Ave
Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	*	*	64	70	65	54	64	62	135	133	131	139
01:00	*	*	*	*	*	*	22	26	37	52	30	39	78	69	73	78
02:00	*	*	*	*	*	*	12	14	23	36	18	25	45	40	28	53
03:00	*	*	*	*	*	*	21	26	26	39	24	32	30	35	55	40
04:00	*	*	*	*	*	*	36	49	32	40	34	44	37	38	34	44
05:00	*	*	*	*	*	*	122	141	135	150	128	146	106	115	68	92
06:00	*	*	*	*	*	*	230	356	268	303	249	330	218	239	114	178
07:00	*	*	*	*	*	*	266	448	242	444	254	446	235	291	173	227
08:00	*	*	*	*	*	*	247	502	272	503	260	502	228	403	191	314
09:00	*	*	*	*	*	*	215	529	242	481	228	505	258	441	239	410
10:00	*	*	*	*	*	*	250	501	290	490	270	496	255	453	297	444
11:00	*	*	*	*	*	*	290	471	288	486	289	478	254	511	295	489
12:00 PM	*	*	*	*	*	*	267	480	337	456	302	468	267	489	322	460
01:00	*	*	*	*	*	*	259	505	277	455	268	480	259	402	331	453
02:00	*	*	*	*	*	*	309	455	336	402	322	428	324	388	341	393
03:00	*	*	*	*	*	*	292	428	277	411	284	420	307	414	339	430
04:00	*	*	*	*	*	*	314	461	291	388	302	424	392	412	361	345
05:00	*	*	*	*	*	*	257	479	291	441	274	460	335	406	329	386
06:00	*	*	*	*	*	*	233	501	276	461	254	481	297	433	311	393
07:00	*	*	*	*	*	*	254	425	276	487	265	456	312	435	255	314
08:00	*	*	*	*	*	*	248	372	305	421	276	396	299	348	281	304
09:00	*	*	*	*	*	*	278	329	350	286	314	308	280	294	219	225
10:00	*	*	*	*	156	181	183	223	256	244	198	216	262	253	173	179
11:00	*	*	*	*	96	116	127	129	208	203	144	149	226	220	118	139
Total	0	0	0	0	252	297	4796	7920	5400	7733	5051	7791	5439	7262	5078	6529
Day	0		0		549		12716		13133		12842		12701		11607	
AM Peak							11:00	09:00	10:00	08:00	11:00	09:00	09:00	11:00	10:00	11:00
Vol.							290	529	290	503	289	505	258	511	297	489
PM Peak					22:00	22:00	16:00	13:00	21:00	19:00	14:00	18:00	16:00	12:00	16:00	12:00
Vol.					156	181	314	505	350	487	322	481	392	489	361	460

NELSON & POPE

572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 2

Site Code:
Station ID:
NYS 25 between Peconic Ave and
Roanoke Ave
Latitude: 0' 0.000 Undefined

Start Time	20-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	51	83	61	54	62	73	*	*	*	*	58	70	*	*	*	*
01:00	41	43	25	36	26	34	*	*	*	*	31	38	*	*	*	*
02:00	27	23	14	20	20	21	*	*	*	*	20	21	*	*	*	*
03:00	16	24	26	33	18	28	*	*	*	*	20	28	*	*	*	*
04:00	37	26	45	33	40	39	*	*	*	*	41	33	*	*	*	*
05:00	142	145	146	138	144	129	*	*	*	*	144	137	*	*	*	*
06:00	231	306	242	321	257	346	*	*	*	*	243	324	*	*	*	*
07:00	264	402	253	434	245	437	*	*	*	*	254	424	*	*	*	*
08:00	266	470	270	489	252	535	*	*	*	*	263	498	*	*	*	*
09:00	252	560	217	528	258	486	*	*	*	*	242	525	*	*	*	*
10:00	287	506	247	524	215	524	*	*	*	*	250	518	*	*	*	*
11:00	278	454	259	469	275	441	*	*	*	*	271	455	*	*	*	*
12:00 PM	278	466	290	437	284	478	*	*	*	*	284	460	*	*	*	*
01:00	271	457	290	437	312	476	*	*	*	*	291	457	*	*	*	*
02:00	295	394	316	489	316	401	*	*	*	*	309	428	*	*	*	*
03:00	286	461	319	444	275	447	*	*	*	*	293	451	*	*	*	*
04:00	296	433	314	449	298	429	*	*	*	*	303	437	*	*	*	*
05:00	278	434	291	427	303	383	*	*	*	*	291	415	*	*	*	*
06:00	250	439	274	451	274	468	*	*	*	*	266	453	*	*	*	*
07:00	269	420	288	399	264	427	*	*	*	*	274	415	*	*	*	*
08:00	292	365	278	357	271	370	*	*	*	*	280	364	*	*	*	*
09:00	280	273	272	275	250	295	*	*	*	*	267	281	*	*	*	*
10:00	211	158	199	205	*	*	*	*	*	*	205	182	*	*	*	*
11:00	116	129	98	120	*	*	*	*	*	*	107	124	*	*	*	*
Total	5014	7471	5034	7569	4659	7267	0	0	0	0	5007	7538	0	0	0	0
Day	12485		12603		11926		0		0		12545		0		0	
AM Peak	10:00	09:00	08:00	09:00	11:00	08:00					11:00	09:00				
Vol.	287	560	270	528	275	535					271	525				
PM Peak	16:00	12:00	15:00	14:00	14:00	12:00					14:00	12:00				
Vol.	296	466	319	489	316	478					309	460				

Comb. Total	12485	12603	12475	12716	13133	25387	12701	11607
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ADT	ADT 12,541	AADT 12,541						
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NELSON & POPE

572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 1

Site Code:
Station ID:
NYS 25 east of Howell St

Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	*	*	21	28	32	21	26	24	57	76	65	64
01:00	*	*	*	*	*	*	9	16	19	27	14	22	27	38	31	52
02:00	*	*	*	*	*	*	6	7	11	15	8	11	23	24	21	48
03:00	*	*	*	*	*	*	14	8	18	17	16	12	20	25	37	32
04:00	*	*	*	*	*	*	20	24	19	15	20	20	25	15	21	26
05:00	*	*	*	*	*	*	91	68	83	64	87	66	64	64	34	29
06:00	*	*	*	*	*	*	204	185	234	194	219	190	161	140	91	63
07:00	*	*	*	*	*	*	338	274	286	302	312	288	229	159	125	108
08:00	*	*	*	*	*	*	362	392	362	414	362	403	236	201	153	135
09:00	*	*	*	*	*	*	379	398	401	397	390	398	278	272	197	181
10:00	*	*	*	*	*	*	384	345	408	366	396	356	297	328	261	197
11:00	*	*	*	*	*	*	359	361	441	368	400	364	332	355	313	254
12:00 PM	*	*	*	*	*	*	445	416	471	429	458	422	396	364	348	300
01:00	*	*	*	*	*	*	409	399	429	419	419	409	384	393	360	293
02:00	*	*	*	*	*	*	408	378	460	388	434	383	415	356	363	307
03:00	*	*	*	*	*	*	423	365	417	389	420	377	377	333	352	246
04:00	*	*	*	*	*	*	563	417	566	433	564	425	403	322	288	253
05:00	*	*	*	*	*	*	437	385	465	363	451	374	354	316	234	227
06:00	*	*	*	*	*	*	342	314	399	336	370	325	305	258	212	205
07:00	*	*	*	*	*	*	262	303	292	318	277	310	287	290	207	194
08:00	*	*	*	*	*	*	196	220	285	308	240	264	243	266	153	191
09:00	*	*	*	*	*	*	160	215	226	276	193	246	181	217	102	120
10:00	*	*	*	*	*	*	88	109	140	203	114	156	141	156	72	84
11:00	*	*	*	*	42	63	72	72	106	126	73	87	113	105	50	65
Total	0	0	0	0	42	63	5992	5699	6570	6188	6263	5932	5348	5073	4090	3674
Day	0	0	0	0	105	63	11691	5699	12758	6188	12195	5932	10421	5073	7764	3674
AM Peak							10:00	09:00	11:00	08:00	11:00	08:00	11:00	11:00	11:00	11:00
Vol.							384	398	441	414	400	403	332	355	313	254
PM Peak					23:00	23:00	16:00	16:00	16:00	16:00	16:00	16:00	14:00	13:00	14:00	14:00
Vol.					42	63	563	417	566	433	564	425	415	393	363	307

NELSON & POPE

572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 2

Site Code:
Station ID:
NYS 25 east of Howell St

Latitude: 0' 0.000 Undefined

Start Time	20-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	15	32	32	23	23	30	*	*	*	*	23	28	*	*	*	*
01:00	11	16	16	21	11	19	*	*	*	*	13	19	*	*	*	*
02:00	10	8	12	18	14	15	*	*	*	*	12	14	*	*	*	*
03:00	10	11	17	15	14	9	*	*	*	*	14	12	*	*	*	*
04:00	23	15	24	22	21	29	*	*	*	*	23	22	*	*	*	*
05:00	86	68	85	66	82	59	*	*	*	*	84	64	*	*	*	*
06:00	234	184	218	181	186	169	*	*	*	*	213	178	*	*	*	*
07:00	297	281	278	300	287	237	*	*	*	*	287	273	*	*	*	*
08:00	356	392	342	391	301	329	*	*	*	*	333	371	*	*	*	*
09:00	390	405	367	365	323	343	*	*	*	*	360	371	*	*	*	*
10:00	394	370	370	333	293	263	*	*	*	*	352	322	*	*	*	*
11:00	446	382	407	337	316	316	*	*	*	*	390	345	*	*	*	*
12:00 PM	389	372	433	392	332	305	*	*	*	*	385	356	*	*	*	*
01:00	399	389	402	392	286	280	*	*	*	*	362	354	*	*	*	*
02:00	409	378	422	356	286	265	*	*	*	*	372	333	*	*	*	*
03:00	410	356	383	359	284	244	*	*	*	*	359	320	*	*	*	*
04:00	536	398	440	331	336	251	*	*	*	*	437	327	*	*	*	*
05:00	382	334	358	279	283	250	*	*	*	*	341	288	*	*	*	*
06:00	298	276	304	257	243	226	*	*	*	*	282	253	*	*	*	*
07:00	259	301	228	248	191	223	*	*	*	*	226	257	*	*	*	*
08:00	210	238	194	214	167	189	*	*	*	*	190	214	*	*	*	*
09:00	144	193	150	182	120	159	*	*	*	*	138	178	*	*	*	*
10:00	78	94	80	112	*	*	*	*	*	*	79	103	*	*	*	*
11:00	50	52	48	55	*	*	*	*	*	*	49	54	*	*	*	*
Total	5836	5545	5610	5249	4399	4210	0	0	0	0	5324	5056	0	0	0	0
Day	11381		10859		8609		0		0		10380		0		0	
AM Peak	11:00	09:00	11:00	08:00	09:00	09:00	11:00 08:00									
Vol.	446	405	407	391	323	343	390 371									
PM Peak	16:00	16:00	16:00	12:00	16:00	12:00	16:00 12:00									
Vol.	536	398	440	392	336	305	437 356									

Comb. Total	11381	10859	8714	11691	12758	22575	10421	7764
ADT	ADT 10,812	AADT 10,812						

NELSON & POPE

572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 1

Site Code:
Station ID:
Route 25 East of Sweezy Ave

Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	*	*	*	*	27	35	27	41	27	38	68	69	69	77
01:00	*	*	*	*	*	*	15	22	14	23	14	22	50	49	42	27
02:00	*	*	*	*	*	*	14	25	19	21	16	23	22	28	25	26
03:00	*	*	*	*	*	*	15	21	15	33	15	27	27	22	27	31
04:00	*	*	*	*	*	*	31	26	29	29	30	28	32	32	26	30
05:00	*	*	*	*	*	*	97	148	102	134	100	141	72	92	44	45
06:00	*	*	*	*	*	*	220	343	241	359	230	351	168	252	97	106
07:00	*	*	*	*	*	*	373	419	369	419	371	419	281	259	183	138
08:00	*	*	*	*	*	*	375	472	388	518	382	495	374	361	259	228
09:00	*	*	*	*	*	*	469	561	491	450	480	506	474	403	398	337
10:00	*	*	*	*	*	*	522	454	526	440	524	447	563	506	544	371
11:00	*	*	*	*	*	*	584	477	577	573	580	525	628	605	647	440
12:00 PM	*	*	*	*	*	*	581	550	641	598	611	574	647	637	705	518
01:00	*	*	*	*	*	*	640	592	626	660	633	626	681	667	664	598
02:00	*	*	*	*	*	*	583	547	621	653	602	600	677	618	695	581
03:00	*	*	*	*	*	*	647	568	617	619	632	594	696	555	584	536
04:00	*	*	*	*	*	*	683	536	715	572	699	554	673	590	595	553
05:00	*	*	*	*	*	*	584	556	715	537	650	546	575	548	433	488
06:00	*	*	*	*	*	*	556	478	534	516	545	497	528	490	366	411
07:00	*	*	*	*	*	*	466	405	459	510	462	458	471	444	302	318
08:00	*	*	*	*	*	*	392	375	436	438	414	406	320	325	229	299
09:00	*	*	*	*	*	*	249	290	274	337	262	314	207	354	154	191
10:00	*	*	*	*	*	*	129	157	185	230	157	194	152	223	80	106
11:00	*	*	*	*	49	83	65	68	133	133	82	95	153	155	51	75
Total	0	0	0	0	49	83	8317	8125	8754	8843	8518	8480	8539	8284	7219	6530
Day	0	0	0	0	132		16442		17597		16998		16823		13749	
AM Peak							11:00	09:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00	11:00
Vol.							584	561	577	573	580	525	628	605	647	440
PM Peak					23:00	23:00	16:00	13:00	16:00	13:00	16:00	13:00	15:00	13:00	12:00	13:00
Vol.					49	83	683	592	715	660	699	626	696	667	705	598

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572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 2

Site Code:
Station ID:
Route 25 East of Sweezy Ave

Latitude: 0' 0.000 Undefined

Start Time	20-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun			
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB		
12:00 AM	24	28	29	42	34	37	*	*	*	*	29	36	*	*	*	*		
01:00	13	20	14	20	12	21	*	*	*	*	13	20	*	*	*	*		
02:00	14	21	18	29	18	22	*	*	*	*	17	24	*	*	*	*		
03:00	9	22	20	30	11	22	*	*	*	*	13	25	*	*	*	*		
04:00	24	29	28	20	32	23	*	*	*	*	28	24	*	*	*	*		
05:00	96	123	98	135	96	153	*	*	*	*	97	137	*	*	*	*		
06:00	240	355	242	365	249	354	*	*	*	*	244	358	*	*	*	*		
07:00	347	389	363	420	351	442	*	*	*	*	354	417	*	*	*	*		
08:00	385	483	362	506	375	508	*	*	*	*	374	499	*	*	*	*		
09:00	453	506	469	539	472	563	*	*	*	*	465	536	*	*	*	*		
10:00	543	469	524	522	497	455	*	*	*	*	521	482	*	*	*	*		
11:00	613	496	592	469	639	447	*	*	*	*	615	471	*	*	*	*		
12:00 PM	686	520	672	513	624	539	*	*	*	*	661	524	*	*	*	*		
01:00	615	562	603	600	606	594	*	*	*	*	608	585	*	*	*	*		
02:00	531	572	579	586	618	610	*	*	*	*	576	589	*	*	*	*		
03:00	608	580	652	545	635	555	*	*	*	*	632	560	*	*	*	*		
04:00	712	553	675	537	666	548	*	*	*	*	684	546	*	*	*	*		
05:00	633	577	627	557	685	561	*	*	*	*	648	565	*	*	*	*		
06:00	516	491	529	418	539	491	*	*	*	*	528	467	*	*	*	*		
07:00	450	381	465	423	462	372	*	*	*	*	459	392	*	*	*	*		
08:00	334	364	382	343	385	385	*	*	*	*	367	364	*	*	*	*		
09:00	222	262	251	330	212	286	*	*	*	*	228	293	*	*	*	*		
10:00	131	137	121	180	91	128	*	*	*	*	114	148	*	*	*	*		
11:00	62	77	55	82	*	*	*	*	*	*	58	80	*	*	*	*		
Total	8261	8017	8370	8211	8309	8116	0	0	0	0	8333	8142	0	0	0	0		
Day	16278		16581		16425		0		0		16475		0		0			
AM Peak	11:00	09:00	11:00	09:00	11:00	09:00	11:00										09:00	
Vol.	613	506	592	539	639	563	615										536	
PM Peak	16:00	15:00	16:00	13:00	17:00	14:00	16:00										14:00	
Vol.	712	580	675	600	685	610	684										589	

Comb. Total	16278	16581	16557	16442	17597	33473	16823	13749
ADT	ADT 16,295	AADT 16,295						

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572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 1

Site Code:
Station ID:
NYS 25 west of Tanger Outlet Drive

Latitude: 0' 0.000 Undefined

Start Time	13-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	*	*	*	*	30	11	27	14	28	12	35	39	41	40
01:00	*	*	*	*	*	*	11	10	17	11	14	10	24	28	23	29
02:00	*	*	*	*	*	*	16	10	15	6	16	8	20	10	18	10
03:00	*	*	*	*	*	*	12	12	13	16	12	14	13	17	18	21
04:00	*	*	*	*	*	*	26	17	27	21	26	19	28	26	17	16
05:00	*	*	*	*	*	*	66	42	63	45	64	44	41	26	23	16
06:00	*	*	*	*	*	*	141	105	130	83	136	94	102	66	56	36
07:00	*	*	*	*	*	*	251	150	219	133	235	142	137	107	84	65
08:00	*	*	*	*	*	*	349	147	280	96	314	122	197	98	138	68
09:00	*	*	*	*	*	*	389	180	262	110	326	145	209	132	243	119
10:00	*	*	*	*	*	*	318	205	252	155	285	180	398	218	350	162
11:00	*	*	*	*	*	*	364	234	230	186	297	210	548	220	444	202
12:00 PM	*	*	*	*	*	*	368	241	276	192	322	216	503	248	465	292
01:00	*	*	*	*	*	*	248	198	242	195	245	196	522	315	447	302
02:00	*	*	*	*	*	*	231	214	222	221	226	218	493	346	355	352
03:00	*	*	*	*	*	*	206	238	226	219	216	228	384	361	327	340
04:00	*	*	*	*	*	*	204	257	201	249	202	253	360	373	264	318
05:00	*	*	*	*	*	*	216	251	222	257	219	254	309	354	201	278
06:00	*	*	*	*	*	*	196	187	192	215	194	201	276	271	170	210
07:00	*	*	*	*	*	*	148	198	200	197	174	198	207	296	125	160
08:00	*	*	*	*	*	*	125	167	127	185	126	176	117	216	122	205
09:00	*	*	*	*	*	*	88	173	71	201	80	187	95	229	62	86
10:00	*	*	*	*	58	81	59	72	66	107	61	87	83	139	54	46
11:00	*	*	*	*	47	44	47	30	71	77	55	50	68	91	46	31
Total	0	0	0	0	105	125	4109	3349	3651	3191	3873	3264	5169	4226	4093	3404
Day	0	0	0	0	230		7458		6842		7137		9395		7497	
AM Peak							09:00	11:00	08:00	11:00	09:00	11:00	11:00	11:00	11:00	11:00
Vol.							389	234	280	186	326	210	548	220	444	202
PM Peak					22:00	22:00	12:00	16:00	12:00	17:00	12:00	17:00	13:00	16:00	12:00	14:00
Vol.					58	81	368	257	276	257	322	254	522	373	465	352

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572 Walt Whitman Road
Melville NY, 11747
631 427 5665

Page 2

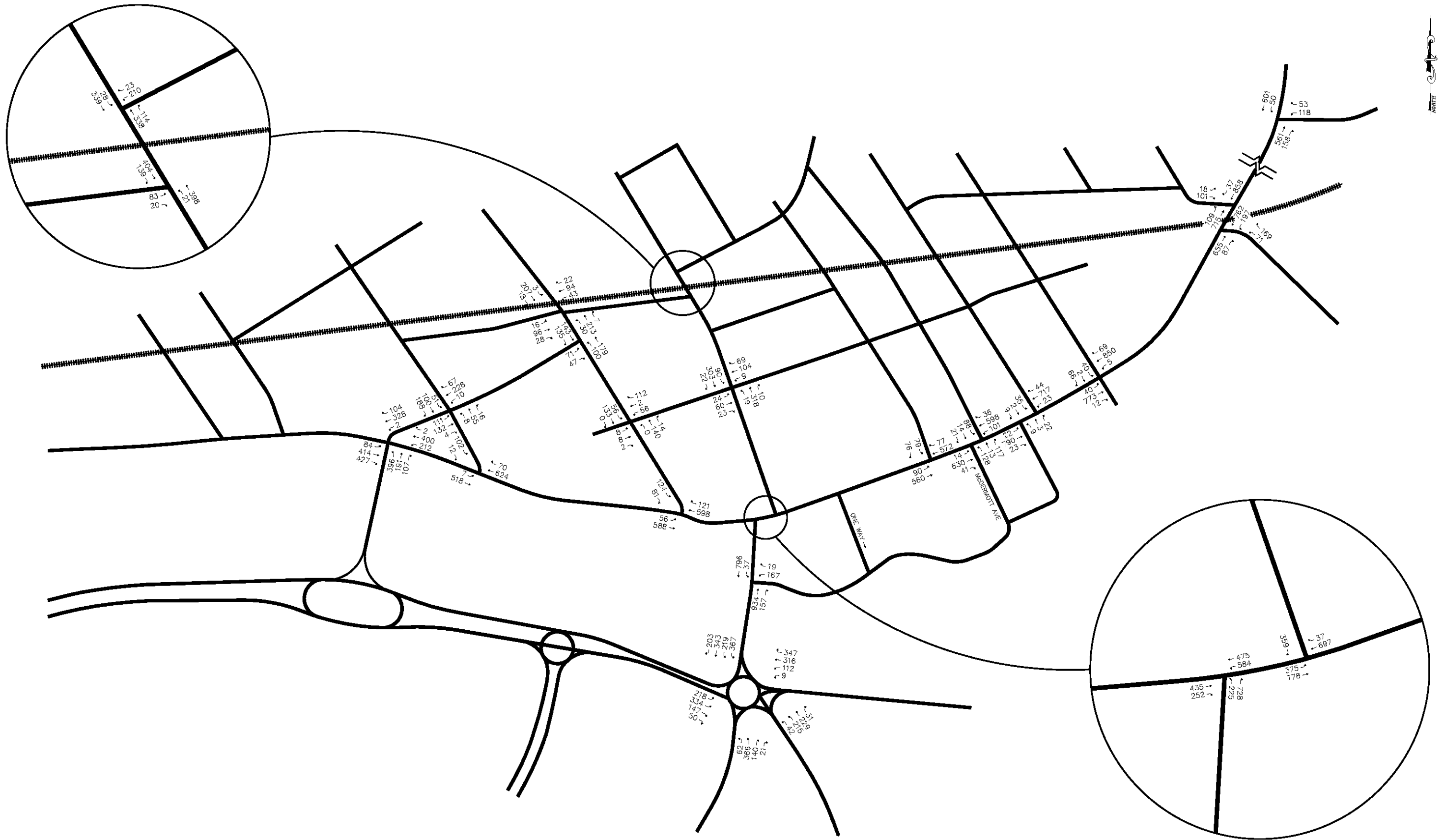
Site Code:
Station ID:
NYS 25 west of Tanger Outlet Drive

Latitude: 0' 0.000 Undefined

Start Time	20-May-13		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	26	16	33	11	32	15	*	*	*	*	30	14	*	*	*	*
01:00	21	10	16	5	15	10	*	*	*	*	17	8	*	*	*	*
02:00	12	10	15	13	15	10	*	*	*	*	14	11	*	*	*	*
03:00	16	9	14	18	11	15	*	*	*	*	14	14	*	*	*	*
04:00	24	14	25	25	21	17	*	*	*	*	23	19	*	*	*	*
05:00	65	48	64	59	70	55	*	*	*	*	66	54	*	*	*	*
06:00	151	100	146	101	156	100	*	*	*	*	151	100	*	*	*	*
07:00	234	173	265	146	261	155	*	*	*	*	253	158	*	*	*	*
08:00	394	161	350	145	369	126	*	*	*	*	371	144	*	*	*	*
09:00	358	129	387	158	381	160	*	*	*	*	375	149	*	*	*	*
10:00	352	199	354	194	329	205	*	*	*	*	345	199	*	*	*	*
11:00	303	233	311	253	341	276	*	*	*	*	318	254	*	*	*	*
12:00 PM	342	276	335	283	364	254	*	*	*	*	347	271	*	*	*	*
01:00	280	256	353	283	331	266	*	*	*	*	321	268	*	*	*	*
02:00	295	279	307	286	316	314	*	*	*	*	306	293	*	*	*	*
03:00	302	316	297	340	326	318	*	*	*	*	308	325	*	*	*	*
04:00	301	359	301	384	307	383	*	*	*	*	303	375	*	*	*	*
05:00	304	379	294	346	322	379	*	*	*	*	307	368	*	*	*	*
06:00	227	235	237	227	219	237	*	*	*	*	228	233	*	*	*	*
07:00	176	204	180	242	191	195	*	*	*	*	182	214	*	*	*	*
08:00	130	153	138	182	135	197	*	*	*	*	134	177	*	*	*	*
09:00	79	195	96	188	70	202	*	*	*	*	82	195	*	*	*	*
10:00	40	69	74	91	49	77	*	*	*	*	54	79	*	*	*	*
11:00	38	37	52	31	*	*	*	*	*	*	45	34	*	*	*	*
Total	4470	3860	4644	4011	4631	3966	0	0	0	0	4594	3956	0	0	0	0
Day	8330		8655		8597		0		0		8550		0		0	
AM Peak	08:00	11:00	09:00	11:00	09:00	11:00					09:00	11:00				
Vol.	394	233	387	253	381	276					375	254				
PM Peak	12:00	17:00	13:00	16:00	12:00	16:00					12:00	16:00				
Vol.	342	379	353	384	364	383					347	375				

Comb. Total	8330	8655	8827	7458	6842	15687	9395	7497
-------------	------	------	------	------	------	-------	------	------

ADT	ADT 8,030	AADT 8,030					
-----	-----------	------------	--	--	--	--	--



CONSULTANT:



NELSON & POPE
ENGINEERS • SURVEYORS

572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188
631.427.5865 WWW.NELSONPOPE.COM FAX 631.427.5820

DWN BY: MCM

CHK'D BY: -

DATE: -

JOB No: 12207

CADD: -

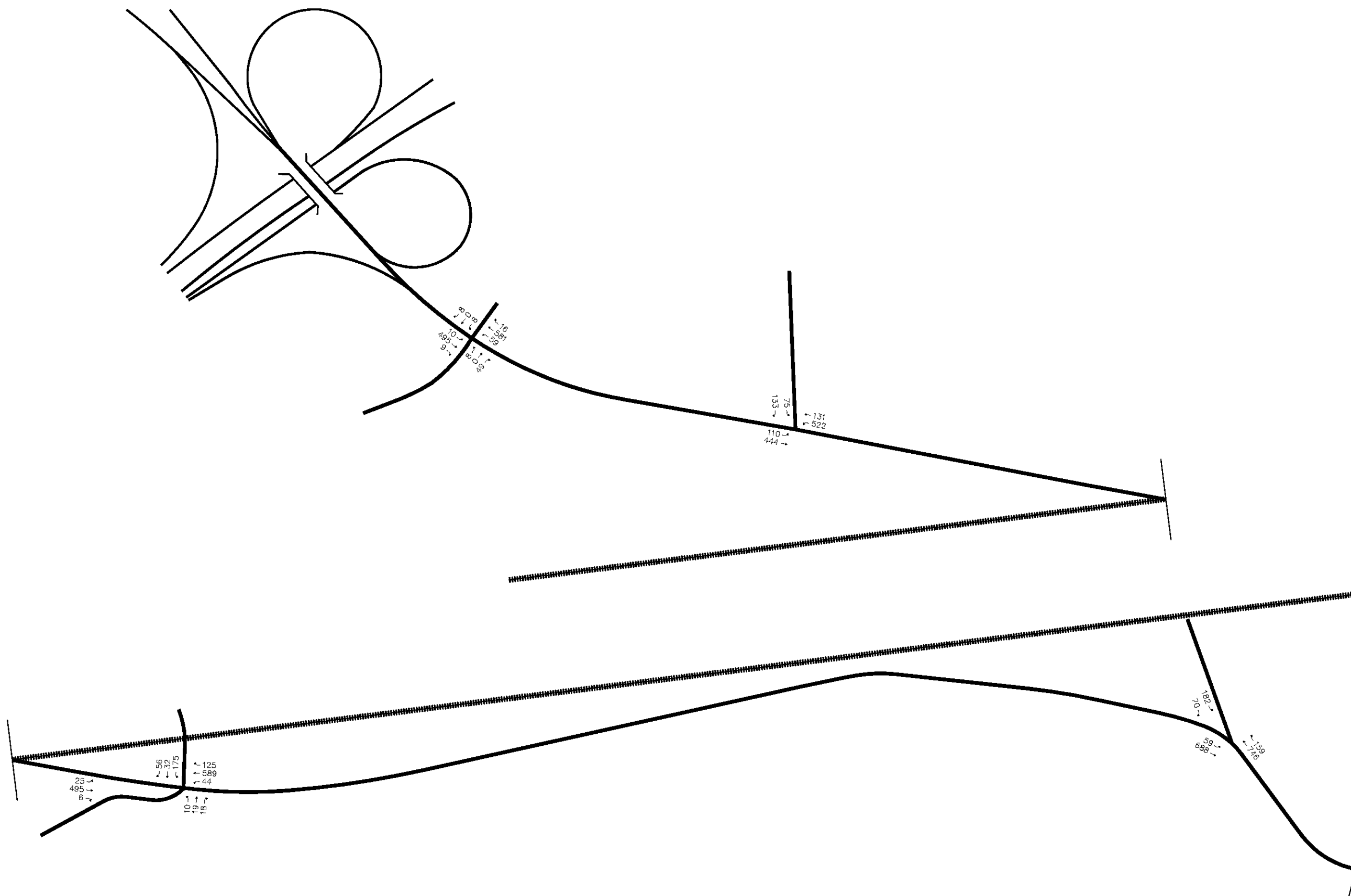
SCALE: NTB

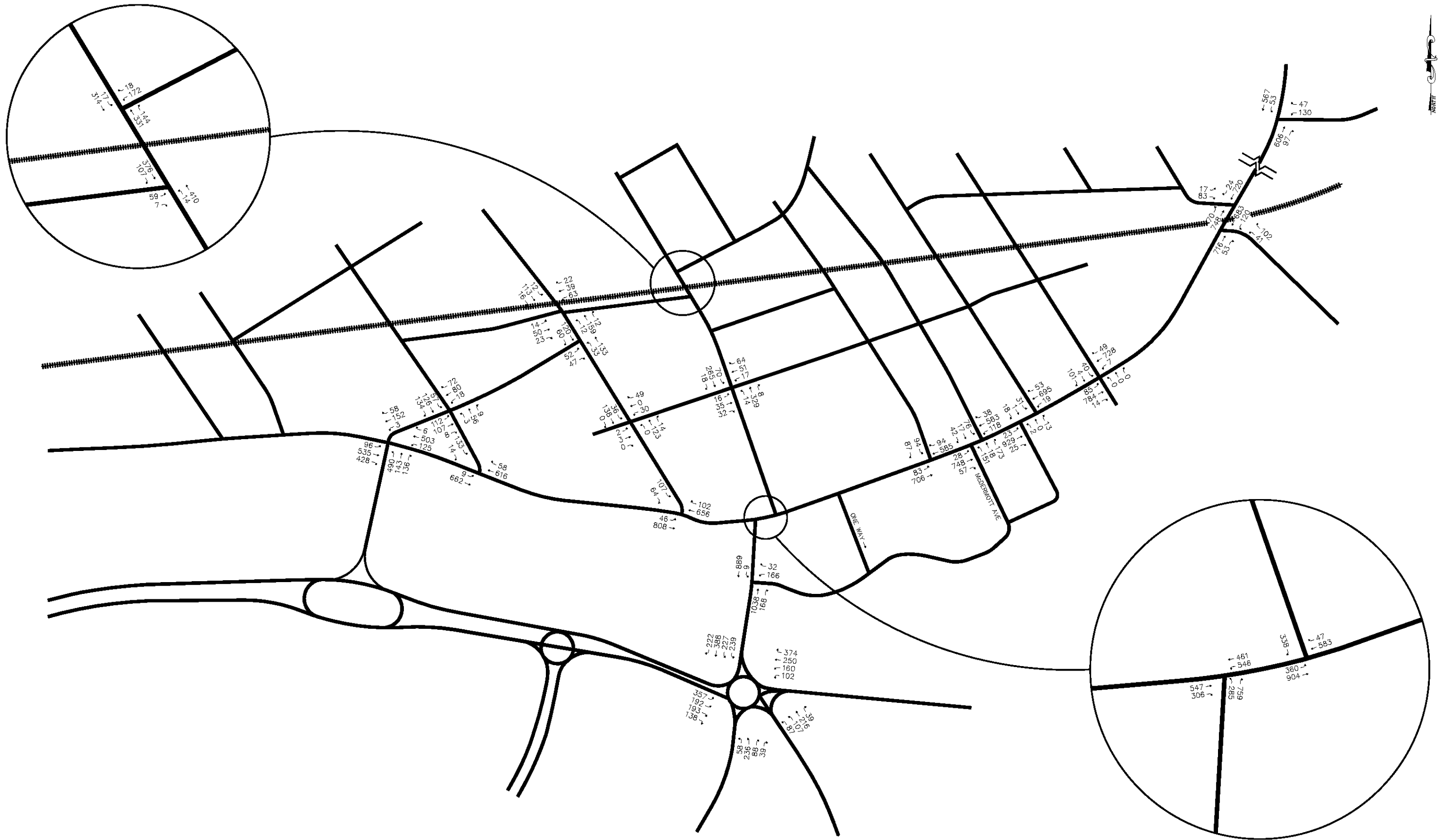
DRAWING TITLE:

PM BUILD

DRAWING NUMBER:

FIG-A1





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DWN BY: MCM

CHK'D BY: -

DATE: -

JOB No: 12207

CADD: -

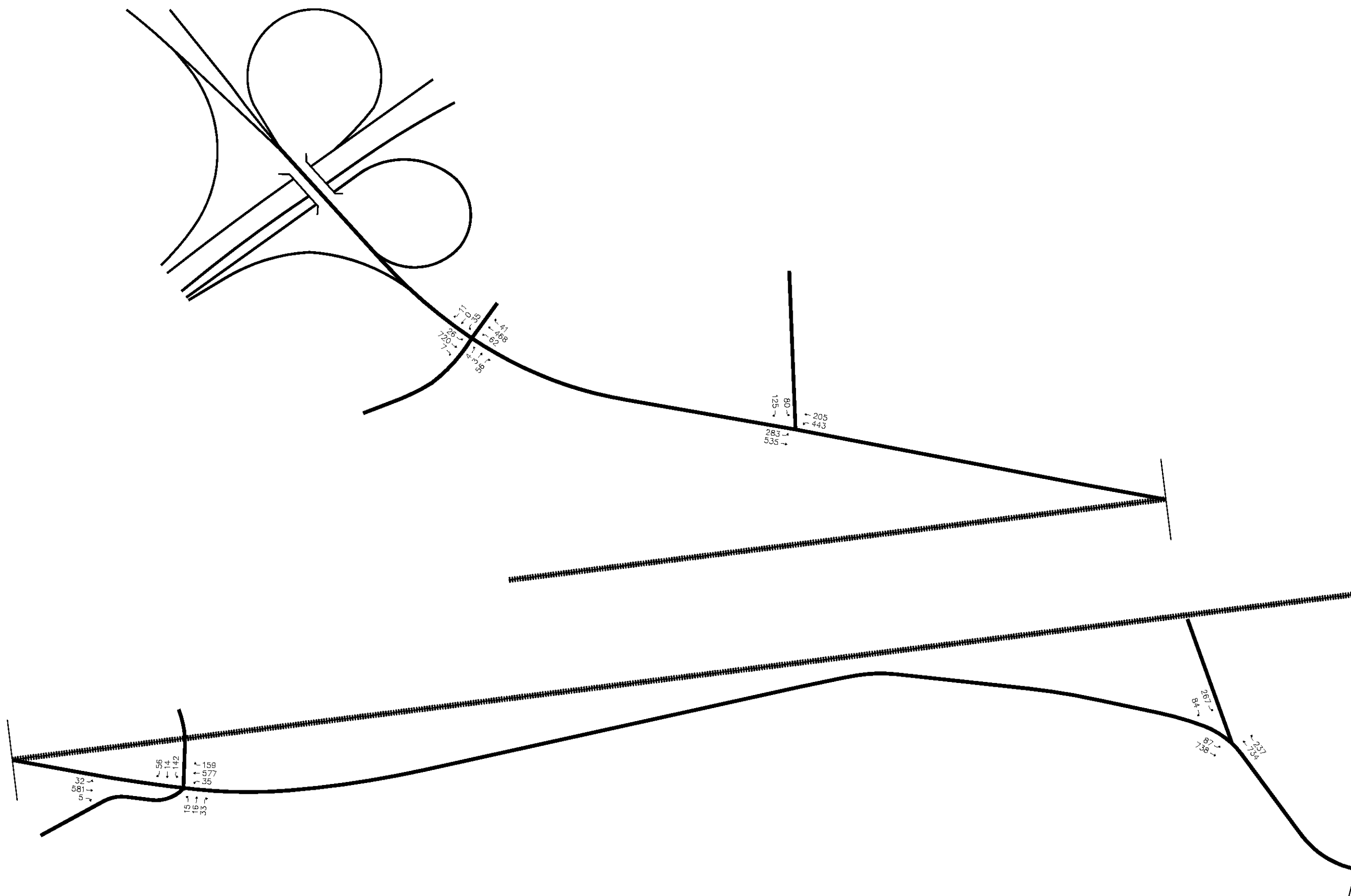
SCALE: NTB

DRAWING TITLE:

SATURDAY BUILD

DRAWING NUMBER:

FIG-A3



CONSULTANT:



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631.427.5865 WWW.NELSONPOPE.COM FAX 631.427.5820

DWN BY: MCM

CHK'D BY: -

DATE: -

JOB No: 12207

CADD: -

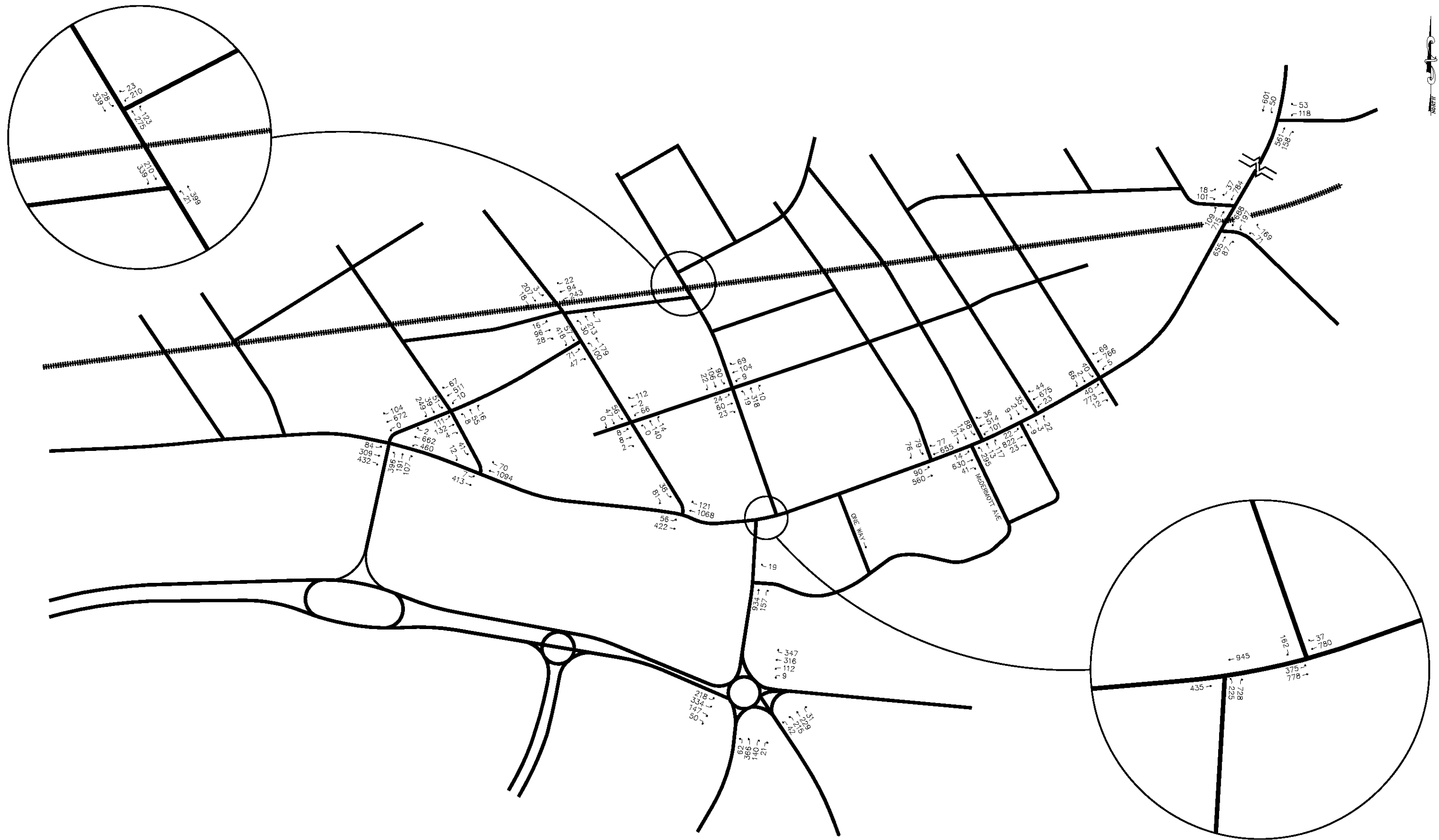
SCALE: NTB

DRAWING TITLE:

SATURDAY BUILD

DRAWING NUMBER:

FIG-A4



CONSULTANT:



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631.427.5865 WWW.NELSONPOPE.COM FAX 631.427.5820

DWN BY: MCM

CHK'D BY: -

DATE: -

JOB No: 12207

CADD: -

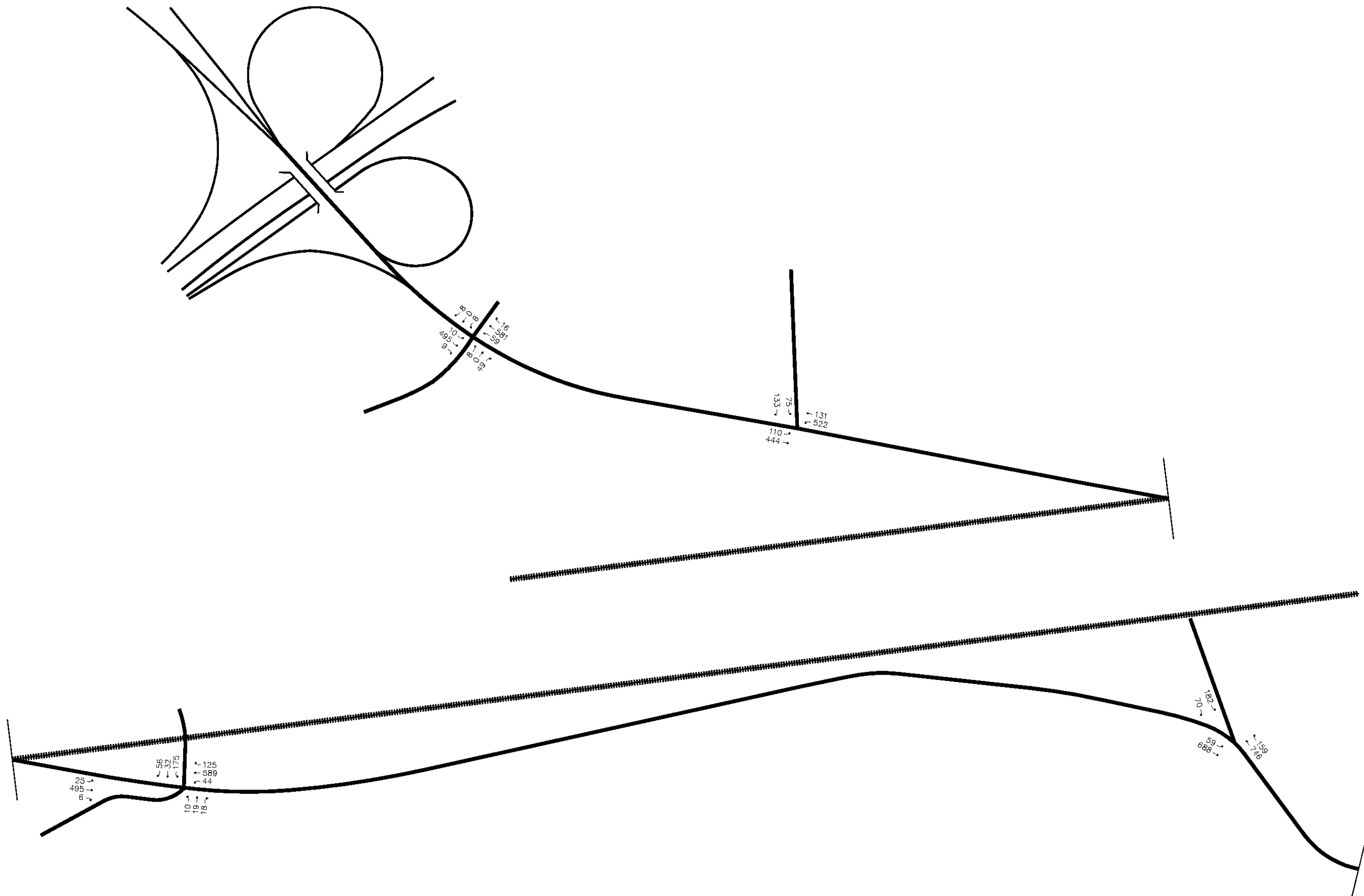
SCALE: NTB

DRAWING TITLE:

PM BUILD - MITIGATION 1
ONE WAY PECONIC

DRAWING NUMBER:

FIG-A5



CONSULTANT:



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631.427.5865 WWW.NELSONPOPE.COM FAX 631.427.5820

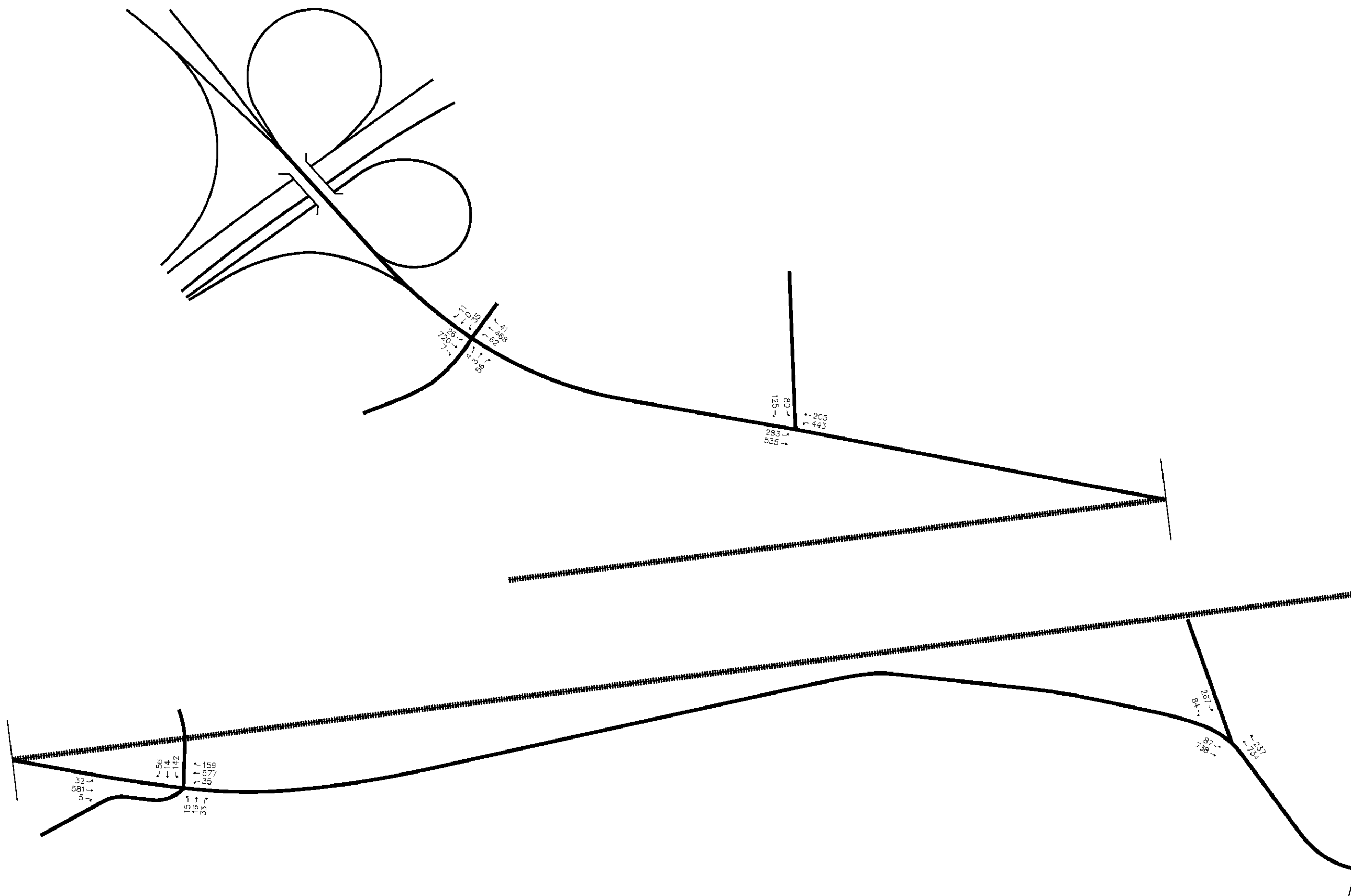
DWN BY:	MCM
CHK'D BY:	-
DATE:	-
JOB No:	12207
CADD:	-
SCALE:	NTS

DRAWING TITLE:

PM BUILD - MITIGATION 1
ONE WAY PECONIC

DRAWING NUMBER:

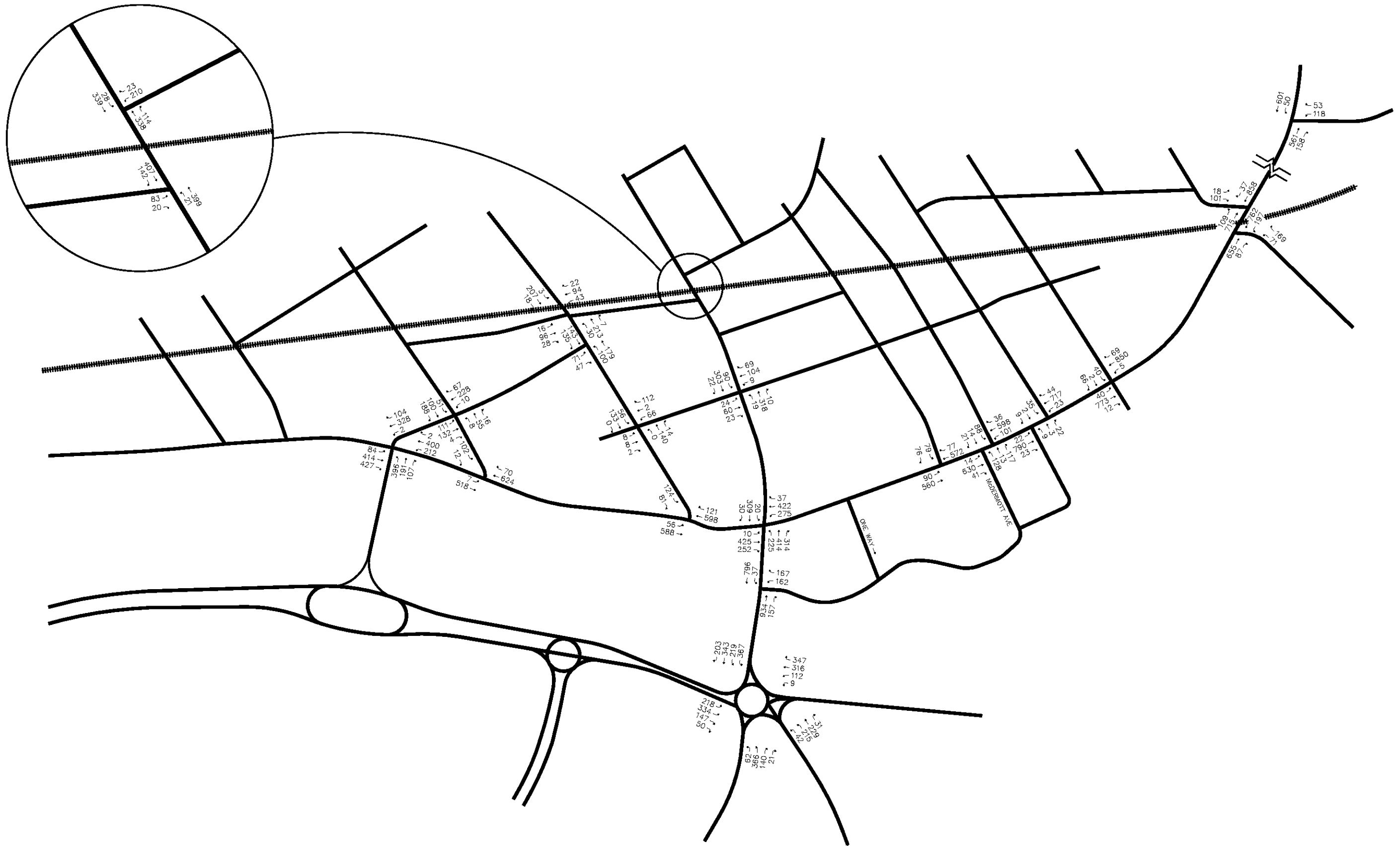
FIG-A6

**N&P**

DWN. BY:	WCM
CHK'D BY:	-
DATE:	-
JOB No:	12207
CADD:	-
SCALE:	NTB

	DRAWING NUMBER:
--	-----------------

FIG-A8



CONSULTANT:



NELSON & POPE
ENGINEERS • SURVEYORS
572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188
631.427.5865 WWW.NELSONPOPE.COM FAX 631.427.5820

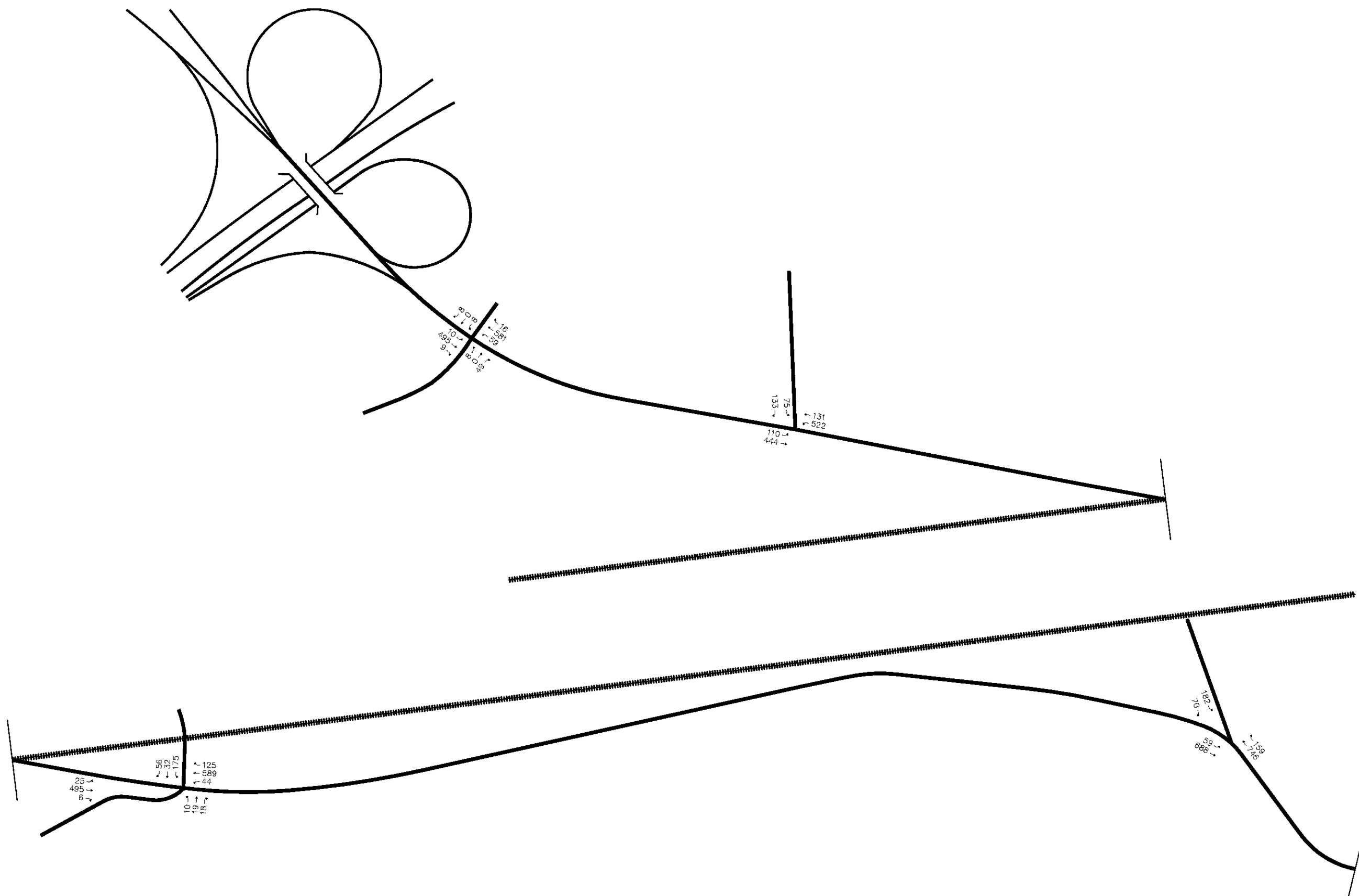
DWN BY:	MCM
CHK'D BY:	-
DATE:	-
JOB No:	12207
CADD:	-
SCALE:	NTB

DRAWING TITLE:

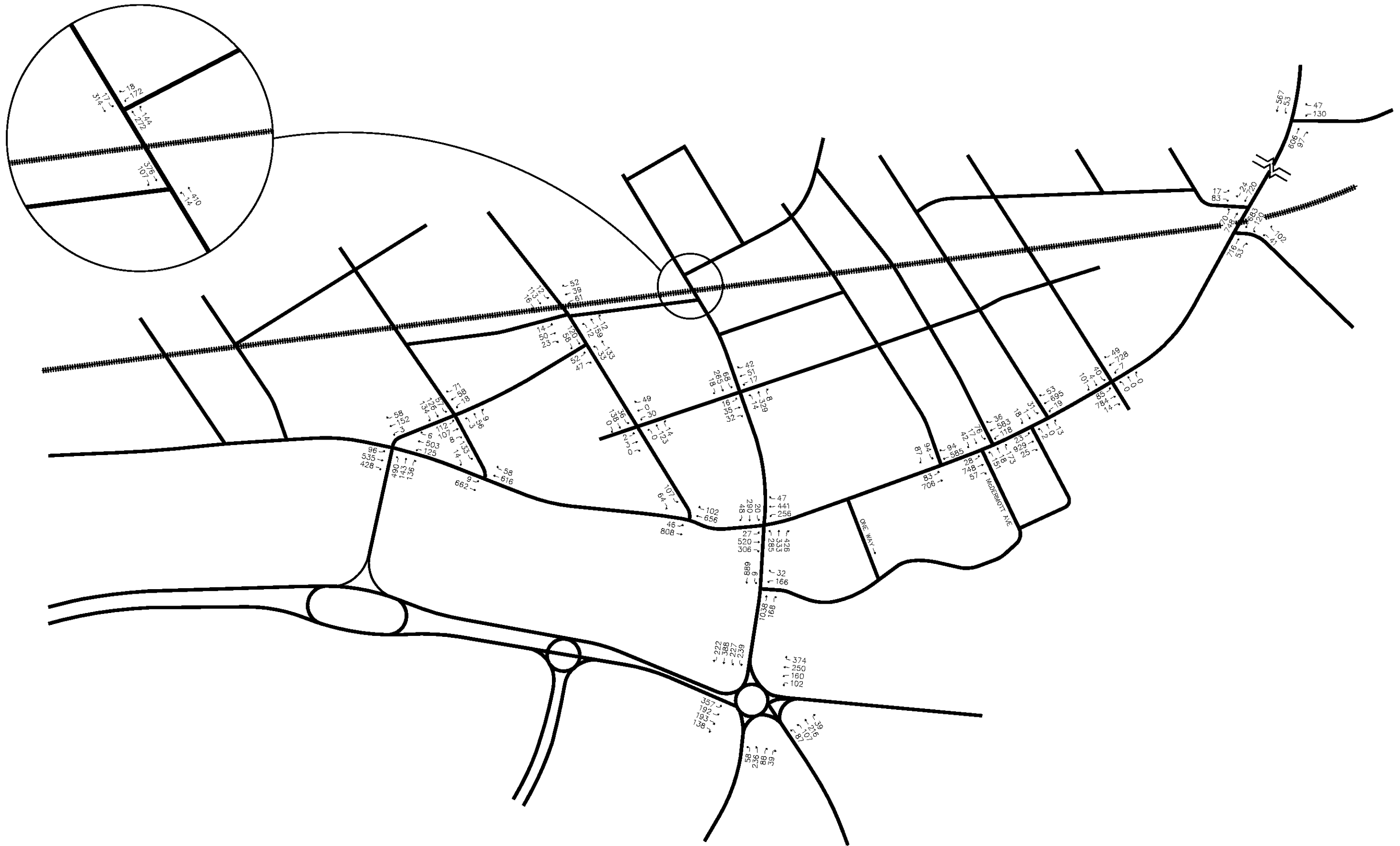
PM MITIGATION 2 - REALIGNED

DRAWING NUMBER:

FIG-A9



CONSULTANT:		DRAWING TITLE:		DRAWING NUMBER: FIG-A10
	NELSON & POPE	DWN BY:	MCM	
	ENGINEERS • SURVEYORS	CHK'D BY:	-	
	572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188	DATE:	-	
	631.427.5865 WWW.NELSONPOPE.COM FAX 631.427.5820	JOB No:	12207	
		CADD:	-	
		SCALE:	NTS	



CONSULTANT:



NELSON & POPE
ENGINEERS • SURVEYORS

572 WALT WHITMAN ROAD, MELVILLE, N.Y. 11747-2188
631.427.5865 WWW.NELSONPOPE.COM FAX 631.427.5820

DWN BY: MCM

CHK'D BY: -

DATE: -

JOB No: 12207

CADD: -

SCALE: NTB

DRAWING TITLE:

SATURDAY MITIGATION 2 - REALIGNED

DRAWING NUMBER:

FIG-A11

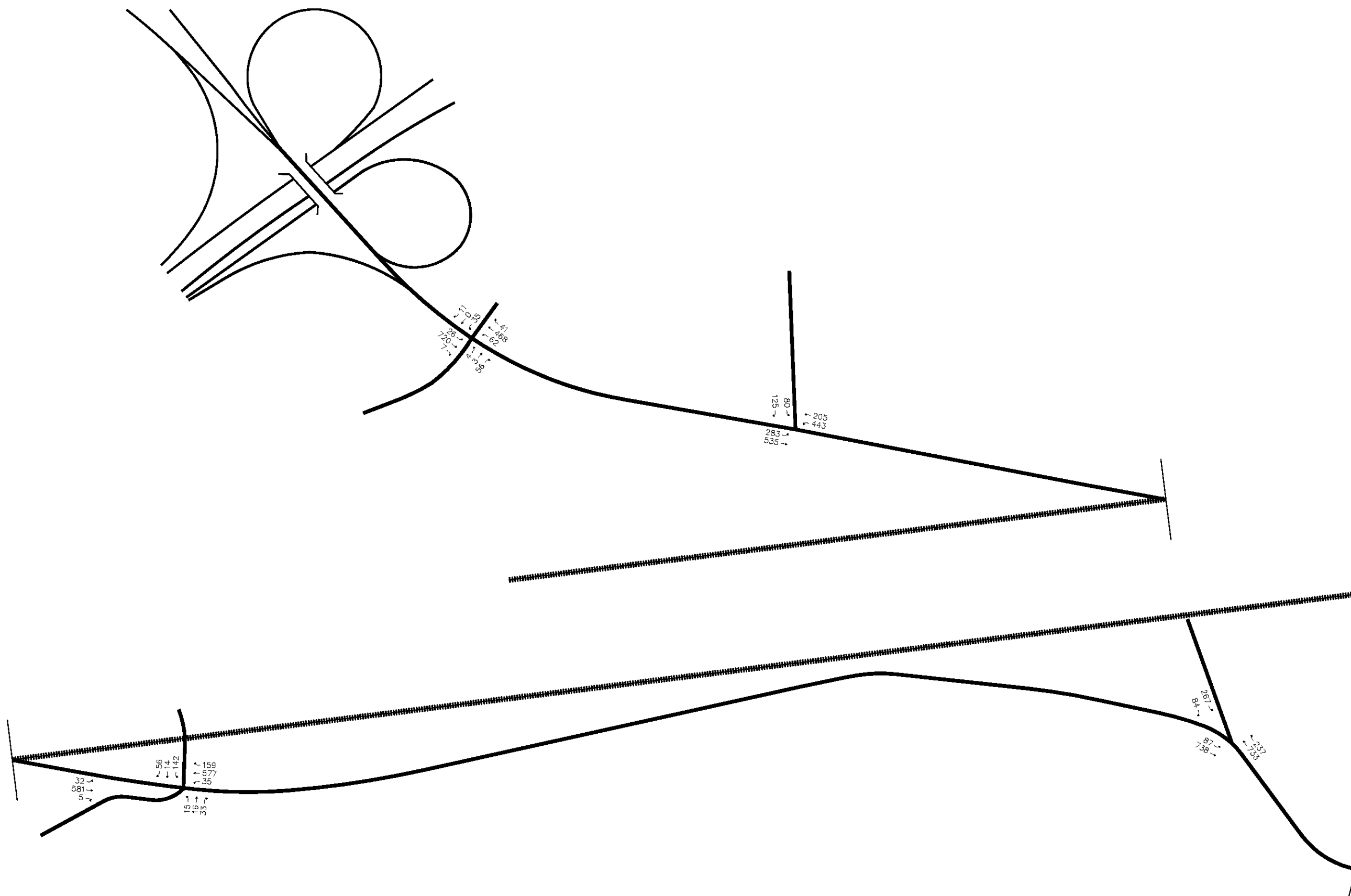


FIG-A12

Appendix B: Trip Generation

21

22

23

24

Riverhead Full Build Out - Alternative 1

Trip Gen Breakdown

		Retail		Office		Residential		Recreational		Lodging		Industrial		Restaurant		Total	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Eastern	AM	-2	-1			3	17					-3	0			-2	16
	PM	-3	-4			15	7					0	-3			12	0
	Sat	-4	-5			28	24					0	0			24	19
Downtown	AM	47	32	97	13	41	171							18	18	203	234
	PM	75	80	23	111	166	91							125	62	389	344
	Sat	100	101	0	0	107	108							157	111	364	320
Central	AM	44	30			-1	-1			2	3			2	3	47	35
	PM	71	75			-2	-1			3	2			17	8	89	84
	Sat	94	95			-2	-1			3	2			21	15	116	111
Western	AM	19	13					5	8	6	12	-17	-3			13	30
	PM	30	32					12	6	18	10	-3	-18			57	30
	Sat	40	40					9	9	14	14	-1	-2			62	61

Trip Gen by Area

		In	Out	Total
Eastern	AM	-2	16	13
	PM	12	0	12
	Sat	24	19	43
Downtown	AM	203	234	437
	PM	389	344	733
	Sat	364	320	685
Central	AM	47	35	83
	PM	89	84	173
	Sat	116	111	227
Western	AM	13	30	43
	PM	57	30	87
	Sat	62	61	123

Overall Trip Gen

	In	Out	Total
AM	261	315	576
PM	547	458	1005
Sat	566	512	1078

Detailed Average Rate Trip Calculations
For 50.028 Th.Sq.Ft. GFA of General Office Building(710) - [E]

Project: Riverhead - Office
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	15.50	0.00	1.00	776
7-9 AM Peak Hour Enter	1.93	0.00	1.00	97
7-9 AM Peak Hour Exit	0.26	0.00	1.00	13
7-9 AM Peak Hour Total	2.20	0.00	1.00	110
4-6 PM Peak Hour Enter	0.46	0.00	1.00	23
4-6 PM Peak Hour Exit	2.23	0.00	1.00	111
4-6 PM Peak Hour Total	2.69	0.00	1.00	134
AM Pk Hr, Generator, Enter	0.00	0.00	1.00	0
AM Pk Hr, Generator, Exit	0.00	0.00	1.00	0
AM Pk Hr, Generator, Total	0.00	0.00	1.00	0
PM Pk Hr, Generator, Enter	0.00	0.00	1.00	0
PM Pk Hr, Generator, Exit	0.00	0.00	1.00	0
PM Pk Hr, Generator, Total	0.00	0.00	1.00	0
Saturday 2-Way Volume	2.66	0.00	1.00	133
Saturday Peak Hour Enter	0.00	0.00	1.00	0
Saturday Peak Hour Exit	0.00	0.00	1.00	0
Saturday Peak Hour Total	0.00	0.00	1.00	0
Sunday 2-Way Volume	0.00	0.00	1.00	0
Sunday Peak Hour Enter	0.00	0.00	1.00	0
Sunday Peak Hour Exit	0.00	0.00	1.00	0
Sunday Peak Hour Total	0.00	0.00	1.00	0

The above rates were calculated from these equations:

24-Hr. 2-Way Volume: $LN(T) = .76LN(X) + 3.68, R^2 = 0.81$
7-9 AM Peak Hr. Total: $LN(T) = .8LN(X) + 1.57$
 $R^2 = 0.83, 0.88$ Enter, 0.12 Exit
4-6 PM Peak Hr. Total: $T = 1.12(X) + 78.45$
 $R^2 = 0.82, 0.17$ Enter, 0.83 Exit
AM Gen Pk Hr. Total: 0
 $R^2 = 0, 0$ Enter, 0 Exit
PM Gen Pk Hr. Total: 0
 $R^2 = 0, 0$ Enter, 0 Exit
Sat. 2-Way Volume: $T = 2.03(X) + 31.75, R^2 = 0.64$
Sat. Pk Hr. Total: 0
 $R^2 = 0, 0$ Enter, 0 Exit
Sun. 2-Way Volume: 0, $R^2 = 0$
Sun. Pk Hr. Total: 0
 $R^2 = 0, 0$ Enter, 0 Exit

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

Detailed Average Rate Trip Calculations
For 3 Dwelling Units of Single Family Detached Housing(210) - [R]

Project:
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	9.52	3.70	1.00	29
7-9 AM Peak Hour Enter	0.19	0.00	1.00	1
7-9 AM Peak Hour Exit	0.56	0.00	1.00	1
7-9 AM Peak Hour Total	0.75	0.90	1.00	2
4-6 PM Peak Hour Enter	0.63	0.00	1.00	2
4-6 PM Peak Hour Exit	0.37	0.00	1.00	1
4-6 PM Peak Hour Total	1.00	1.05	1.00	3
AM Pk Hr, Generator, Enter	0.20	0.00	1.00	1
AM Pk Hr, Generator, Exit	0.57	0.00	1.00	1
AM Pk Hr, Generator, Total	0.77	0.91	1.00	2
PM Pk Hr, Generator, Enter	0.65	0.00	1.00	2
PM Pk Hr, Generator, Exit	0.37	0.00	1.00	1
PM Pk Hr, Generator, Total	1.02	1.05	1.00	3
Saturday 2-Way Volume	9.91	3.72	1.00	30
Saturday Peak Hour Enter	0.50	0.00	1.00	2
Saturday Peak Hour Exit	0.43	0.00	1.00	1
Saturday Peak Hour Total	0.93	0.99	1.00	3
Sunday 2-Way Volume	8.62	3.36	1.00	26
Sunday Peak Hour Enter	0.46	0.00	1.00	1
Sunday Peak Hour Exit	0.40	0.00	1.00	2
Sunday Peak Hour Total	0.86	0.95	1.00	3

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Detailed Average Rate Trip Calculations
For 1 Dwelling Units of Single Family Detached Housing(210) - [R]

Project:
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	9.52	3.70	1.00	10
7-9 AM Peak Hour Enter	0.19	0.00	1.00	0
7-9 AM Peak Hour Exit	0.56	0.00	1.00	1
7-9 AM Peak Hour Total	0.75	0.90	1.00	1
4-6 PM Peak Hour Enter	0.63	0.00	1.00	1
4-6 PM Peak Hour Exit	0.37	0.00	1.00	0
4-6 PM Peak Hour Total	1.00	1.05	1.00	1
AM Pk Hr, Generator, Enter	0.20	0.00	1.00	0
AM Pk Hr, Generator, Exit	0.57	0.00	1.00	1
AM Pk Hr, Generator, Total	0.77	0.91	1.00	1
PM Pk Hr, Generator, Enter	0.65	0.00	1.00	1
PM Pk Hr, Generator, Exit	0.37	0.00	1.00	0
PM Pk Hr, Generator, Total	1.02	1.05	1.00	1
Saturday 2-Way Volume	9.91	3.72	1.00	10
Saturday Peak Hour Enter	0.50	0.00	1.00	1
Saturday Peak Hour Exit	0.43	0.00	1.00	0
Saturday Peak Hour Total	0.93	0.99	1.00	1
Sunday 2-Way Volume	8.62	3.36	1.00	9
Sunday Peak Hour Enter	0.46	0.00	1.00	0
Sunday Peak Hour Exit	0.40	0.00	1.00	0
Sunday Peak Hour Total	0.86	0.95	1.00	1

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Detailed Average Rate Trip Calculations
For 28 Dwelling Units of Residential Condominium / Townhouse(230) - [E]

Project: Riverhead - Townhouse
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	7.59	0.00	1.00	213
7-9 AM Peak Hour Enter	0.11	0.00	1.00	3
7-9 AM Peak Hour Exit	0.55	0.00	1.00	16
7-9 AM Peak Hour Total	0.67	0.00	1.00	19
4-6 PM Peak Hour Enter	0.51	0.00	1.00	14
4-6 PM Peak Hour Exit	0.25	0.00	1.00	7
4-6 PM Peak Hour Total	0.76	0.00	1.00	21
AM Pk Hr, Generator, Enter	0.12	0.00	1.00	3
AM Pk Hr, Generator, Exit	0.52	0.00	1.00	15
AM Pk Hr, Generator, Total	0.64	0.00	1.00	18
PM Pk Hr, Generator, Enter	1.04	0.00	1.00	29
PM Pk Hr, Generator, Exit	0.58	0.00	1.00	16
PM Pk Hr, Generator, Total	1.62	0.00	1.00	45
Saturday 2-Way Volume	18.90	0.00	1.00	529
Saturday Peak Hour Enter	0.98	0.00	1.00	27
Saturday Peak Hour Exit	0.83	0.00	1.00	24
Saturday Peak Hour Total	1.81	0.00	1.00	51
Sunday 2-Way Volume	15.89	0.00	1.00	445
Sunday Peak Hour Enter	0.99	0.00	1.00	28
Sunday Peak Hour Exit	1.03	0.00	1.00	28
Sunday Peak Hour Total	2.02	0.00	1.00	56

The above rates were calculated from these equations:

24-Hr. 2-Way Volume: $LN(T) = .87LN(X) + 2.46, R^2 = 0.8$
7-9 AM Peak Hr. Total: $LN(T) = .8LN(X) + .26$
 $R^2 = 0.76, 0.17$ Enter, 0.83 Exit
4-6 PM Peak Hr. Total: $LN(T) = .82LN(X) + .32$
 $R^2 = 0.8, 0.67$ Enter, 0.33 Exit
AM Gen Pk Hr. Total: $LN(T) = .82LN(X) + .15$
 $R^2 = 0.8, 0.19$ Enter, 0.81 Exit
PM Gen Pk Hr. Total: $T = .34(X) + 35.87$
 $R^2 = 0.82, 0.64$ Enter, 0.36 Exit
Sat. 2-Way Volume: $T = 3.62(X) + 427.93, R^2 = 0.84$
Sat. Pk Hr. Total: $T = .29(X) + 42.63$
 $R^2 = 0.84, 0.54$ Enter, 0.46 Exit
Sun. 2-Way Volume: $T = 3.13(X) + 357.26, R^2 = 0.88$
Sun. Pk Hr. Total: $T = .23(X) + 50.01$
 $R^2 = 0.78, 0.49$ Enter, 0.51 Exit

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

Detailed Average Rate Trip Calculations
For 420 Dwelling Units of Apartments(220) - [R]

Project: Riverhead - Apartments
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	6.65	3.07	1.00	2793
7-9 AM Peak Hour Enter	0.10	0.00	1.00	42
7-9 AM Peak Hour Exit	0.41	0.00	1.00	172
7-9 AM Peak Hour Total	0.51	0.73	1.00	214
4-6 PM Peak Hour Enter	0.40	0.00	1.00	168
4-6 PM Peak Hour Exit	0.22	0.00	1.00	92
4-6 PM Peak Hour Total	0.62	0.82	1.00	260
AM Pk Hr, Generator, Enter	0.16	0.00	1.00	67
AM Pk Hr, Generator, Exit	0.39	0.00	1.00	164
AM Pk Hr, Generator, Total	0.55	0.76	1.00	231
PM Pk Hr, Generator, Enter	0.41	0.00	1.00	172
PM Pk Hr, Generator, Exit	0.26	0.00	1.00	109
PM Pk Hr, Generator, Total	0.67	0.85	1.00	281
Saturday 2-Way Volume	6.39	2.99	1.00	2684
Saturday Peak Hour Enter	0.00	0.00	1.00	0
Saturday Peak Hour Exit	0.00	0.00	1.00	0
Saturday Peak Hour Total	0.52	0.74	1.00	218
Sunday 2-Way Volume	5.86	2.73	1.00	2461
Sunday Peak Hour Enter	0.00	0.00	1.00	0
Sunday Peak Hour Exit	0.00	0.00	1.00	0
Sunday Peak Hour Total	0.51	0.75	1.00	214

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Detailed Average Rate Trip Calculations
For 63 Occupied Camp Sites of Campground / RV Park(416) - [E]

Project:

Open Date:

Phase:

Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	0.00	0.00	1.00	0
7-9 AM Peak Hour Enter	0.07	0.00	1.00	5
7-9 AM Peak Hour Exit	0.13	0.00	1.00	8
7-9 AM Peak Hour Total	0.21	0.00	1.00	13
4-6 PM Peak Hour Enter	0.18	0.00	1.00	12
4-6 PM Peak Hour Exit	0.10	0.00	1.00	6
4-6 PM Peak Hour Total	0.28	0.00	1.00	18
AM Pk Hr, Generator, Enter	0.10	0.00	1.00	6
AM Pk Hr, Generator, Exit	0.18	0.00	1.00	11
AM Pk Hr, Generator, Total	0.28	0.00	1.00	17
PM Pk Hr, Generator, Enter	0.00	0.00	1.00	0
PM Pk Hr, Generator, Exit	0.00	0.00	1.00	0
PM Pk Hr, Generator, Total	0.00	0.00	1.00	0
Saturday 2-Way Volume	0.00	0.00	1.00	0
Saturday Peak Hour Enter	0.00	0.00	1.00	0
Saturday Peak Hour Exit	0.00	0.00	1.00	0
Saturday Peak Hour Total	0.00	0.00	1.00	0
Sunday 2-Way Volume	0.00	0.00	1.00	0
Sunday Peak Hour Enter	0.00	0.00	1.00	0
Sunday Peak Hour Exit	0.00	0.00	1.00	0
Sunday Peak Hour Total	0.00	0.00	1.00	0

The above rates were calculated from these equations:

24-Hr. 2-Way Volume: 0, $R^2 = 0$
 7-9 AM Peak Hr. Total: $T = .16(X) + 2.93$
 $R^2 = 0.96$, 0.36 Enter, 0.64 Exit
 4-6 PM Peak Hr. Total: $LN(T) = .71LN(X) + -.06$
 $R^2 = 0.72$, 0.65 Enter, 0.35 Exit
 AM Gen Pk Hr. Total: $LN(T) = .81LN(X) + -.5$
 $R^2 = 0.92$, 0.36 Enter, 0.64 Exit
 PM Gen Pk Hr. Total: 0
 $R^2 = 0$, 0 Enter, 0 Exit
 Sat. 2-Way Volume: 0, $R^2 = 0$
 Sat. Pk Hr. Total: 0
 $R^2 = 0$, 0 Enter, 0 Exit
 Sun. 2-Way Volume: 0, $R^2 = 0$
 Sun. Pk Hr. Total: 0
 $R^2 = 0$, 0 Enter, 0 Exit

Note: A zero indicates no data available.

Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

Detailed Average Rate Trip Calculations
For 21.199 Th.Sq.Ft. GFA of General Light Industrial(110) - [R]

Project:
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	6.97	4.24	1.00	148
7-9 AM Peak Hour Enter	0.81	0.00	1.00	17
7-9 AM Peak Hour Exit	0.11	0.00	1.00	3
7-9 AM Peak Hour Total	0.92	1.07	1.00	20
4-6 PM Peak Hour Enter	0.12	0.00	1.00	3
4-6 PM Peak Hour Exit	0.85	0.00	1.00	18
4-6 PM Peak Hour Total	0.97	1.16	1.00	21
AM Pk Hr, Generator, Enter	0.91	0.00	1.00	19
AM Pk Hr, Generator, Exit	0.10	0.00	1.00	2
AM Pk Hr, Generator, Total	1.01	1.10	1.00	21
PM Pk Hr, Generator, Enter	0.15	0.00	1.00	3
PM Pk Hr, Generator, Exit	0.93	0.00	1.00	20
PM Pk Hr, Generator, Total	1.08	1.18	1.00	23
Saturday 2-Way Volume	1.32	1.48	1.00	28
Saturday Peak Hour Enter	0.07	0.00	1.00	1
Saturday Peak Hour Exit	0.07	0.00	1.00	2
Saturday Peak Hour Total	0.14	0.41	1.00	3
Sunday 2-Way Volume	0.68	1.14	1.00	14
Sunday Peak Hour Enter	0.05	0.00	1.00	1
Sunday Peak Hour Exit	0.05	0.00	1.00	1
Sunday Peak Hour Total	0.10	0.33	1.00	2

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Detailed Average Rate Trip Calculations
For 3.22 Th.Sq.Ft. GFA of General Light Industrial(110) - [R]

Project:
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	6.97	4.24	1.00	22
7-9 AM Peak Hour Enter	0.81	0.00	1.00	3
7-9 AM Peak Hour Exit	0.11	0.00	1.00	0
7-9 AM Peak Hour Total	0.92	1.07	1.00	3
4-6 PM Peak Hour Enter	0.12	0.00	1.00	0
4-6 PM Peak Hour Exit	0.85	0.00	1.00	3
4-6 PM Peak Hour Total	0.97	1.16	1.00	3
AM Pk Hr, Generator, Enter	0.91	0.00	1.00	3
AM Pk Hr, Generator, Exit	0.10	0.00	1.00	0
AM Pk Hr, Generator, Total	1.01	1.10	1.00	3
PM Pk Hr, Generator, Enter	0.15	0.00	1.00	0
PM Pk Hr, Generator, Exit	0.93	0.00	1.00	3
PM Pk Hr, Generator, Total	1.08	1.18	1.00	3
Saturday 2-Way Volume	1.32	1.48	1.00	4
Saturday Peak Hour Enter	0.07	0.00	1.00	0
Saturday Peak Hour Exit	0.07	0.00	1.00	0
Saturday Peak Hour Total	0.14	0.41	1.00	0
Sunday 2-Way Volume	0.68	1.14	1.00	2
Sunday Peak Hour Enter	0.05	0.00	1.00	0
Sunday Peak Hour Exit	0.05	0.00	1.00	0
Sunday Peak Hour Total	0.10	0.33	1.00	0

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Detailed Average Rate Trip Calculations
For 10 Rooms of Motel(320) - [R]

Project:
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	5.63	3.31	1.00	56
7-9 AM Peak Hour Enter	0.16	0.00	1.00	2
7-9 AM Peak Hour Exit	0.29	0.00	1.00	3
7-9 AM Peak Hour Total	0.45	0.70	1.00	5
4-6 PM Peak Hour Enter	0.25	0.00	1.00	3
4-6 PM Peak Hour Exit	0.22	0.00	1.00	2
4-6 PM Peak Hour Total	0.47	0.72	1.00	5
AM Pk Hr, Generator, Enter	0.17	0.00	1.00	2
AM Pk Hr, Generator, Exit	0.27	0.00	1.00	2
AM Pk Hr, Generator, Total	0.44	0.69	1.00	4
PM Pk Hr, Generator, Enter	0.30	0.00	1.00	3
PM Pk Hr, Generator, Exit	0.26	0.00	1.00	3
PM Pk Hr, Generator, Total	0.56	0.81	1.00	6
Saturday 2-Way Volume	0.00	0.00	1.00	0
Saturday Peak Hour Enter	0.00	0.00	1.00	0
Saturday Peak Hour Exit	0.00	0.00	1.00	0
Saturday Peak Hour Total	0.00	0.00	1.00	0
Sunday 2-Way Volume	0.00	0.00	1.00	0
Sunday Peak Hour Enter	0.00	0.00	1.00	0
Sunday Peak Hour Exit	0.00	0.00	1.00	0
Sunday Peak Hour Total	0.00	0.00	1.00	0

Note: A zero indicates no data available.

Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Detailed Average Rate Trip Calculations
For 40 Rooms of Motel(320) - [R]

Project:
Phase:

Open Date:
Analysis Date:

Description:

	Average Rate	Standard Deviation	Adjustment Factor	Driveway Volume
Avg. Weekday 2-Way Volume	5.63	3.31	1.00	225
7-9 AM Peak Hour Enter	0.16	0.00	1.00	6
7-9 AM Peak Hour Exit	0.29	0.00	1.00	12
7-9 AM Peak Hour Total	0.45	0.70	1.00	18
4-6 PM Peak Hour Enter	0.25	0.00	1.00	10
4-6 PM Peak Hour Exit	0.22	0.00	1.00	9
4-6 PM Peak Hour Total	0.47	0.72	1.00	19
AM Pk Hr, Generator, Enter	0.17	0.00	1.00	7
AM Pk Hr, Generator, Exit	0.27	0.00	1.00	11
AM Pk Hr, Generator, Total	0.44	0.69	1.00	18
PM Pk Hr, Generator, Enter	0.30	0.00	1.00	12
PM Pk Hr, Generator, Exit	0.26	0.00	1.00	10
PM Pk Hr, Generator, Total	0.56	0.81	1.00	22
Saturday 2-Way Volume	0.00	0.00	1.00	0
Saturday Peak Hour Enter	0.00	0.00	1.00	0
Saturday Peak Hour Exit	0.00	0.00	1.00	0
Saturday Peak Hour Total	0.00	0.00	1.00	0
Sunday 2-Way Volume	0.00	0.00	1.00	0
Sunday Peak Hour Enter	0.00	0.00	1.00	0
Sunday Peak Hour Exit	0.00	0.00	1.00	0
Sunday Peak Hour Total	0.00	0.00	1.00	0

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Summary of Pass-By Trips
For 44.546 Th.Sq.Ft. GFA of Quality Restaurant(931) - [R]

Project:
Phase:

Open Date:
Analysis Date:

Description:

	Driveway Volume	Pass-By Trips	Volume Added to Adjacent Streets
Average Weekday			
7-9 AM Peak Hour Enter	0	0	0
7-9 AM Peak Hour Exit	0	0	0
7-9 AM Peak Hour Total	36	0	36
4-6 PM Peak Hour Enter	224	99	125
4-6 PM Peak Hour Exit	110	48	62
4-6 PM Peak Hour Total	334	147	187
Saturday			
Saturday Peak Hour Enter	284	0 127	284 → 157
Saturday Peak Hour Exit	198	0 87	198 → 111
Saturday Peak Hour Total	482	0	482

Pass-By Trips were calculated on the basis of the following:

Weekday P.M. Peak Period Average Pass-By Trip Percentage = 44
Saturday Midday Pk. Pd. Average Pass-By Trip Percentage = 0 → 44%

Number of Pass-By Studies: 4

Note: A zero indicates no data available.
Source: Institute of Transportation Engineers
Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Summary of Pass-By Trips
For 6 Th.Sq.Ft. GFA of Quality Restaurant(931) - [R]

Project:
Phase:

Open Date:
Analysis Date:

Description:

	Driveway Volume	Pass-By Trips	Volume Added to Adjacent Streets
Average Weekday			
7-9 AM Peak Hour Enter	0	0	0
7-9 AM Peak Hour Exit	0	0	0
7-9 AM Peak Hour Total	5	0	5
4-6 PM Peak Hour Enter	30	13	17
4-6 PM Peak Hour Exit	15	7	8
4-6 PM Peak Hour Total	45	20	25
Saturday			
Saturday Peak Hour Enter	38	0 17	38 → 21
Saturday Peak Hour Exit	27	0 12	27 → 15
Saturday Peak Hour Total	65	0	65

Pass-By Trips were calculated on the basis of the following:

Weekday P.M. Peak Period Average Pass-By Trip Percentage = 44
 Saturday Midday Pk. Pd. Average Pass-By Trip Percentage = 0 44%

Number of Pass-By Studies: 4

Note: A zero indicates no data available.
 Source: Institute of Transportation Engineers
 Trip Generation Manual, 9th Edition, 2012

TRIP GENERATION 2013, TRAFFICWARE, LLC

Appendix C: Level of Service Definitions

LEVEL OF SERVICE: SIGNALIZED INTERSECTIONS

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The levels of service range between level of service A (relatively congestion-free) and level of service F (congested).

The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents at an intersection. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents, and when there are no other vehicles on the road. The portion of the total delay attributed to the control facility is called the control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Control delay may also be referred to as signal delay for signalized intersections.

Level of service criteria for signalized intersections is determined in terms of the average control delay per vehicle. The following average control delays are used to determine approach levels of service:

Level of Service A	≤ 10.0 seconds per vehicle
Level of Service B	> 10.0 and ≤ 20.0 seconds per vehicle
Level of Service C	> 20.0 and ≤ 35.0 seconds per vehicle
Level of Service D	> 35.0 and ≤ 55.0 seconds per vehicle
Level of Service E	> 55.0 and ≤ 80.0 seconds per vehicle
Level of Service F	> 80.0 seconds per vehicle

Level of Service A describes operations with very low control delay. This occurs when progression is extremely favorable; most vehicles arrive during the green phase and do not stop at all. Short traffic signal cycles may contribute to low delay.

Level of Service B generally occurs with good progression and/or short traffic signal cycle lengths. More vehicles stop than for level of service A, causing higher average delays.

Level of Service C has higher delays than level of service B. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures, where motorists are required to wait through an entire signal cycle, may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.

Level of Service D At this level, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths or high volume-to-capacity ratios. The proportion of stopping vehicles increases. Individual cycle failures are noticeable.

Level of Service E is considered the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures occur frequently.

Level of Service F is considered unacceptable to most drivers. This condition often occurs with over saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may occur at volume to capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

LEVEL OF SERVICE: TWO WAY STOP CONTROLLED INTERSECTIONS

The quality of traffic service at a two-way stop controlled, or "TWSC," intersection is measured according to the level of service and capacity of individual legs. The level of service ranges from LOS A to LOS F, just as with signalized intersections.

The right of way at the TWSC intersection is controlled by stop signs on two opposing legs of an intersection (on one leg of a "T"-type intersection). The capacity of a controlled leg is based on the distribution of gaps in the major street traffic flow, driver judgment in selecting a gap through which to execute the desired maneuver and the follow up time required by each driver in a queue.

The level of service for a TWSC intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. The delay experienced by a motorist is made up of a number of factors that relate to control, geometry, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during conditions with ideal geometry and in the absence of incidents, control, and traffic. This program only quantifies that portion of the total delay attributed to traffic control measures, either traffic signals or stop signs. This delay is called control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration. Average control delay for any particular minor movement is a function of the approach and the degree of saturation.

The expectation is that TWSC intersections are designed to carry smaller traffic volumes than signalized intersections. Therefore, the delay threshold times are lower for the same LOS grades. The following average control delays are used to determine approach levels of service:

Level of Service A	≤ 10 seconds per vehicle
Level of Service B	> 10 and ≤ 15 seconds per vehicle
Level of Service C	> 15 and ≤ 25 seconds per vehicle
Level of Service D	> 25 and ≤ 35 seconds per vehicle
Level of Service E	> 35 and ≤ 50 seconds per vehicle
Level of Service F	> 50 seconds per vehicle

Build Condition Capacity Analyses

Timings

5: Nugent St/Court St & W Main St

Timing Plan: PM Peak Hour

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Configurations											
Volume (vph)	84	414	427	212	400	396	191	107	2	328	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	
Protected Phases		2			6	7	4			8	
Permitted Phases	2		2	6		4	4	Free	8		
Detector Phase	2	2	2	6	6	7	4		8	8	
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	3.0	5.0		6.0	6.0	
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	9.0	12.0		11.8	11.8	
Total Split (s)	28.0	28.0	28.0	28.0	28.0	16.0	32.0		16.0	16.0	
Total Split (%)	46.7%	46.7%	46.7%	46.7%	46.7%	26.7%	53.3%		26.7%	26.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.0	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.0	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	5.0	5.8			5.8	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?						Yes			Yes	Yes	
Recall Mode	Max	Max	Max	None	None	None	None		None	None	
Act Effect Green (s)	21.5	21.5	21.5	21.5	21.5	27.0	26.2	60.0		10.2	
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.36	0.45	0.44	1.00		0.17	
v/c Ratio	0.51	0.68	0.51	1.13	0.77	1.01	0.28	0.07		1.29	
Control Delay	27.5	22.9	4.0	123.4	27.1	64.2	12.1	0.1		175.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay	27.5	22.9	4.0	123.4	27.1	64.2	12.1	0.1		175.0	
LOS	C	C	A	F	C	E	B	A		F	
Approach Delay		14.5			60.3		39.9			175.0	
Approach LOS		B			E		D			F	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.29

Intersection Signal Delay: 58.0

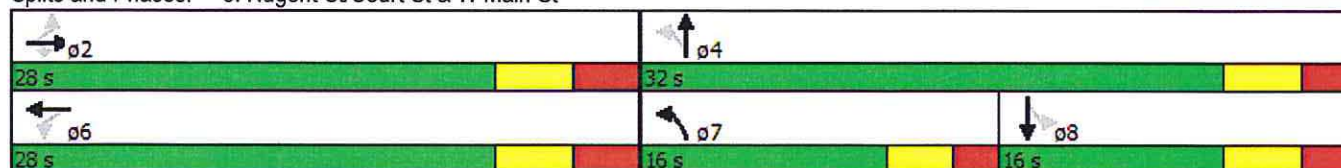
Intersection LOS: E

Intersection Capacity Utilization 100.4%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 5: Nugent St/Court St & W Main St



Timings

6: W Main St & Osborn Ave

Timing Plan: PM Peak Hour



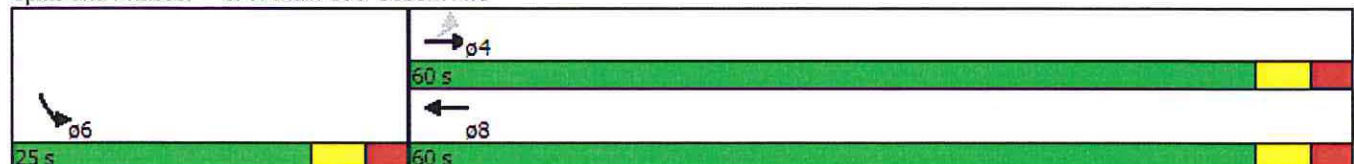
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	7	518	624	102
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	11.3	11.3	11.3	11.2
Total Split (s)	60.0	60.0	60.0	25.0
Total Split (%)	70.6%	70.6%	70.6%	29.4%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.8	2.8	2.8	2.7
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		6.3	6.3	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	None
Act Effect Green (s)		57.9	57.9	10.9
Actuated g/C Ratio		0.75	0.75	0.14
v/c Ratio		0.42	0.62	0.53
Control Delay		6.5	9.3	37.1
Queue Delay		0.4	0.0	0.0
Total Delay		6.9	9.3	37.1
LOS		A	A	D
Approach Delay		6.9	9.3	37.1
Approach LOS		A	A	D

Intersection Summary

Cycle Length: 85
 Actuated Cycle Length: 77.2
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 10.8
 Intersection Capacity Utilization 53.9%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 6: W Main St & Osborn Ave



Timings

7: W Main St & Griffing Ave

Timing Plan: PM Peak Hour



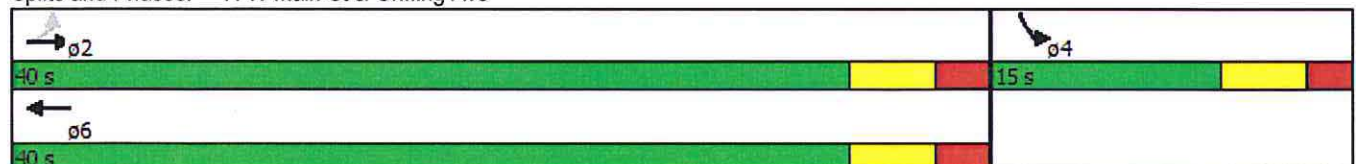
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations		↔	↔	↔
Volume (vph)	56	588	598	124
Turn Type	Perm	NA	NA	NA
Protected Phases		2	6	4
Permitted Phases	2			
Detector Phase	2	2	6	4
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.8	15.8	15.8	10.5
Total Split (s)	40.0	40.0	40.0	15.0
Total Split (%)	72.7%	72.7%	72.7%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.3	2.3	2.3	2.0
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		5.8	5.8	5.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	None
Act Effect Green (s)		34.2	34.2	8.8
Actuated g/C Ratio		0.63	0.63	0.16
v/c Ratio		0.62	0.63	0.70
Control Delay		9.2	8.9	29.6
Queue Delay		0.0	1.6	0.0
Total Delay		9.2	10.5	29.6
LOS		A	B	C
Approach Delay		9.2	10.5	29.6
Approach LOS		A	B	C

Intersection Summary

Cycle Length: 55
 Actuated Cycle Length: 54.3
 Natural Cycle: 50
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 12.6
 Intersection Capacity Utilization 98.7%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service F

Splits and Phases: 7: W Main St & Griffing Ave



Timings

8: Peconic Ave & W Main St

Timing Plan: PM Peak Hour

	→	↘	↙	←	↖	↗					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3	ø6	ø8	ø9	ø13
Lane Configurations	↑	↗	↖	↑	↖	↗					
Volume (vph)	435	252	584	475	225	728					
Turn Type	NA	pm+ov	Perm	NA	NA	custom					
Protected Phases	2	4		6 3	4	3 13	3	6	8	9	13
Permitted Phases		2	6 3			4 3					
Detector Phase	2	4	6 3	6 3	4	3 13					
Switch Phase											
Minimum Initial (s)	10.0	10.0			10.0		4.0	10.0	10.0	22.0	22.0
Minimum Split (s)	15.9	15.9			15.9		9.9	28.0	15.0	25.0	25.0
Total Split (s)	56.0	41.0			41.0		55.0	56.0	96.0	28.0	28.0
Total Split (%)	31.1%	22.8%			22.8%		31%	31%	53%	16%	16%
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5	3.0	2.0	2.0
All-Red Time (s)	2.4	2.4			2.4		2.4	2.4	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0						
Total Lost Time (s)	5.9	5.9			5.9						
Lead/Lag		Lead			Lead		Lag				
Lead-Lag Optimize?											
Recall Mode	C-Min	None			None		None	C-Min	None	None	None
Act Effect Green (s)	52.5	89.0	106.1	106.1	30.6	115.7					
Actuated g/C Ratio	0.29	0.49	0.59	0.59	0.17	0.64					
v/c Ratio	0.88	0.36	1.82	0.48	0.85	0.79					
Control Delay	78.8	29.2	399.2	2.8	98.3	30.1					
Queue Delay	52.9	4.8	0.0	3.2	0.0	1.4					
Total Delay	131.7	34.0	399.2	6.0	98.3	31.5					
LOS	F	C	F	A	F	C					
Approach Delay	95.9			222.8	47.3						
Approach LOS	F			F	D						

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.82

Intersection Signal Delay: 125.9

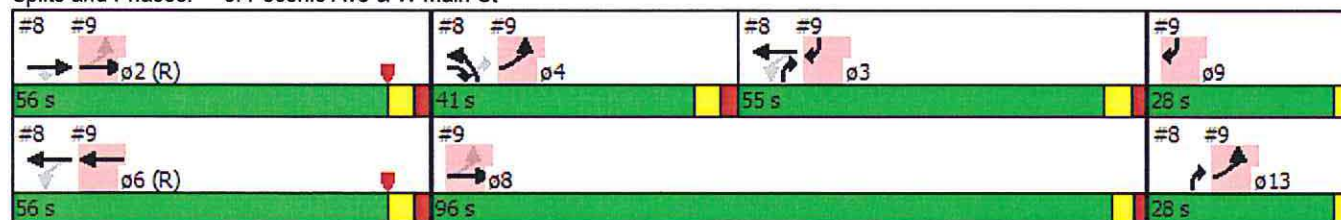
Intersection LOS: F

Intersection Capacity Utilization 82.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Peconic Ave & W Main St



Timings

9: W Main St & Roanoke Ave

Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	WBT	SBR	ø2	ø3	ø4	ø8	ø9	ø13
Lane Configurations										
Volume (vph)	375	778	697	359						
Turn Type	pm+pt	NA	NA	custom						
Protected Phases	4 13	8 2	6	3 9	2	3	4	8	9	13
Permitted Phases	8 2									
Detector Phase	4 13	8 2	6	3 9						
Switch Phase										
Minimum Initial (s)			10.0		10.0	4.0	10.0	10.0	22.0	22.0
Minimum Split (s)			28.0		15.9	9.9	15.9	15.0	25.0	25.0
Total Split (s)			56.0		56.0	55.0	41.0	96.0	28.0	28.0
Total Split (%)			31.1%		31%	31%	23%	53%	16%	16%
Yellow Time (s)			3.5		3.5	3.5	3.5	3.0	2.0	2.0
All-Red Time (s)			2.4		2.4	2.4	2.4	2.0	1.0	1.0
Lost Time Adjust (s)			0.0							
Total Lost Time (s)			5.9							
Lead/Lag						Lag	Lead			
Lead-Lag Optimize?										
Recall Mode			C-Min		C-Min	None	None	None	None	None
Act Effct Green (s)	162.3	149.4	52.5	79.2						
Actuated g/C Ratio	0.90	0.83	0.29	0.44						
v/c Ratio	0.51	0.46	0.87	0.55						
Control Delay	8.3	2.4	71.0	41.7						
Queue Delay	5.7	7.2	2.4	1.6						
Total Delay	14.0	9.5	73.4	43.3						
LOS	B	A	E	D						
Approach Delay		11.0	73.4							
Approach LOS		B	E							

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.82

Intersection Signal Delay: 37.8

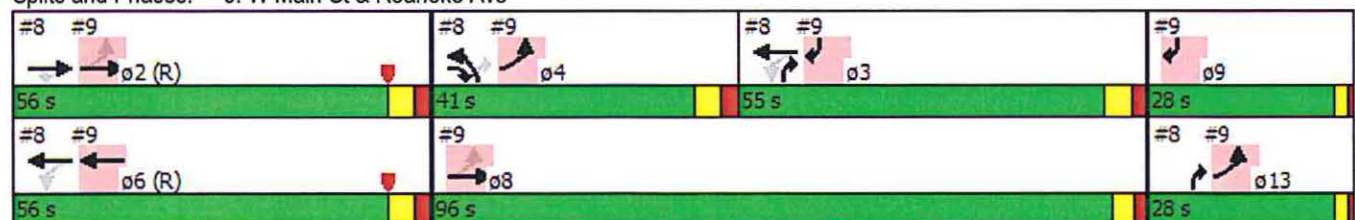
Intersection LOS: D

Intersection Capacity Utilization 52.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: W Main St & Roanoke Ave



HCM Unsignalized Intersection Capacity Analysis

10: W Main St & East Ave

Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	90	560	572	77	79	76
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	98	609	622	84	86	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		763	275			
pX, platoon unblocked	0.79				0.87	0.79
vC, conflicting volume	705				1468	664
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	498				1085	445
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				54	83
cM capacity (veh/h)	854				185	489
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	707	705	168			
Volume Left	98	0	86			
Volume Right	0	84	83			
cSH	854	1700	267			
Volume to Capacity	0.11	0.41	0.63			
Queue Length 95th (ft)	10	0	98			
Control Delay (s)	2.9	0.0	39.2			
Lane LOS	A		E			
Approach Delay (s)	2.9	0.0	39.2			
Approach LOS			E			
Intersection Summary						
Average Delay			5.4			
Intersection Capacity Utilization			88.3%	ICU Level of Service		E
Analysis Period (min)			15			

Timings

11: McDermott Ave/Maple Ave & W Main St

Timing Plan: PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	14	630	101	598	128	13	88	14
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phase	2	2	6	6	4	4	8	8
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	15.0	15.0	15.0	15.0	9.0	9.0	9.0	9.0
Total Split (s)	67.0	67.0	67.0	67.0	23.0	23.0	23.0	23.0
Total Split (%)	74.4%	74.4%	74.4%	74.4%	25.6%	25.6%	25.6%	25.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)		62.0		62.0		17.4		17.4
Actuated g/C Ratio		0.69		0.69		0.19		0.19
v/c Ratio		0.60		0.76		0.92		0.60
Control Delay		9.6		14.9		66.5		42.7
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		9.6		14.9		66.5		42.7
LOS		A		B		E		D
Approach Delay		9.6		14.9		66.5		42.7
Approach LOS		A		B		E		D

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 89.4

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 22.2

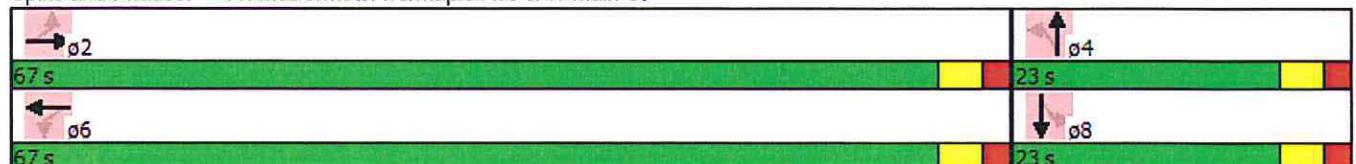
Intersection LOS: C

Intersection Capacity Utilization 103.7%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 11: McDermott Ave/Maple Ave & W Main St



HCM Unsignalized Intersection Capacity Analysis

12: Parking Lot/Union Ave & W Main St

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	790	23	23	717	44	9	3	22	35	2	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	859	25	25	779	48	10	3	24	38	2	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		285										
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	827			884			1783	1796	871	1798	1785	803
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	827			712			1862	1879	696	1881	1864	803
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			75	94	93	0	96	97
cM capacity (veh/h)	813			701			40	53	348	36	54	386
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	908	852	37	50								
Volume Left	24	25	10	38								
Volume Right	25	48	24	10								
cSH	813	701	98	45								
Volume to Capacity	0.03	0.04	0.38	1.12								
Queue Length 95th (ft)	2	3	38	117								
Control Delay (s)	0.8	1.0	62.3	314.0								
Lane LOS	A	A	F	F								
Approach Delay (s)	0.8	1.0	62.3	314.0								
Approach LOS			F	F								
Intersection Summary												
Average Delay			10.6									
Intersection Capacity Utilization			65.6%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

13: W Main St & Ostrander Ave

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	773	12	5	850	69	0	0	0	40	2	66
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.75	0.75	0.75	0.86	0.86	0.86
Hourly flow rate (vph)	44	849	13	6	944	77	0	0	0	47	2	77
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)		658										
pX, platoon unblocked				0.80			0.80	0.80	0.80	0.80	0.80	
vC, conflicting volume	1021			863			2016	1976	856	1938	1944	983
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1021			702			2145	2096	694	2048	2056	983
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			99			100	100	100	0	94	75
cM capacity (veh/h)	676			723			19	39	357	32	41	305
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	907	1027	126									
Volume Left	44	6	47									
Volume Right	13	77	77									
cSH	676	723	70									
Volume to Capacity	0.07	0.01	1.78									
Queue Length 95th (ft)	5	1	278									
Control Delay (s)	1.9	0.2	500.6									
Lane LOS	A	A	F									
Approach Delay (s)	1.9	0.2	500.6									
Approach LOS			F									
Intersection Summary												
Average Delay			31.5									
Intersection Capacity Utilization			82.7%	ICU Level of Service						E		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

14: W Main St & Riverside Dr

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	71	169	655	87	197	762
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	72	172	668	89	201	778
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1892	713			757	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1892	713			757	
tC, single (s)	*7.1	*6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	60			77	
cM capacity (veh/h)	41	435			863	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	245	757	979			
Volume Left	72	0	201			
Volume Right	172	89	0			
cSH	114	1700	863			
Volume to Capacity	2.16	0.45	0.23			
Queue Length 95th (ft)	520	0	23			
Control Delay (s)	610.0	0.0	5.7			
Lane LOS	F		A			
Approach Delay (s)	610.0	0.0	5.7			
Approach LOS	F					
Intersection Summary						
Average Delay		78.2				
Intersection Capacity Utilization		115.1%		ICU Level of Service		H
Analysis Period (min)		15				

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis

15: W Main St & Fishel Ave

Timing Plan: PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	18	101	109	715	858	37
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	21	120	130	851	1021	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2154	1043	1065			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2154	1043	1065			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	50	57	80			
cM capacity (veh/h)	43	281	662			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	142	981	1065			
Volume Left	21	130	0			
Volume Right	120	0	44			
cSH	153	662	1700			
Volume to Capacity	0.93	0.20	0.63			
Queue Length 95th (ft)	166	18	0			
Control Delay (s)	112.8	5.6	0.0			
Lane LOS	F	A				
Approach Delay (s)	112.8	5.6	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay		9.8				
Intersection Capacity Utilization		108.3%		ICU Level of Service	G	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

16: W Main St & Hubbard Ave

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	118	53	561	158	50	601
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.92	0.92	0.86	0.86
Hourly flow rate (vph)	123	55	610	172	58	699
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1511	696			782	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1511	696			782	
tC, single (s)	6.4	6.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.2	
p0 queue free %	0	87			93	
cM capacity (veh/h)	123	411			836	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	178	782	757			
Volume Left	123	0	58			
Volume Right	55	172	0			
cSH	157	1700	836			
Volume to Capacity	1.14	0.46	0.07			
Queue Length 95th (ft)	241	0	6			
Control Delay (s)	171.8	0.0	1.8			
Lane LOS	F		A			
Approach Delay (s)	171.8	0.0	1.8			
Approach LOS	F					
Intersection Summary						
Average Delay		18.6				
Intersection Capacity Utilization		89.4%		ICU Level of Service		E
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

17: Peconic Ave

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	167	19	934	157	37	796
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	182	21	1015	171	40	865
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			TWLTL
Median storage (veh)						2
Upstream signal (ft)						280
pX, platoon unblocked						
vC, conflicting volume	2046	593			1186	
vC1, stage 1 conf vol	1101					
vC2, stage 2 conf vol	946					
vCu, unblocked vol	2046	593			1186	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	12	95			93	
cM capacity (veh/h)	207	449			585	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	
Volume Total	182	21	677	509	905	
Volume Left	182	0	0	0	40	
Volume Right	0	21	0	171	0	
cSH	207	449	1700	1700	585	
Volume to Capacity	0.88	0.05	0.40	0.30	0.07	
Queue Length 95th (ft)	170	4	0	0	6	
Control Delay (s)	81.8	13.4	0.0	0.0	2.1	
Lane LOS	F	B			A	
Approach Delay (s)	74.8		0.0		2.1	
Approach LOS	F					
Intersection Summary						
Average Delay			7.4			
Intersection Capacity Utilization			87.9%	ICU Level of Service		E
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 18: Griffing Ave/Griffing St & Parking Lot/W 2nd St

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	8	2	66	2	112	0	140	14	56	133	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.53	0.53	0.53	0.84	0.84	0.84	0.92	0.92	0.92	0.86	0.86	0.86
Hourly flow rate (vph)	15	15	4	79	2	133	0	152	15	65	155	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								517				
pX, platoon unblocked												
vC, conflicting volume	579	452	155	456	445	160	155			167		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	579	452	155	456	445	160	155			167		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	97	100	84	100	85	100			95		
cM capacity (veh/h)	350	482	896	486	487	883	1438			1398		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	34	214	167	220								
Volume Left	15	79	0	65								
Volume Right	4	133	15	0								
cSH	432	675	1438	1398								
Volume to Capacity	0.08	0.32	0.00	0.05								
Queue Length 95th (ft)	6	34	0	4								
Control Delay (s)	14.0	12.8	0.0	2.6								
Lane LOS	B	B		A								
Approach Delay (s)	14.0	12.8	0.0	2.6								
Approach LOS	B	B										
Intersection Summary												
Average Delay			6.0									
Intersection Capacity Utilization			41.1%	ICU Level of Service							A	
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

19: Griffing St/Griffing Ave & Court St

Timing Plan: PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	71	47	100	179	143	135
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	83	55	119	213	170	161
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				996		
pX, platoon unblocked						
vC, conflicting volume	702	251	331			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	702	251	331			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	77	93	90			
cM capacity (veh/h)	357	788	1234			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	137	332	331			
Volume Left	83	119	0			
Volume Right	55	0	161			
cSH	457	1234	1700			
Volume to Capacity	0.30	0.10	0.19			
Queue Length 95th (ft)	31	8	0			
Control Delay (s)	16.2	3.5	0.0			
Lane LOS	C	A				
Approach Delay (s)	16.2	3.5	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		4.2				
Intersection Capacity Utilization		47.5%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

20: Griffing Ave & Railroad St

Timing Plan: PM Peak Hour

																				
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR								
Lane Configurations																				
Sign Control		Stop			Stop			Stop			Stop									
Volume (vph)	16	96	28	43	94	22	30	213	7	3	207	18								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92								
Hourly flow rate (vph)	17	104	30	47	102	24	33	232	8	3	225	20								
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																
Volume Total (vph)	152	173	272	248																
Volume Left (vph)	17	47	33	3																
Volume Right (vph)	30	24	8	20																
Hadj (s)	-0.06	0.01	0.04	-0.01																
Departure Headway (s)	5.6	5.6	5.3	5.3																
Degree Utilization, x	0.23	0.27	0.40	0.36																
Capacity (veh/h)	579	583	633	638																
Control Delay (s)	10.2	10.6	11.7	11.2																
Approach Delay (s)	10.2	10.6	11.7	11.2																
Approach LOS	B	B	B	B																
Intersection Summary																				
Delay			11.1																	
Level of Service			B																	
Intersection Capacity Utilization			52.2%	ICU Level of Service		A														
Analysis Period (min)			15																	

Timings

21: Roanoke Ave & W 2nd St/E 2nd St

Timing Plan: PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	24	60	9	104	19	318	90	303
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.5	5.5	5.5	5.5
Minimum Split (s)	15.0	15.0	15.0	15.0	10.5	10.5	10.5	10.5
Total Split (s)	19.0	19.0	19.0	19.0	36.0	36.0	36.0	36.0
Total Split (%)	34.5%	34.5%	34.5%	34.5%	65.5%	65.5%	65.5%	65.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effect Green (s)		11.3		11.3		31.0		31.0
Actuated g/C Ratio		0.22		0.22		0.59		0.59
v/c Ratio		0.36		0.53		0.35		0.47
Control Delay		17.6		18.6		6.8		8.3
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		17.6		18.6		6.8		8.3
LOS		B		B		A		A
Approach Delay		17.6		18.6		6.8		8.3
Approach LOS		B		B		A		A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 52.3

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 10.9

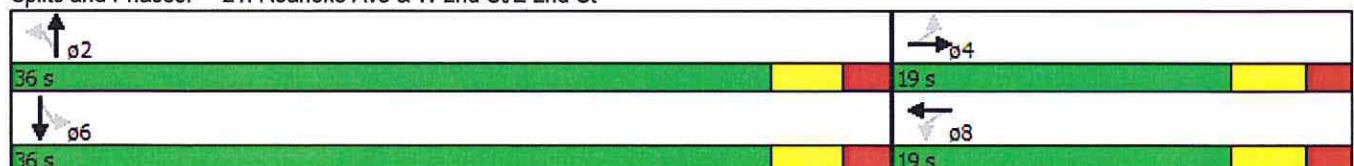
Intersection LOS: B

Intersection Capacity Utilization 67.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 21: Roanoke Ave & W 2nd St/E 2nd St



Timings

22: Roanoke Ave & Railroad St

Timing Plan: PM Peak Hour

								
Lane Group	EBL	NBL	NBT	SBT	ø6	ø8		
Lane Configurations								
Volume (vph)	83	21	398	404				
Turn Type	NA	Perm	NA	NA				
Protected Phases	2		4	8 6	6	8		
Permitted Phases		4						
Detector Phase	2	4	4	8 6				
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0		
Minimum Split (s)	9.0	9.0	9.0		9.0	9.0		
Total Split (s)	18.0	35.0	35.0		27.0	35.0		
Total Split (%)	22.5%	43.8%	43.8%		34%	44%		
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0		
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0		0.0					
Total Lost Time (s)	5.0		5.0					
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	Max	Max		Max	Max		
Act Effect Green (s)	10.5		30.0	57.0				
Actuated g/C Ratio	0.14		0.39	0.74				
v/c Ratio	0.54		0.64	0.41				
Control Delay	36.5		25.1	1.0				
Queue Delay	0.0		0.0	0.4				
Total Delay	36.5		25.1	1.4				
LOS	D		C	A				
Approach Delay	36.5		25.1	1.4				
Approach LOS	D		C	A				

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 77.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 14.9

Intersection LOS: B

Intersection Capacity Utilization 52.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 22: Roanoke Ave & Railroad St

 #22 #23  ø2 18 s		 #22 #23  ø6 27 s		 #22 #23  ø4 35 s	
				 #22 #23  ø8 35 s	

Timings

23: Roanoke Ave & Northville Turnpike

Timing Plan: PM Peak Hour

							
Lane Group	WBL	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations							
Volume (vph)	210	338	114	28	339		
Turn Type	NA	NA	pm+ov	Perm	NA		
Protected Phases	6	4 2	6		8	2	4
Permitted Phases			4 2	8			
Detector Phase	6	4 2	6	8	8		
Switch Phase							
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0		9.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0		27.0	35.0	35.0	18.0	35.0
Total Split (%)	33.8%		33.8%	43.8%	43.8%	23%	44%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0		
Total Lost Time (s)	5.0		5.0		5.0		
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max		Max	Max	Max	None	Max
Act Effct Green (s)	22.0	45.5	77.5		30.0		
Actuated g/C Ratio	0.28	0.59	1.00		0.39		
v/c Ratio	0.50	0.33	0.07		0.58		
Control Delay	27.2	1.0	0.1		23.4		
Queue Delay	0.0	0.9	0.0		0.0		
Total Delay	27.2	1.9	0.1		23.4		
LOS	C	A	A		C		
Approach Delay	27.2	1.4			23.4		
Approach LOS	C	A			C		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 77.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 15.0

Intersection LOS: B

Intersection Capacity Utilization 62.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 23: Roanoke Ave & Northville Turnpike

 #22 #23  ø2 18 s		 #22 #23  ø6 27 s		 #22 #23  ø4 35 s	
				 #22 #23  ø8 35 s	

Timings

24: Osborn Ave/Osborn St & Court St

Timing Plan: PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	111	132	10	228	8	55	51	100
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	35.0	35.0	35.0	35.0	25.0	25.0	25.0	25.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)		30.2		30.2		13.7		13.7
Actuated g/C Ratio		0.56		0.56		0.25		0.25
v/c Ratio		0.35		0.33		0.19		0.74
Control Delay		9.3		7.8		13.5		22.4
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		9.3		7.8		13.5		22.4
LOS		A		A		B		C
Approach Delay		9.3		7.8		13.5		22.4
Approach LOS		A		A		B		C

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 54

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 13.8

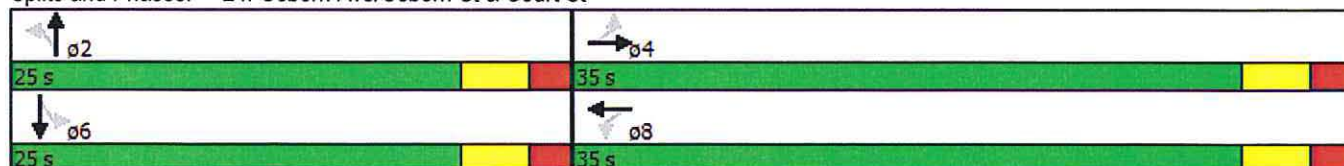
Intersection LOS: B

Intersection Capacity Utilization 68.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 24: Osborn Ave/Osborn St & Court St



Timings

5: Nugent St/Court St & W Main St

Timing Plan: Saturday Peak Ho

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Configurations											
Volume (vph)	96	535	428	125	503	490	143	136	3	152	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	
Protected Phases		2			6	7	4			8	
Permitted Phases	2		2	6		4	4	Free	8		
Detector Phase	2	2	2	6	6	7	4		8	8	
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	3.0	5.0		6.0	6.0	
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	9.0	12.0		11.8	11.8	
Total Split (s)	28.0	28.0	28.0	28.0	28.0	16.0	32.0		16.0	16.0	
Total Split (%)	46.7%	46.7%	46.7%	46.7%	46.7%	26.7%	53.3%		26.7%	26.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.0	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.0	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	5.0	5.8			5.8	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?						Yes			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	None	None		None	None	
Act Effct Green (s)	21.5	21.5	21.5	21.5	21.5	26.5	25.7	59.5		9.7	
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.36	0.45	0.43	1.00		0.16	
v/c Ratio	0.69	0.88	0.54	1.01	0.88	1.21	0.21	0.09		0.74	
Control Delay	46.6	35.8	6.1	106.2	36.9	131.8	11.4	0.1		35.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay	46.6	35.8	6.1	106.2	36.9	131.8	11.4	0.1		35.9	
LOS	D	D	A	F	D	F	B	A		D	
Approach Delay		24.7			50.5		86.2			35.9	
Approach LOS		C			D		F			D	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 59.5

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 49.6

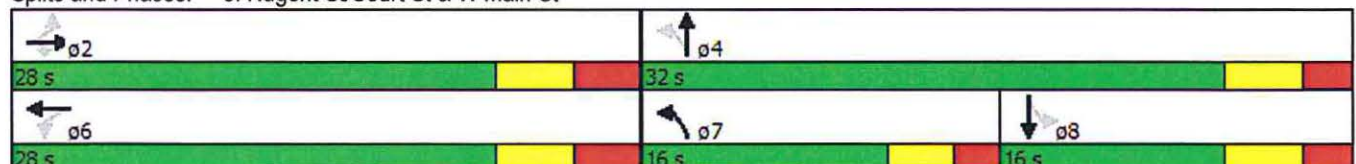
Intersection LOS: D

Intersection Capacity Utilization 100.0%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 5: Nugent St/Court St & W Main St



Timings

6: W Main St & Osborn Ave

Timing Plan: Saturday Peak Ho

				
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	9	662	616	133
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	11.3	11.3	11.3	11.2
Total Split (s)	60.0	60.0	60.0	25.0
Total Split (%)	70.6%	70.6%	70.6%	29.4%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.8	2.8	2.8	2.7
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		6.3	6.3	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	None
Act Effect Green (s)		53.8	53.8	13.0
Actuated g/C Ratio		0.68	0.68	0.16
v/c Ratio		0.55	0.60	0.61
Control Delay		9.2	10.0	38.9
Queue Delay		1.0	0.0	0.0
Total Delay		10.2	10.0	38.9
LOS		B	B	D
Approach Delay		10.2	10.0	38.9
Approach LOS		B	B	D

Intersection Summary

Cycle Length: 85

Actuated Cycle Length: 79.3

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 13.2

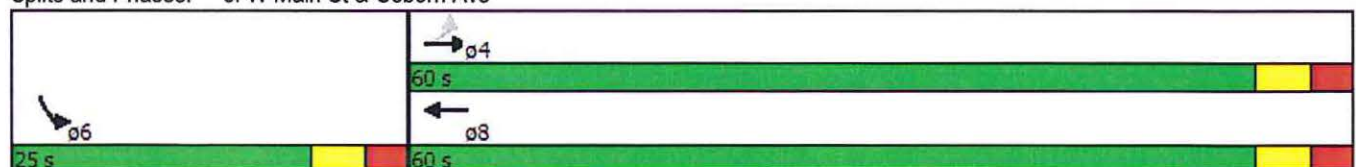
Intersection LOS: B

Intersection Capacity Utilization 60.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: W Main St & Osborn Ave



Timings

7: W Main St & Griffing Ave

Timing Plan: Saturday Peak Ho



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations		↰	↱	↷
Volume (vph)	46	808	656	107
Turn Type	Perm	NA	NA	NA
Protected Phases		2	6	4
Permitted Phases	2			
Detector Phase	2	2	6	4
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.8	15.8	15.8	10.5
Total Split (s)	40.0	40.0	40.0	15.0
Total Split (%)	72.7%	72.7%	72.7%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.3	2.3	2.3	2.0
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		5.8	5.8	5.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Max	Max	Max	None
Act Effect Green (s)		34.2	34.2	9.0
Actuated g/C Ratio		0.63	0.63	0.17
v/c Ratio		0.73	0.62	0.73
Control Delay		11.5	8.7	32.1
Queue Delay		0.0	1.7	0.0
Total Delay		11.5	10.4	32.1
LOS		B	B	C
Approach Delay		11.5	10.4	32.1
Approach LOS		B	B	C

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 54.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 13.7

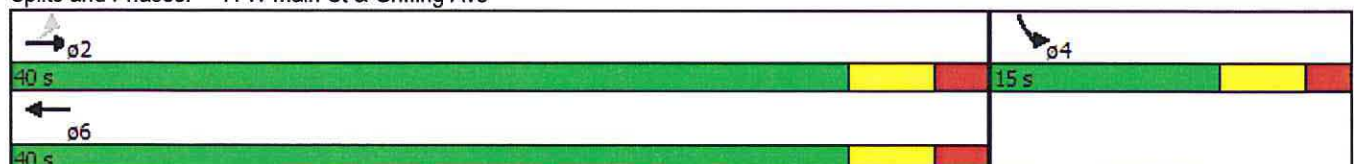
Intersection LOS: B

Intersection Capacity Utilization 99.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 7: W Main St & Griffing Ave



Timings

8: Peconic Ave & W Main St/E Main St

Timing Plan: Saturday Peak Ho

	→	↘	↙	←	↖	↗					
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	ø3	ø6	ø8	ø9	ø13
Lane Configurations	↑	↗	↙	↑	↖	↗					
Volume (vph)	547	306	546	461	285	759					
Turn Type	NA	pm+ov	custom	NA	NA	custom					
Protected Phases	2	4	3 9	6 3	4	3 13	3	6	8	9	13
Permitted Phases		2	6			4 3					
Detector Phase	2	4	3 9	6 3	4	3 13					
Switch Phase											
Minimum Initial (s)	10.0	10.0			10.0		4.0	10.0	10.0	22.0	22.0
Minimum Split (s)	15.9	15.9			15.9		9.9	28.0	15.0	25.0	25.0
Total Split (s)	56.0	41.0			41.0		55.0	56.0	96.0	28.0	28.0
Total Split (%)	31.1%	22.8%			22.8%		31%	31%	53%	16%	16%
Yellow Time (s)	3.5	3.5			3.5		3.5	3.5	3.0	2.0	2.0
All-Red Time (s)	2.4	2.4			2.4		2.4	2.4	2.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0			0.0						
Total Lost Time (s)	5.9	5.9			5.9						
Lead/Lag		Lead			Lead		Lag				
Lead-Lag Optimize?											
Recall Mode	C-Min	None			None		None	C-Min	None	None	None
Act Effct Green (s)	52.5	92.4	128.3	102.7	34.0	115.7					
Actuated g/C Ratio	0.29	0.51	0.71	0.57	0.19	0.64					
v/c Ratio	1.20	0.46	0.76	0.51	0.94	0.80					
Control Delay	158.8	30.2	69.6	2.9	107.0	31.2					
Queue Delay	4.2	19.8	55.0	5.1	0.0	1.9					
Total Delay	163.0	50.0	124.6	8.0	107.0	33.0					
LOS	F	D	F	A	F	C					
Approach Delay	122.5			71.2	53.2						
Approach LOS	F			E	D						

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.20

Intersection Signal Delay: 81.0

Intersection LOS: F

Intersection Capacity Utilization 89.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Peconic Ave & W Main St/E Main St

#8 #9 → ø2 (R) 56 s	#8 ↘ ø4 41 s	#8 #9 ↘ ø3 55 s	#8 #9 ↘ ø9 28 s
#8 #9 ← ø6 (R) 56 s	#9 → ø8 96 s		#8 ↖ ø13 28 s

Timings

9: E Main St & Roanoke Ave

Timing Plan: Saturday Peak Ho

Lane Group	EBL	EBT	WBT	SBR	ø2	ø3	ø4	ø8	ø9	ø13
Lane Configurations										
Volume (vph)	360	904	697	338						
Turn Type	Perm	NA	NA	custom						
Protected Phases		8 2	6	3 9	2	3	4	8	9	13
Permitted Phases	8 2									
Detector Phase	8 2	8 2	6	3 9						
Switch Phase										
Minimum Initial (s)			10.0		10.0	4.0	10.0	10.0	22.0	22.0
Minimum Split (s)			28.0		15.9	9.9	15.9	15.0	25.0	25.0
Total Split (s)			56.0		56.0	55.0	41.0	96.0	28.0	28.0
Total Split (%)			31.1%		31%	31%	23%	53%	16%	16%
Yellow Time (s)			3.5		3.5	3.5	3.5	3.0	2.0	2.0
All-Red Time (s)			2.4		2.4	2.4	2.4	2.0	1.0	1.0
Lost Time Adjust (s)			0.0							
Total Lost Time (s)			5.9							
Lead/Lag						Lag	Lead			
Lead-Lag Optimize?										
Recall Mode			C-Min		C-Min	None	None	None	None	None
Act Effct Green (s)	149.4	149.4	52.5	75.8						
Actuated g/C Ratio	0.83	0.83	0.29	0.42						
v/c Ratio	1.07	0.53	0.96	0.53						
Control Delay	65.4	2.9	77.0	42.5						
Queue Delay	11.0	45.8	45.0	1.4						
Total Delay	76.4	48.6	122.1	43.9						
LOS	E	D	F	D						
Approach Delay		56.5	122.1							
Approach LOS		E	F							

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.20

Intersection Signal Delay: 78.0

Intersection LOS: E

Intersection Capacity Utilization 51.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: E Main St & Roanoke Ave

#8 #9 	#8 	#8 #9 	#8 #9
ø2 (R)	ø4	ø3	ø9
56 s	41 s	55 s	28 s
#8 #9 	#9 		#8
ø6 (R)	ø8		ø13
56 s	96 s		28 s

HCM Unsignalized Intersection Capacity Analysis

10: E Main St & East Ave

Timing Plan: Saturday Peak Ho



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Volume (veh/h)	83	706	585	94	94	87
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	90	767	636	102	102	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		768	275			
pX, platoon unblocked	0.75				0.85	0.75
vC, conflicting volume	738				1635	687
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	481				1109	413
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				42	80
cM capacity (veh/h)	817				177	481
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	858	738	197			
Volume Left	90	0	102			
Volume Right	0	102	95			
cSH	817	1700	254			
Volume to Capacity	0.11	0.43	0.77			
Queue Length 95th (ft)	9	0	143			
Control Delay (s)	2.8	0.0	54.9			
Lane LOS	A		F			
Approach Delay (s)	2.8	0.0	54.9			
Approach LOS			F			
Intersection Summary						
Average Delay		7.4				
Intersection Capacity Utilization		98.8%		ICU Level of Service		F
Analysis Period (min)		15				

Timings

11: McDermott Ave/Maple Ave & E Main St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	28	748	118	583	151	18	76	17
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phase	2	2	6	6	4	4	8	8
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	15.0	15.0	15.0	15.0	21.5	21.5	21.5	21.5
Total Split (s)	62.0	62.0	62.0	62.0	28.0	28.0	28.0	28.0
Total Split (%)	68.9%	68.9%	68.9%	68.9%	31.1%	31.1%	31.1%	31.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effect Green (s)		57.0		57.0		22.5		22.5
Actuated g/C Ratio		0.63		0.63		0.25		0.25
v/c Ratio		0.80		0.93		0.96		0.50
Control Delay		20.9		34.1		68.3		30.8
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		20.9		34.1		68.3		30.8
LOS		C		C		E		C
Approach Delay		20.9		34.1		68.3		30.8
Approach LOS		C		C		E		C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Red

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 34.2

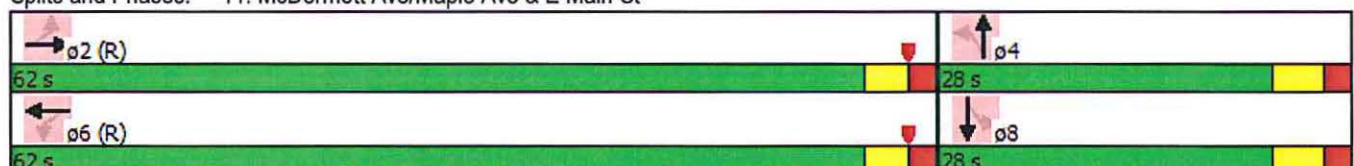
Intersection LOS: C

Intersection Capacity Utilization 118.6%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 11: McDermott Ave/Maple Ave & E Main St



HCM Unsignalized Intersection Capacity Analysis 12: Parking Lot/Union Ave & E Main St/W Main St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	23	929	25	19	695	53	2	0	13	31	1	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	1010	27	21	755	58	2	0	14	34	1	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		278										
pX, platoon unblocked				0.64			0.64	0.64	0.64	0.64	0.64	
vC, conflicting volume	813			1037			1919	1928	1023	1913	1912	784
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	813			775			2156	2170	753	2147	2146	784
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			89	100	95	0	96	95
cM capacity (veh/h)	823			543			20	28	263	20	29	396
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	1062	834	16	54								
Volume Left	25	21	2	34								
Volume Right	27	58	14	20								
cSH	823	543	99	31								
Volume to Capacity	0.03	0.04	0.16	1.74								
Queue Length 95th (ft)	2	3	14	155								
Control Delay (s)	0.9	1.1	48.4	631.9								
Lane LOS	A	A	E	F								
Approach Delay (s)	0.9	1.1	48.4	631.9								
Approach LOS			E	F								
Intersection Summary												
Average Delay			18.9									
Intersection Capacity Utilization			77.3%		ICU Level of Service				D			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 13: W Main St & Ostrander Ave

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	85	784	14	7	728	49	0	0	0	40	4	101
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.88	0.88	0.88	0.75	0.75	0.75	0.77	0.77	0.77
Hourly flow rate (vph)	87	800	14	8	827	56	0	0	0	52	5	131
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		641										
pX, platoon unblocked				0.70			0.70	0.70	0.70	0.70	0.70	
vC, conflicting volume	883			814			1985	1879	807	1852	1859	855
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	883			521			2193	2042	511	2002	2012	855
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			99			100	100	100	0	86	64
cM capacity (veh/h)	770			739			12	35	397	29	37	361
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	901	891	0	188								
Volume Left	87	8	0	52								
Volume Right	14	56	0	131								
cSH	770	739	1700	81								
Volume to Capacity	0.11	0.01	0.00	2.32								
Queue Length 95th (ft)	9	1	0	436								
Control Delay (s)	3.0	0.3	0.0	714.3								
Lane LOS	A	A	A	F								
Approach Delay (s)	3.0	0.3	0.0	714.3								
Approach LOS			A	F								
Intersection Summary												
Average Delay			69.4									
Intersection Capacity Utilization			107.1%		ICU Level of Service				G			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

14: W Main St & Riverside Dr

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	41	102	716	53	120	683
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.86	0.86
Hourly flow rate (vph)	49	121	852	63	140	794
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1957	884			915	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1957	884			915	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	15	65			81	
cM capacity (veh/h)	57	344			733	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	170	915	934			
Volume Left	49	0	140			
Volume Right	121	63	0			
cSH	142	1700	733			
Volume to Capacity	1.20	0.54	0.19			
Queue Length 95th (ft)	250	0	17			
Control Delay (s)	202.0	0.0	5.0			
Lane LOS	F		A			
Approach Delay (s)	202.0	0.0	5.0			
Approach LOS	F					
Intersection Summary						
Average Delay		19.3				
Intersection Capacity Utilization		102.0%		ICU Level of Service	G	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

15: W Main St & Fishel Ave

Timing Plan: Saturday Peak Ho

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	17	83	70	748	720	24
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.84	0.84	0.86	0.86
Hourly flow rate (vph)	23	112	83	890	837	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1908	851	865			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1908	851	865			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	69	89			
cM capacity (veh/h)	68	363	787			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	135	974	865			
Volume Left	23	83	0			
Volume Right	112	0	28			
cSH	209	787	1700			
Volume to Capacity	0.65	0.11	0.51			
Queue Length 95th (ft)	97	9	0			
Control Delay (s)	49.2	2.9	0.0			
Lane LOS	E	A				
Approach Delay (s)	49.2	2.9	0.0			
Approach LOS	E					
Intersection Summary						
Average Delay		4.8				
Intersection Capacity Utilization		98.6%		ICU Level of Service	F	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

16: W Main St & Hubbard Ave

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	130	47	606	97	53	567
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.82	0.82	0.81	0.81
Hourly flow rate (vph)	153	55	739	118	65	700
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1629	798			857	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1629	798			857	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	86			92	
cM capacity (veh/h)	102	389			792	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	208	857	765			
Volume Left	153	0	65			
Volume Right	55	118	0			
cSH	127	1700	792			
Volume to Capacity	1.64	0.50	0.08			
Queue Length 95th (ft)	382	0	7			
Control Delay (s)	381.2	0.0	2.1			
Lane LOS	F		A			
Approach Delay (s)	381.2	0.0	2.1			
Approach LOS	F					
Intersection Summary						
Average Delay		44.2				
Intersection Capacity Utilization		90.5%		ICU Level of Service		E
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

17: Peconic Ave & Parking Lot Access

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	166	32	1038	168	9	889
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	180	35	1128	183	10	966
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			TWLTL
Median storage (veh)						2
Upstream signal (ft)						316
pX, platoon unblocked						
vC, conflicting volume	2205	655			1311	
vC1, stage 1 conf vol	1220					
vC2, stage 2 conf vol	986					
vCu, unblocked vol	2205	655			1311	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	4	91			98	
cM capacity (veh/h)	189	408			524	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	
Volume Total	180	35	752	559	976	
Volume Left	180	0	0	0	10	
Volume Right	0	35	0	183	0	
cSH	189	408	1700	1700	524	
Volume to Capacity	0.96	0.09	0.44	0.33	0.02	
Queue Length 95th (ft)	193	7	0	0	1	
Control Delay (s)	105.2	14.6	0.0	0.0	0.6	
Lane LOS	F	B			A	
Approach Delay (s)	90.5		0.0		0.6	
Approach LOS	F					
Intersection Summary						
Average Delay			8.0			
Intersection Capacity Utilization			69.8%	ICU Level of Service		C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 18: Griffing Ave/Griffing St & PArking Lot/W 2nd St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	3	0	30	0	49	0	123	14	36	138	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.73	0.73	0.73	0.83	0.83	0.83	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	4	0	36	0	59	0	128	15	38	144	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								559				
pX, platoon unblocked												
vC, conflicting volume	413	361	144	356	354	135	144			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	413	361	144	356	354	135	144			143		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	100	94	100	94	100			97		
cM capacity (veh/h)	507	554	909	587	553	919	1451			1422		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	7	95	143	181								
Volume Left	3	36	0	38								
Volume Right	0	59	15	0								
cSH	534	757	1451	1422								
Volume to Capacity	0.01	0.13	0.00	0.03								
Queue Length 95th (ft)	1	11	0	2								
Control Delay (s)	11.8	10.4	0.0	1.7								
Lane LOS	B	B		A								
Approach Delay (s)	11.8	10.4	0.0	1.7								
Approach LOS	B	B										
Intersection Summary												
Average Delay			3.3									
Intersection Capacity Utilization			32.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

19: Griffing St/Griffing Ave & Court St

Timing Plan: Saturday Peak Ho

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	52	47	33	133	120	60
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.71	0.71
Hourly flow rate (vph)	65	59	41	166	169	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				1010		
pX, platoon unblocked						
vC, conflicting volume	460	211	254			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	460	211	254			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	93	97			
cM capacity (veh/h)	542	834	1323			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	124	208	254			
Volume Left	65	41	0			
Volume Right	59	0	85			
cSH	650	1323	1700			
Volume to Capacity	0.19	0.03	0.15			
Queue Length 95th (ft)	17	2	0			
Control Delay (s)	11.8	1.8	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.8	1.8	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			34.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

20: Griffing Ave & Railroad St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	50	23	63	39	22	12	159	12	12	113	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	54	25	68	42	24	13	173	13	13	123	17
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	95	135	199	153								
Volume Left (vph)	15	68	13	13								
Volume Right (vph)	25	24	13	17								
Hadj (s)	-0.09	0.03	0.01	-0.02								
Departure Headway (s)	4.9	4.9	4.7	4.7								
Degree Utilization, x	0.13	0.18	0.26	0.20								
Capacity (veh/h)	677	676	728	714								
Control Delay (s)	8.6	9.0	9.3	8.9								
Approach Delay (s)	8.6	9.0	9.3	8.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.0									
Level of Service			A									
Intersection Capacity Utilization			32.3%	ICU Level of Service	A							
Analysis Period (min)			15									

Timings

21: Roanoke Ave & W 2nd St/E 2nd St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	16	35	17	51	14	329	70	265
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.5	5.5	5.5	5.5
Minimum Split (s)	15.0	15.0	15.0	15.0	10.5	10.5	10.5	10.5
Total Split (s)	19.0	19.0	19.0	19.0	36.0	36.0	36.0	36.0
Total Split (%)	34.5%	34.5%	34.5%	34.5%	65.5%	65.5%	65.5%	65.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		10.4		10.4		35.0		35.0
Actuated g/C Ratio		0.20		0.20		0.68		0.68
v/c Ratio		0.31		0.40		0.29		0.33
Control Delay		14.3		13.4		5.6		6.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		14.3		13.4		5.6		6.0
LOS		B		B		A		A
Approach Delay		14.3		13.4		5.6		6.0
Approach LOS		B		B		A		A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 51.4

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 7.9

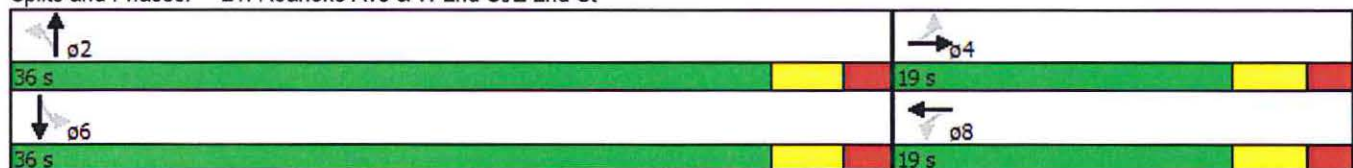
Intersection Capacity Utilization 59.1%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service B

Splits and Phases: 21: Roanoke Ave & W 2nd St/E 2nd St



Timings

22: Roanoke Ave & Railroad St

Timing Plan: Saturday Peak Ho

						
Lane Group	EBL	NBL	NBT	SBT	ø6	ø8
Lane Configurations						
Volume (vph)	59	14	410	376		
Turn Type	NA	Perm	NA	NA		
Protected Phases	2		4	8 6	6	8
Permitted Phases		4				
Detector Phase	2	4	4	8 6		
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	9.0	9.0	9.0		9.0	9.0
Total Split (s)	18.0	35.0	35.0		27.0	35.0
Total Split (%)	22.5%	43.8%	43.8%		34%	44%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	5.0		5.0			
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Max	Max		Max	Max
Act Effct Green (s)	8.9		30.0	57.0		
Actuated g/C Ratio	0.12		0.39	0.75		
v/c Ratio	0.36		0.71	0.42		
Control Delay	33.3		26.8	1.0		
Queue Delay	0.0		0.0	0.0		
Total Delay	33.3		26.8	1.0		
LOS	C		C	A		
Approach Delay	33.3		26.8	1.0		
Approach LOS	C		C	A		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 76

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 14.5

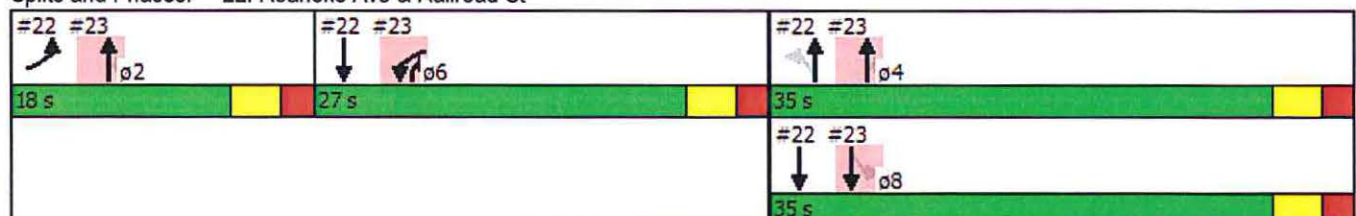
Intersection LOS: B

Intersection Capacity Utilization 44.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 22: Roanoke Ave & Railroad St



Timings

23: Roanoke Ave & Northville Turnpike

Timing Plan: Saturday Peak Ho

	↖	↑	↗	↘	↓		
Lane Group	WBL	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations	↖	↑	↗		↘		
Volume (vph)	172	331	144	17	314		
Turn Type	NA	NA	pm+ov	Perm	NA		
Protected Phases	6	4 2	6		8	2	4
Permitted Phases			4 2	8			
Detector Phase	6	4 2	6	8	8		
Switch Phase							
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0		9.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0		27.0	35.0	35.0	18.0	35.0
Total Split (%)	33.8%		33.8%	43.8%	43.8%	23%	44%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0		
Total Lost Time (s)	5.0		5.0		5.0		
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max		Max	Max	Max	None	Max
Act Effect Green (s)	22.0	44.0	76.0		30.0		
Actuated g/C Ratio	0.29	0.58	1.00		0.39		
v/c Ratio	0.41	0.35	0.10		0.59		
Control Delay	24.6	0.9	0.1		22.9		
Queue Delay	0.0	0.0	0.0		0.0		
Total Delay	24.6	0.9	0.1		22.9		
LOS	C	A	A		C		
Approach Delay	24.6	0.7			22.9		
Approach LOS	C	A			C		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 76

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 13.0

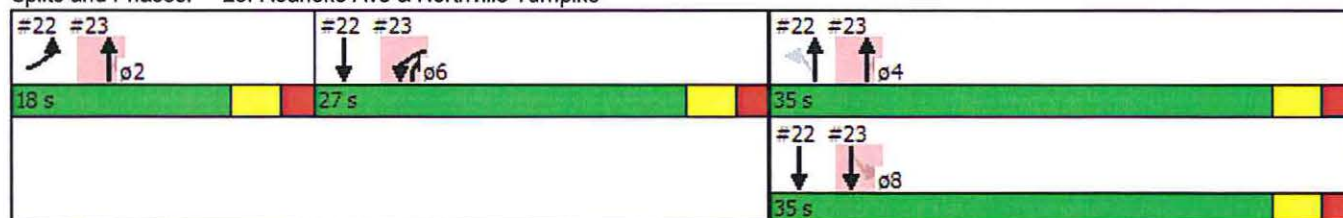
Intersection LOS: B

Intersection Capacity Utilization 49.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 23: Roanoke Ave & Northville Turnpike



Timings

24: Osborn Ave/Osborn St & Court St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	112	107	18	80	3	56	57	126
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	35.0	35.0	35.0	35.0	25.0	25.0	25.0	25.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)		30.2		30.2		14.2		14.2
Actuated g/C Ratio		0.55		0.55		0.26		0.26
v/c Ratio		0.31		0.19		0.16		0.73
Control Delay		8.8		5.1		13.9		24.2
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		8.8		5.1		13.9		24.2
LOS		A		A		B		C
Approach Delay		8.8		5.1		13.9		24.2
Approach LOS		A		A		B		C

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 54.5

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 14.7

Intersection LOS: B

Intersection Capacity Utilization 59.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 24: Osborn Ave/Osborn St & Court St

 02	 04
25 s	35 s
 06	 08
25 s	35 s

Operational Data

Traffic Flow Data (veh/hr)

2019 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows						Flow Modifiers		
		U-Turn	Exit-4	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Peconic	0	374	223	349	0	202	2.0	1.00	0.9
2	CR 94	0	216	334	147	50	0	2.0	1.00	0.9
3	CR 63	0	62	363	140	21	0	2.0	1.00	0.9
4	CR 104	0	42	215	227	31	0	2.0	1.00	0.9
5	NYS 24	0	9	112	316	344	0	2.0	1.00	0.9

Operational Results

2019 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Peconic	Yield	946	202	754	754	1148	1224	825	0.8119	0.2497
2	CR 94	None	747		1107		794	1013		0.7751	
3	CR 63	None	586		1300		552	832		0.7318	
4	CR 104	None	515		1486		399	773		0.7188	
5	NYS 24	None	781		1123		877	1094		0.7504	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Peconic	Yield	19.80	5.71	17.32	19.62	1.01	C	A	C
2	CR 94	None	18.32		18.32	15.56		C		C
3	CR 63	None	13.92		13.92	8.96		B		B
4	CR 104	None	27.17		27.17	16.00		D		D
5	NYS 24	None	19.28		19.28	15.53		C		C

Operational Data

Traffic Flow Data (veh/hr)

2019 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows						Flow Modifiers		
		U-Turn	Exit-4	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Peconic	0	238	227	387	0	223	2.0	1.00	0.9
2	CR 94	0	356	192	193	138	0	2.0	1.00	0.9
3	CR 63	0	56	233	88	39	0	2.0	1.00	0.9
4	CR 104	0	87	107	214	39	0	2.0	1.00	0.9
5	NYS 24	0	102	160	250	371	0	2.0	1.00	0.9

Operational Results

2019 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Peconic	Yield	852	223	760	760	1169	1220	822	0.7288	0.2765
2	CR 94	None	879		1199		635	957		1.0491	
3	CR 63	None	416		1300		770	832		0.5120	
4	CR 104	None	447		1157		559	970		0.4765	
5	NYS 24	None	883		1049		555	1132		0.8247	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Peconic	Yield	16.72	5.94	14.48	14.01	1.17	C	A	B
2	CR 94	None	60.16		60.16	64.89		F		F
3	CR 63	None	8.21		8.21	3.15		A		A
4	CR 104	None	11.59		11.59	4.75		B		B
5	NYS 24	None	22.84		22.84	20.96		C		C

Build Condition Mitigation 1 - Capacity Analyses

Timings

5: Nugent St/Court St & W Main St

Timing Plan: PM Peak Hour

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations									
Volume (vph)	84	309	432	460	662	396	191	107	672
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Free	NA
Protected Phases		2		1	6	7	4		8
Permitted Phases	2		2	6		4	4	Free	
Detector Phase	2	2	2	1	6	7	4		8
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	4.0	15.0	3.0	5.0		6.0
Minimum Split (s)	21.5	21.5	21.5	8.0	21.5	9.0	12.0		11.8
Total Split (s)	27.7	27.7	27.7	17.0	44.7	22.0	45.3		23.3
Total Split (%)	30.8%	30.8%	30.8%	18.9%	49.7%	24.4%	50.3%		25.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.0	3.5		3.5
All-Red Time (s)	3.0	3.0	3.0	0.5	3.0	2.0	2.3		2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.5	6.5	6.5	4.0	6.5	5.0	5.8		5.8
Lead/Lag	Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes			Yes
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None		None
Act Effct Green (s)	21.2	21.2	21.2	40.7	38.2	40.3	39.5	90.0	17.5
Actuated g/C Ratio	0.24	0.24	0.24	0.45	0.42	0.45	0.44	1.00	0.19
v/c Ratio	0.86	0.78	0.69	1.16	0.87	1.09	0.27	0.07	1.02
Control Delay	93.0	46.3	13.3	99.7	20.9	97.4	17.3	0.1	73.0
Queue Delay	0.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0
Total Delay	93.0	46.3	13.3	99.7	32.9	97.4	17.3	0.1	73.0
LOS	F	D	B	F	C	F	B	A	E
Approach Delay		33.7			60.2		60.3		73.0
Approach LOS		C			E		E		E

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 34.5 (38%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 56.5

Intersection LOS: E

Intersection Capacity Utilization 111.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 5: Nugent St/Court St & W Main St

 $\phi 1$	 $\phi 2$ (R)		 $\phi 4$
17 s	27.7 s		45.3 s
 $\phi 6$ (R)			 $\phi 8$
44.7 s		22 s	23.3 s

Timings

6: W Main St & Osborn Ave

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	7	413	1094	41
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	11.3	11.3	11.3	11.2
Total Split (s)	75.0	75.0	75.0	15.0
Total Split (%)	83.3%	83.3%	83.3%	16.7%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.8	2.8	2.8	2.7
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		6.3	6.3	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effect Green (s)		73.6	73.6	7.5
Actuated g/C Ratio		0.82	0.82	0.08
v/c Ratio		0.39	0.95	0.39
Control Delay		17.3	37.4	39.7
Queue Delay		0.7	8.5	0.0
Total Delay		18.0	45.9	39.7
LOS		B	D	D
Approach Delay		18.0	45.9	39.7
Approach LOS		B	D	D

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 26 (29%), Referenced to phase 4:EBTL and 8:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 39.0

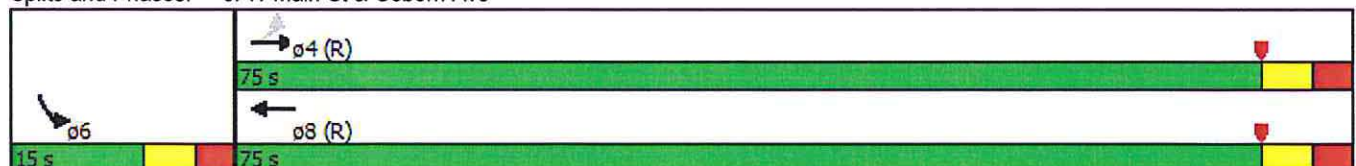
Intersection LOS: D

Intersection Capacity Utilization 76.4%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: W Main St & Osborn Ave



Timings

7: W Main St & Griffing Ave

Timing Plan: PM Peak Hour

				
Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	56	422	1068	38
Turn Type	Perm	NA	NA	NA
Protected Phases		2	6	4
Permitted Phases	2			
Detector Phase	2	2	6	4
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.8	15.8	15.8	10.5
Total Split (s)	71.0	71.0	71.0	19.0
Total Split (%)	78.9%	78.9%	78.9%	21.1%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.3	2.3	2.3	2.0
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		5.8	5.8	5.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)		70.5	70.5	8.2
Actuated g/C Ratio		0.78	0.78	0.09
v/c Ratio		0.43	0.51	0.55
Control Delay		1.9	3.6	23.2
Queue Delay		0.0	0.0	0.5
Total Delay		1.9	3.6	23.7
LOS		A	A	C
Approach Delay		1.9	3.6	23.7
Approach LOS		A	A	C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 16 (18%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 4.6

Intersection LOS: A

Intersection Capacity Utilization 80.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 7: W Main St & Griffing Ave

 02 (R)	 04
71s	19s
 06 (R)	
71s	

Timings

8: Peconic Ave & W Main St

Timing Plan: PM Peak Hour

	→	←	↶	↷					
Lane Group	EBT	WBT	NBL	NBR	ø3	ø6	ø8	ø9	ø13
Lane Configurations	↑↑	↑↑	↶	↷					
Volume (vph)	435	945	225	728					
Turn Type	NA	NA	NA	custom					
Protected Phases	2	6 3	4	3 13	3	6	8	9	13
Permitted Phases				4 3					
Detector Phase	2	6 3	4	3 13					
Switch Phase									
Minimum Initial (s)	10.0		10.0		4.0	10.0	10.0	22.0	4.0
Minimum Split (s)	15.9		15.9		9.9	28.0	15.0	25.0	8.0
Total Split (s)	56.0		41.0		55.0	56.0	96.0	28.0	28.0
Total Split (%)	31.1%		22.8%		31%	31%	53%	16%	16%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.0	2.0	3.5
All-Red Time (s)	2.4		2.4		2.4	2.4	2.0	1.0	0.5
Lost Time Adjust (s)	0.0		0.0						
Total Lost Time (s)	5.9		5.9						
Lead/Lag			Lead		Lag				
Lead-Lag Optimize?									
Recall Mode	C-Min		None		None	C-Min	None	None	None
Act Effct Green (s)	53.0	106.5	30.2	115.2					
Actuated g/C Ratio	0.29	0.59	0.17	0.64					
v/c Ratio	0.46	0.50	0.86	0.79					
Control Delay	52.7	2.6	99.9	30.5					
Queue Delay	1.8	1.2	0.0	1.5					
Total Delay	54.5	3.9	99.9	32.0					
LOS	D	A	F	C					
Approach Delay	54.5	3.9	48.0						
Approach LOS	D	A	D						

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 32.1
 Intersection Capacity Utilization 66.9%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 8: Peconic Ave & W Main St

Timings

9: W Main St/E Main St & Roanoke Ave

Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	WBT	SBR	ø2	ø3	ø4	ø8	ø9	ø13
Lane Configurations										
Volume (vph)	375	778	780	162						
Turn Type	pm+pt	NA	NA	custom						
Protected Phases	4 13	8 2	6	3 9	2	3	4	8	9	13
Permitted Phases	8 2									
Detector Phase	4 13	8 2	6	3 9						
Switch Phase										
Minimum Initial (s)			10.0		10.0	4.0	10.0	10.0	22.0	4.0
Minimum Split (s)			28.0		15.9	9.9	15.9	15.0	25.0	8.0
Total Split (s)			56.0		56.0	55.0	41.0	96.0	28.0	28.0
Total Split (%)			31.1%		31%	31%	23%	53%	16%	16%
Yellow Time (s)			3.5		3.5	3.5	3.5	3.0	2.0	3.5
All-Red Time (s)			2.4		2.4	2.4	2.4	2.0	1.0	0.5
Lost Time Adjust (s)			0.0							
Total Lost Time (s)			5.9							
Lead/Lag						Lag	Lead			
Lead-Lag Optimize?										
Recall Mode			C-Min		C-Min	None	None	None	None	None
Act Effct Green (s)	162.3	149.4	53.0	79.0						
Actuated g/C Ratio	0.90	0.83	0.29	0.44						
v/c Ratio	0.51	0.52	0.81	0.25						
Control Delay	8.5	6.6	65.7	33.7						
Queue Delay	3.8	2.5	0.1	0.0						
Total Delay	12.3	9.1	65.8	33.7						
LOS	B	A	E	C						
Approach Delay		10.1	65.8							
Approach LOS		B	E							

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 33.1

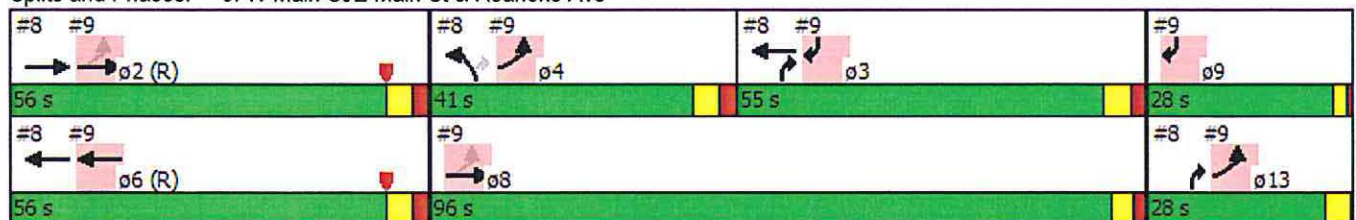
Intersection LOS: C

Intersection Capacity Utilization 53.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: W Main St/E Main St & Roanoke Ave



HCM Unsignalized Intersection Capacity Analysis

10: E Main St & East Ave

Timing Plan: PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	90	560	655	77	79	76
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	98	609	712	84	86	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		763	275			
pX, platoon unblocked	0.80				0.88	0.80
vC, conflicting volume	796				1558	754
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	615				1151	562
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				49	80
cM capacity (veh/h)	775				169	422
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	707	796	168			
Volume Left	98	0	86			
Volume Right	0	84	83			
cSH	775	1700	240			
Volume to Capacity	0.13	0.47	0.70			
Queue Length 95th (ft)	11	0	117			
Control Delay (s)	3.2	0.0	49.2			
Lane LOS	A		E			
Approach Delay (s)	3.2	0.0	49.2			
Approach LOS			E			
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			92.6%	ICU Level of Service	F	
Analysis Period (min)			15			

Timings

11: McDermott Ave/Maple Ave & E Main St

Timing Plan: PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	14	630	101	514	295	13	88	14
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phase	2	2	6	6	4	4	8	8
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	15.0	15.0	15.0	15.0	9.0	9.0	9.0	9.0
Total Split (s)	61.0	61.0	61.0	61.0	29.0	29.0	29.0	29.0
Total Split (%)	67.8%	67.8%	67.8%	67.8%	32.2%	32.2%	32.2%	32.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)		56.0		56.0		24.0		24.0
Actuated g/C Ratio		0.62		0.62		0.27		0.27
v/c Ratio		0.66		0.77		1.27		0.38
Control Delay		14.4		19.3		169.5		28.3
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		14.4		19.3		169.5		28.3
LOS		B		B		F		C
Approach Delay		14.4		19.3		169.5		28.3
Approach LOS		B		B		F		C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.27

Intersection Signal Delay: 52.0

Intersection LOS: D

Intersection Capacity Utilization 110.9%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 11: McDermott Ave/Maple Ave & E Main St

 ø2	 ø4
61 s	29 s
 ø6	 ø8
61 s	29 s

HCM Unsignalized Intersection Capacity Analysis

12: Parking Lot/Union Ave & E Main St

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	822	23	23	675	44	9	3	22	35	2	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	893	25	25	734	48	10	3	24	38	2	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		285										
pX, platoon unblocked				0.73			0.73	0.73	0.73	0.73	0.73	
vC, conflicting volume	782			918			1772	1785	906	1787	1774	758
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	782			707			1872	1889	689	1892	1874	758
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			73	93	93	0	96	98
cM capacity (veh/h)	845			660			37	49	329	33	50	410
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	942	807	37	50								
Volume Left	24	25	10	38								
Volume Right	25	48	24	10								
cSH	845	660	91	41								
Volume to Capacity	0.03	0.04	0.41	1.22								
Queue Length 95th (ft)	2	3	41	123								
Control Delay (s)	0.8	1.1	69.5	366.4								
Lane LOS	A	A	F	F								
Approach Delay (s)	0.8	1.1	69.5	366.4								
Approach LOS			F	F								
Intersection Summary												
Average Delay			12.3									
Intersection Capacity Utilization			67.0%		ICU Level of Service					C		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

13: E Main St & Ostrander Ave

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	773	12	5	766	69	0	0	0	40	2	66
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.75	0.75	0.75	0.86	0.86	0.86
Hourly flow rate (vph)	44	849	13	6	851	77	0	0	0	47	2	77
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		658										
pX, platoon unblocked				0.76			0.76	0.76	0.76	0.76	0.76	
vC, conflicting volume	928			863			1922	1883	856	1845	1851	889
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	928			659			2058	2005	650	1955	1963	889
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			99			100	100	100	0	95	78
cM capacity (veh/h)	733			711			22	43	358	35	45	345
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	907	933	0	126								
Volume Left	44	6	0	47								
Volume Right	13	77	0	77								
cSH	733	711	1700	78								
Volume to Capacity	0.06	0.01	0.00	1.60								
Queue Length 95th (ft)	5	1	0	261								
Control Delay (s)	1.7	0.2	0.0	414.3								
Lane LOS	A	A	A	F								
Approach Delay (s)	1.7	0.2	0.0	414.3								
Approach LOS			A	F								
Intersection Summary												
Average Delay			27.4									
Intersection Capacity Utilization			82.4%		ICU Level of Service					E		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

14: E Main St & Riverside Dr

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	71	169	655	87	197	688
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	72	172	668	89	201	702
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1817	713			757	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1817	713			757	
tC, single (s)	*5.4	*5.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	34	66			77	
cM capacity (veh/h)	110	509			863	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1	SB 2	
Volume Total	72	172	757	201	702	
Volume Left	72	0	0	201	0	
Volume Right	0	172	89	0	0	
cSH	110	509	1700	863	1700	
Volume to Capacity	0.66	0.34	0.45	0.23	0.41	
Queue Length 95th (ft)	84	37	0	23	0	
Control Delay (s)	86.0	15.7	0.0	10.4	0.0	
Lane LOS	F	C		B		
Approach Delay (s)	36.5		0.0	2.3		
Approach LOS	E					
Intersection Summary						
Average Delay			5.8			
Intersection Capacity Utilization			64.6%	ICU Level of Service		C
Analysis Period (min)			15			

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis

15: E Main St & Fishel Ave

Timing Plan: PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	18	101	109	715	784	37
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	21	120	130	851	933	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2066	955	977			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2066	955	977			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	57	62	82			
cM capacity (veh/h)	50	316	714			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	142	981	977			
Volume Left	21	130	0			
Volume Right	120	0	44			
cSH	174	714	1700			
Volume to Capacity	0.81	0.18	0.57			
Queue Length 95th (ft)	138	17	0			
Control Delay (s)	80.1	5.0	0.0			
Lane LOS	F	A				
Approach Delay (s)	80.1	5.0	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay		7.7				
Intersection Capacity Utilization		104.4%		ICU Level of Service	G	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

16: E Main St & Hubbard Ave

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	118	53	561	158	50	517
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.92	0.92	0.86	0.86
Hourly flow rate (vph)	123	55	610	172	58	601
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1413	696			782	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1413	696			782	
tC, single (s)	6.4	6.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.2	
p0 queue free %	13	87			93	
cM capacity (veh/h)	141	411			836	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	178	782	659			
Volume Left	123	0	58			
Volume Right	55	172	0			
cSH	177	1700	836			
Volume to Capacity	1.01	0.46	0.07			
Queue Length 95th (ft)	207	0	6			
Control Delay (s)	123.5	0.0	1.8			
Lane LOS	F		A			
Approach Delay (s)	123.5	0.0	1.8			
Approach LOS	F					
Intersection Summary						
Average Delay		14.3				
Intersection Capacity Utilization		85.2%		ICU Level of Service	E	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

17: Peconic Ave

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	19	934	157	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	21	1015	171	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			None
Median storage (veh)			2			
Upstream signal (ft)						280
pX, platoon unblocked						
vC, conflicting volume	1101	593			1186	
vC1, stage 1 conf vol	1101					
vC2, stage 2 conf vol	0					
vCu, unblocked vol	1101	593			1186	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	95			100	
cM capacity (veh/h)	273	449			585	
Direction, Lane #	WB 1	NB 1	NB 2			
Volume Total	21	677	509			
Volume Left	0	0	0			
Volume Right	21	0	171			
cSH	449	1700	1700			
Volume to Capacity	0.05	0.40	0.30			
Queue Length 95th (ft)	4	0	0			
Control Delay (s)	13.4	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	13.4	0.0				
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			40.8%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 18: Griffing Ave/Griffing St & Parking Lot/W 2nd St

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	8	2	66	2	112	0	140	14	56	47	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.53	0.53	0.53	0.84	0.84	0.84	0.92	0.92	0.92	0.86	0.86	0.86
Hourly flow rate (vph)	15	15	4	79	2	133	0	152	15	65	55	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								517				
pX, platoon unblocked												
vC, conflicting volume	479	352	55	356	345	160	55			167		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	479	352	55	356	345	160	55			167		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	97	100	86	100	85	100			95		
cM capacity (veh/h)	408	549	1018	567	554	883	1563			1398		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	34	214	167	120								
Volume Left	15	79	0	65								
Volume Right	4	133	15	0								
cSH	498	729	1563	1398								
Volume to Capacity	0.07	0.29	0.00	0.05								
Queue Length 95th (ft)	5	31	0	4								
Control Delay (s)	12.8	12.0	0.0	4.4								
Lane LOS	B	B		A								
Approach Delay (s)	12.8	12.0	0.0	4.4								
Approach LOS	B	B										
Intersection Summary												
Average Delay			6.6									
Intersection Capacity Utilization			36.5%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

19: Griffing St/Griffing Ave & Court St

Timing Plan: PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	71	47	100	179	57	418
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	83	55	119	213	68	498
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				996		
pX, platoon unblocked						
vC, conflicting volume	768	317	565			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	768	317	565			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	74	92	88			
cM capacity (veh/h)	319	724	1011			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	137	332	565			
Volume Left	83	119	0			
Volume Right	55	0	498			
cSH	410	1011	1700			
Volume to Capacity	0.33	0.12	0.33			
Queue Length 95th (ft)	36	10	0			
Control Delay (s)	18.1	4.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	18.1	4.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		3.7				
Intersection Capacity Utilization		60.6%		ICU Level of Service		B
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

20: Griffing Ave & Railroad St

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	16	96	28	243	94	22	30	213	7	3	207	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	104	30	264	102	24	33	232	8	3	225	20
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	152	390	272	248								
Volume Left (vph)	17	264	33	3								
Volume Right (vph)	30	24	8	20								
Hadj (s)	-0.06	0.13	0.04	-0.01								
Departure Headway (s)	6.3	6.0	6.2	6.2								
Degree Utilization, x	0.27	0.65	0.47	0.43								
Capacity (veh/h)	483	571	531	528								
Control Delay (s)	11.7	19.5	14.5	13.7								
Approach Delay (s)	11.7	19.5	14.5	13.7								
Approach LOS	B	C	B	B								
Intersection Summary												
Delay				15.8								
Level of Service				C								
Intersection Capacity Utilization				66.2%	ICU Level of Service	C						
Analysis Period (min)				15								

Timings

21: Roanoke Ave & W 2nd St/E 2nd St

Timing Plan: PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	24	60	9	104	19	318	90	106
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.5	5.5	5.5	5.5
Minimum Split (s)	15.0	15.0	15.0	15.0	10.5	10.5	10.5	10.5
Total Split (s)	19.0	19.0	19.0	19.0	36.0	36.0	36.0	36.0
Total Split (%)	34.5%	34.5%	34.5%	34.5%	65.5%	65.5%	65.5%	65.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effect Green (s)		11.3		11.3		31.0		31.0
Actuated g/C Ratio		0.22		0.22		0.59		0.59
v/c Ratio		0.36		0.53		0.34		0.28
Control Delay		17.6		18.6		6.8		6.2
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		17.6		18.6		6.8		6.2
LOS		B		B		A		A
Approach Delay		17.6		18.6		6.8		6.2
Approach LOS		B		B		A		A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 52.3

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 10.9

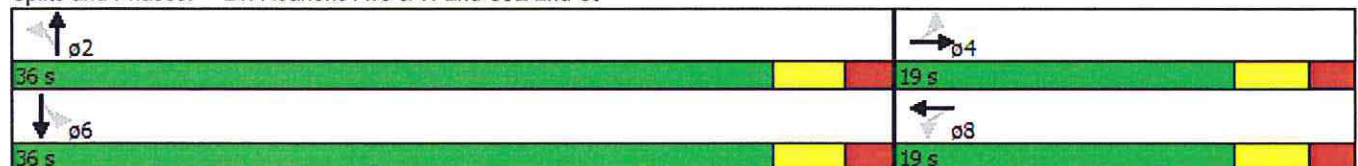
Intersection LOS: B

Intersection Capacity Utilization 57.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 21: Roanoke Ave & W 2nd St/E 2nd St



Timings

22: Roanoke Ave & Railroad St

Timing Plan: PM Peak Hour

	  					
Lane Group	NBL	NBT	SBT	ø2	ø6	ø8
Lane Configurations						
Volume (vph)	21	399	210			
Turn Type	Perm	NA	NA			
Protected Phases		4	8 6	2	6	8
Permitted Phases	4					
Detector Phase	4	4	8 6			
Switch Phase						
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0
Total Split (s)	35.0	35.0		18.0	27.0	35.0
Total Split (%)	43.8%	43.8%		23%	34%	44%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		0.0				
Total Lost Time (s)		5.0				
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max		None	Max	Max
Act Effct Green (s)		30.0	57.0			
Actuated g/C Ratio		0.41	0.78			
v/c Ratio		0.61	0.40			
Control Delay		21.6	0.8			
Queue Delay		0.0	0.3			
Total Delay		21.6	1.1			
LOS		C	A			
Approach Delay		21.6	1.1			
Approach LOS		C	A			

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 73.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 10.2

Intersection LOS: B

Intersection Capacity Utilization 42.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 22: Roanoke Ave & Railroad St

 ø2 18 s		 ø6 27 s		 ø4 35 s	
				 ø8 35 s	

Timings

23: Roanoke Ave & Northville Turnpike

Timing Plan: PM Peak Hour

							
Lane Group	WBL	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations							
Volume (vph)	210	275	123	28	339		
Turn Type	NA	NA	pm+ov	Perm	NA		
Protected Phases	6	4 2	6		8	2	4
Permitted Phases			4 2	8			
Detector Phase	6	4 2	6	8	8		
Switch Phase							
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0		9.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0		27.0	35.0	35.0	18.0	35.0
Total Split (%)	33.8%		33.8%	43.8%	43.8%	23%	44%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0		
Total Lost Time (s)	5.0		5.0		5.0		
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max		Max	Max	Max	None	Max
Act Effct Green (s)	22.0	41.4	73.4		30.0		
Actuated g/C Ratio	0.30	0.56	1.00		0.41		
v/c Ratio	0.48	0.28	0.08		0.55		
Control Delay	24.1	0.5	0.1		20.1		
Queue Delay	0.0	0.4	0.0		0.0		
Total Delay	24.1	0.9	0.1		20.1		
LOS	C	A	A		C		
Approach Delay	24.1	0.7			20.1		
Approach LOS	C	A			C		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 73.4

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 59.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 23: Roanoke Ave & Northville Turnpike

  18 s		  27 s		  35 s	
				  35 s	

Timings

24: Osborn Ave/Osborn St & Court St

Timing Plan: PM Peak Hour

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔		↔		↔
Volume (vph)	111	132	10	511	8	55	51	39
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	35.0	35.0	35.0	35.0	25.0	25.0	25.0	25.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)		30.3		30.3		10.4		10.4
Actuated g/C Ratio		0.60		0.60		0.21		0.21
v/c Ratio		0.37		0.58		0.24		0.71
Control Delay		8.5		10.2		15.0		14.5
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		8.5		10.2		15.0		14.5
LOS		A		B		B		B
Approach Delay		8.5		10.2		15.0		14.5
Approach LOS		A		B		B		B

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 50.7

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 11.3

Intersection LOS: B

Intersection Capacity Utilization 84.2%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 24: Osborn Ave/Osborn St & Court St

25 s	35 s
25 s	35 s

Timings

5: Nugent St/Court St & W Main St

Timing Plan: Saturday Peak Ho

									
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations									
Volume (vph)	96	370	593	332	697	490	143	138	529
Turn Type	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Free	NA
Protected Phases		2		1	6	7	4		8
Permitted Phases	2		2	6		4	4	Free	
Detector Phase	2	2	2	1	6	7	4		8
Switch Phase									
Minimum Initial (s)	15.0	15.0	15.0	4.0	15.0	3.0	5.0		6.0
Minimum Split (s)	21.5	21.5	21.5	8.0	21.5	9.0	12.0		11.8
Total Split (s)	39.0	39.0	39.0	10.0	49.0	22.0	41.0		19.0
Total Split (%)	43.3%	43.3%	43.3%	11.1%	54.4%	24.4%	45.6%		21.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.0	3.5		3.5
All-Red Time (s)	3.0	3.0	3.0	0.5	3.0	2.0	2.3		2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.5	6.5	6.5	4.0	6.5	5.0	5.8		5.8
Lead/Lag	Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes			Yes
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	None	None		None
Act Effect Green (s)	32.5	32.5	32.5	45.0	42.5	36.0	35.2	90.0	13.2
Actuated g/C Ratio	0.36	0.36	0.36	0.50	0.47	0.40	0.39	1.00	0.15
v/c Ratio	0.92	0.61	0.68	0.99	0.90	1.33	0.23	0.09	1.11
Control Delay	102.4	28.3	9.5	54.8	33.3	186.5	19.5	0.1	106.6
Queue Delay	0.0	0.0	0.0	0.0	9.3	0.0	0.0	0.0	0.0
Total Delay	102.4	28.3	9.5	54.8	42.6	186.5	19.5	0.1	106.6
LOS	F	C	A	D	D	F	B	A	F
Approach Delay		24.2			46.5		122.1		106.6
Approach LOS		C			D		F		F

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.33

Intersection Signal Delay: 67.2

Intersection LOS: E

Intersection Capacity Utilization 113.0%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 5: Nugent St/Court St & W Main St



Timings

6: W Main St & Osborn Ave

Timing Plan: Saturday Peak Ho



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	9	497	1017	67
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	11.3	11.3	11.3	11.2
Total Split (s)	69.0	69.0	69.0	21.0
Total Split (%)	76.7%	76.7%	76.7%	23.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.8	2.8	2.8	2.7
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		6.3	6.3	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effect Green (s)		71.3	71.3	9.9
Actuated g/C Ratio		0.79	0.79	0.11
v/c Ratio		0.36	0.82	0.49
Control Delay		1.5	10.9	41.3
Queue Delay		0.0	1.0	0.0
Total Delay		1.6	11.9	41.3
LOS		A	B	D
Approach Delay		1.6	11.9	41.3
Approach LOS		A	B	D

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 14 (16%), Referenced to phase 4:EBTL and 8:WBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 10.5

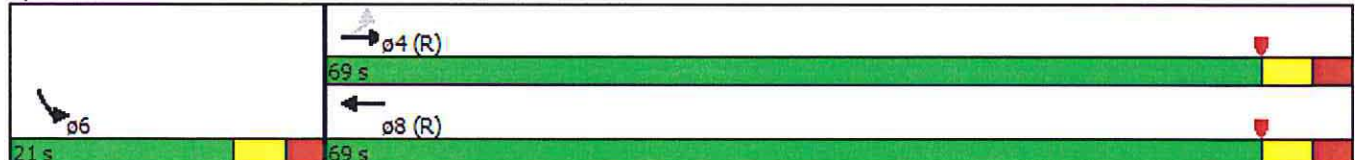
Intersection LOS: B

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 6: W Main St & Osborn Ave



Timings

7: W Main St & Griffing Ave

Timing Plan: Saturday Peak Ho



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	46	577	1057	32
Turn Type	Perm	NA	NA	NA
Protected Phases		2	6	4
Permitted Phases	2			
Detector Phase	2	2	6	4
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.8	15.8	15.8	10.5
Total Split (s)	70.0	70.0	70.0	20.0
Total Split (%)	77.8%	77.8%	77.8%	22.2%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.3	2.3	2.3	2.0
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		5.8	5.8	5.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)		70.4	70.4	8.3
Actuated g/C Ratio		0.78	0.78	0.09
v/c Ratio		0.59	0.76	0.56
Control Delay		18.3	19.6	23.6
Queue Delay		0.3	0.4	0.0
Total Delay		18.6	20.0	23.6
LOS		B	B	C
Approach Delay		18.6	20.0	23.6
Approach LOS		B	B	C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 19.8

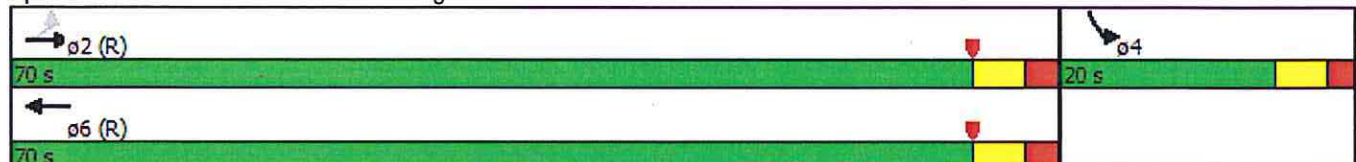
Intersection LOS: B

Intersection Capacity Utilization 83.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 7: W Main St & Griffing Ave



Timings

8: Peconic Ave & W Main St/E Main St

Timing Plan: Saturday Peak Ho

	→ ← ↶ ↷				ø3	ø6	ø8	ø9	ø13
Lane Group	EBT	WBT	NBL	NBR					
Lane Configurations	↑↑	↑↑	↶	↷					
Volume (vph)	547	862	285	759					
Turn Type	NA	NA	NA	custom					
Protected Phases	2	6 3	4	3 13	3	6	8	9	13
Permitted Phases				4					
Detector Phase	2	6 3	4	3 13					
Switch Phase									
Minimum Initial (s)	10.0		10.0		4.0	10.0	10.0	22.0	22.0
Minimum Split (s)	15.9		15.9		9.9	28.0	15.0	25.0	25.0
Total Split (s)	67.0		41.0		47.0	67.0	88.0	25.0	25.0
Total Split (%)	37.2%		22.8%		26%	37%	49%	14%	14%
Yellow Time (s)	3.5		3.5		3.5	3.5	3.0	2.0	2.0
All-Red Time (s)	2.4		2.4		2.4	2.4	2.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0						
Total Lost Time (s)	5.9		5.9						
Lead/Lag			Lead		Lag				
Lead-Lag Optimize?									
Recall Mode	C-Min		None		None	C-Min	None	None	None
Act Effct Green (s)	60.5	103.3	34.0	107.7					
Actuated g/C Ratio	0.34	0.57	0.19	0.60					
v/c Ratio	0.55	0.50	0.94	0.86					
Control Delay	45.8	1.7	107.0	41.3					
Queue Delay	4.9	2.4	52.3	5.9					
Total Delay	50.8	4.1	159.3	47.2					
LOS	D	A	F	D					
Approach Delay	50.8	4.1	77.8						
Approach LOS	D	A	E						

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 46.3

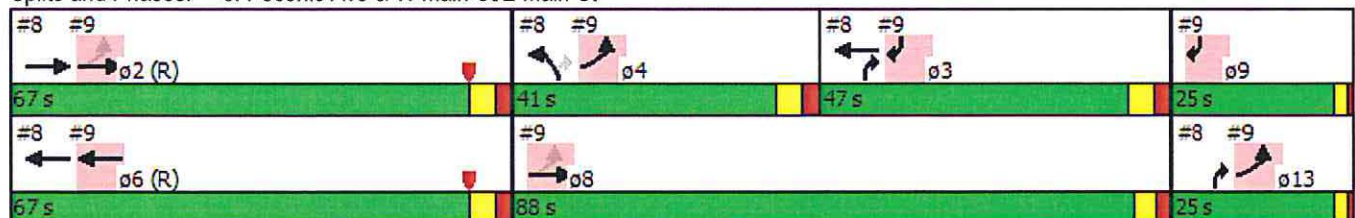
Intersection LOS: D

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 8: Peconic Ave & W Main St/E Main St



Timings

9: E Main St & Roanoke Ave

Timing Plan: Saturday Peak Ho



Lane Group	EBL	EBT	WBT	SBR	ø2	ø3	ø4	ø8	ø9	ø13
Lane Configurations										
Volume (vph)	360	904	774	105						
Turn Type	pm+pt	NA	NA	custom						
Protected Phases	4 13	8 2	6	3 9	2	3	4	8	9	13
Permitted Phases	8 2									
Detector Phase	4 13	8 2	6	3 9						
Switch Phase										
Minimum Initial (s)			10.0		10.0	4.0	10.0	10.0	22.0	22.0
Minimum Split (s)			28.0		15.9	9.9	15.9	15.0	25.0	25.0
Total Split (s)			67.0		67.0	47.0	41.0	88.0	25.0	25.0
Total Split (%)			37.2%		37%	26%	23%	49%	14%	14%
Yellow Time (s)			3.5		3.5	3.5	3.5	3.0	2.0	2.0
All-Red Time (s)			2.4		2.4	2.4	2.4	2.0	1.0	1.0
Lost Time Adjust (s)			0.0							
Total Lost Time (s)			5.9							
Lead/Lag						Lag	Lead			
Lead-Lag Optimize?										
Recall Mode			C-Min		C-Min	None	None	None	None	None
Act Effct Green (s)	162.3	150.0	60.5	67.9						
Actuated g/C Ratio	0.90	0.83	0.34	0.38						
v/c Ratio	0.52	0.53	0.92	0.18						
Control Delay	15.1	5.7	71.1	39.3						
Queue Delay	50.4	1.3	0.0	0.0						
Total Delay	65.4	7.0	71.1	39.3						
LOS	E	A	E	D						
Approach Delay		23.6	71.1							
Approach LOS		C	E							

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 44.1

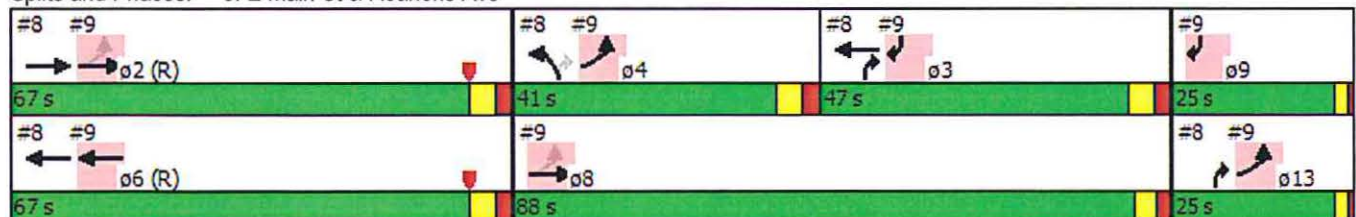
Intersection LOS: D

Intersection Capacity Utilization 52.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 9: E Main St & Roanoke Ave



HCM Unsignalized Intersection Capacity Analysis

10: E Main St & East Ave

Timing Plan: Saturday Peak Ho



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Volume (veh/h)	83	706	663	94	94	87
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	90	767	721	102	102	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		768	275			
pX, platoon unblocked	0.76				0.86	0.76
vC, conflicting volume	823				1720	772
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				1220	542
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				33	77
cM capacity (veh/h)	744				152	414
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	858	823	197			
Volume Left	90	0	102			
Volume Right	0	102	95			
cSH	744	1700	219			
Volume to Capacity	0.12	0.48	0.90			
Queue Length 95th (ft)	10	0	183			
Control Delay (s)	3.2	0.0	83.6			
Lane LOS	A		F			
Approach Delay (s)	3.2	0.0	83.6			
Approach LOS			F			
Intersection Summary						
Average Delay		10.2				
Intersection Capacity Utilization		102.9%		ICU Level of Service	G	
Analysis Period (min)		15				

Timings

11: McDermott Ave/Maple Ave & E Main St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	26	748	118	495	317	18	75	17
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phase	2	2	6	6	4	4	8	8
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	15.0	15.0	15.0	15.0	21.5	21.5	21.5	21.5
Total Split (s)	53.5	53.5	53.5	53.5	34.0	34.0	34.0	34.0
Total Split (%)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)		48.5		48.5		28.5		28.5
Actuated g/C Ratio		0.55		0.55		0.33		0.33
v/c Ratio		0.90		1.03		1.23		0.34
Control Delay		31.3		64.7		150.2		20.6
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		31.3		64.7		150.2		20.6
LOS		C		E		F		C
Approach Delay		31.3		64.7		150.2		20.6
Approach LOS		C		E		F		C

Intersection Summary

Cycle Length: 87.5

Actuated Cycle Length: 87.5

Offset: 48.5 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 69.3

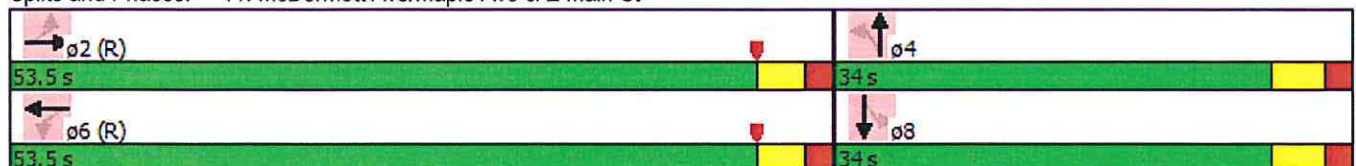
Intersection LOS: E

Intersection Capacity Utilization 127.8%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 11: McDermott Ave/Maple Ave & E Main St



HCM Unsignalized Intersection Capacity Analysis 12: Parking Lot/Union Ave & E Main St/W Main St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	23	929	25	19	658	53	2	0	13	31	1	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	1010	27	21	715	58	2	0	14	34	1	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)		278										
pX, platoon unblocked				0.56			0.56	0.56	0.56	0.56	0.56	
vC, conflicting volume	773			1037			1879	1888	1023	1873	1872	744
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	773			679			2171	2187	655	2161	2160	744
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			87	100	95	0	96	95
cM capacity (veh/h)	851			520			17	24	265	18	25	418
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	1062	793	16	54								
Volume Left	25	21	2	34								
Volume Right	27	58	14	20								
cSH	851	520	89	27								
Volume to Capacity	0.03	0.04	0.18	2.01								
Queue Length 95th (ft)	2	3	16	163								
Control Delay (s)	0.9	1.2	54.1	777.7								
Lane LOS	A	A	F	F								
Approach Delay (s)	0.9	1.2	54.1	777.7								
Approach LOS			F	F								
Intersection Summary												
Average Delay			23.4									
Intersection Capacity Utilization			77.1%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

13: W Main St & Ostrander Ave

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	85	784	14	7	640	49	0	0	0	40	4	101
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.88	0.88	0.88	0.75	0.75	0.75	0.77	0.77	0.77
Hourly flow rate (vph)	87	800	14	8	727	56	0	0	0	52	5	131
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		641										
pX, platoon unblocked				0.63			0.63	0.63	0.63	0.63	0.63	
vC, conflicting volume	783			814			1885	1779	807	1752	1759	755
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	783			407			2114	1946	395	1901	1913	755
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			99			100	100	100	0	86	68
cM capacity (veh/h)	840			729			13	36	413	30	38	412
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	901	791	0	188								
Volume Left	87	8	0	52								
Volume Right	14	56	0	131								
cSH	840	729	1700	87								
Volume to Capacity	0.10	0.01	0.00	2.16								
Queue Length 95th (ft)	9	1	0	421								
Control Delay (s)	2.7	0.3	0.0	637.3								
Lane LOS	A	A	A	F								
Approach Delay (s)	2.7	0.3	0.0	637.3								
Approach LOS			A	F								
Intersection Summary												
Average Delay			65.2									
Intersection Capacity Utilization			102.5%		ICU Level of Service					G		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

14: W Main St & Riverside Dr

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	41	102	716	53	120	595
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.86	0.86
Hourly flow rate (vph)	49	121	852	63	140	692
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1855	884			915	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1855	884			915	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	27	65			81	
cM capacity (veh/h)	66	344			733	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	170	915	831			
Volume Left	49	0	140			
Volume Right	121	63	0			
cSH	157	1700	733			
Volume to Capacity	1.09	0.54	0.19			
Queue Length 95th (ft)	222	0	17			
Control Delay (s)	155.3	0.0	4.8			
Lane LOS	F		A			
Approach Delay (s)	155.3	0.0	4.8			
Approach LOS	F					
Intersection Summary						
Average Delay		15.9				
Intersection Capacity Utilization		97.4%		ICU Level of Service		F
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

15: W Main St & Fishel Ave

Timing Plan: Saturday Peak Ho

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	17	83	70	748	632	24
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.84	0.84	0.86	0.86
Hourly flow rate (vph)	23	112	83	890	735	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1806	749	763			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1806	749	763			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	71	73	90			
cM capacity (veh/h)	80	415	859			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	135	974	763			
Volume Left	23	83	0			
Volume Right	112	0	28			
cSH	242	859	1700			
Volume to Capacity	0.56	0.10	0.45			
Queue Length 95th (ft)	77	8	0			
Control Delay (s)	37.3	2.6	0.0			
Lane LOS	E	A				
Approach Delay (s)	37.3	2.6	0.0			
Approach LOS	E					
Intersection Summary						
Average Delay		4.1				
Intersection Capacity Utilization		94.0%		ICU Level of Service		F
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

16: W Main St & Hubbard Ave

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	130	47	66	97	53	479
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.82	0.82	0.81	0.81
Hourly flow rate (vph)	153	55	80	118	65	591
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	862	140			199	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	862	140			199	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	50	94			95	
cM capacity (veh/h)	309	914			1386	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	208	199	657			
Volume Left	153	0	65			
Volume Right	55	118	0			
cSH	375	1700	1386			
Volume to Capacity	0.56	0.12	0.05			
Queue Length 95th (ft)	81	0	4			
Control Delay (s)	26.0	0.0	1.3			
Lane LOS	D		A			
Approach Delay (s)	26.0	0.0	1.3			
Approach LOS	D					
Intersection Summary						
Average Delay		5.9				
Intersection Capacity Utilization		57.6%		ICU Level of Service		B
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

17: Peconic Ave & Parking Lot Access

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	32	1038	168	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	35	1128	183	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			TWLTL
Median storage (veh)						2
Upstream signal (ft)						316
pX, platoon unblocked						
vC, conflicting volume	1220	655			1311	
vC1, stage 1 conf vol	1220					
vC2, stage 2 conf vol	0					
vCu, unblocked vol	1220	655			1311	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	91			100	
cM capacity (veh/h)	236	408			524	
Direction, Lane #	WB 1	NB 1	NB 2			
Volume Total	35	752	559			
Volume Left	0	0	0			
Volume Right	35	0	183			
cSH	408	1700	1700			
Volume to Capacity	0.09	0.44	0.33			
Queue Length 95th (ft)	7	0	0			
Control Delay (s)	14.6	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	14.6	0.0				
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			44.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 18: Griffing Ave/Griffing St & Parking Lot/W 2nd St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	3	0	30	0	49	0	123	14	36	63	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.73	0.73	0.73	0.83	0.83	0.83	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	4	0	36	0	59	0	128	15	38	66	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)								559				
pX, platoon unblocked												
vC, conflicting volume	335	283	66	278	276	135	66			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	335	283	66	278	276	135	66			143		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	95	100	94	100			97		
cM capacity (veh/h)	571	612	1004	661	612	919	1549			1422		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	7	95	143	103								
Volume Left	3	36	0	38								
Volume Right	0	59	15	0								
cSH	595	800	1549	1422								
Volume to Capacity	0.01	0.12	0.00	0.03								
Queue Length 95th (ft)	1	10	0	2								
Control Delay (s)	11.1	10.1	0.0	2.9								
Lane LOS	B	B		A								
Approach Delay (s)	11.1	10.1	0.0	2.9								
Approach LOS	B	B										
Intersection Summary												
Average Delay			3.8									
Intersection Capacity Utilization			28.6%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

19: Griffing St/Griffing Ave & Court St

Timing Plan: Saturday Peak Ho

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	52	47	33	133	45	368
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.71	0.71
Hourly flow rate (vph)	65	59	41	166	63	518
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				1010		
pX, platoon unblocked						
vC, conflicting volume	571	323	582			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	571	323	582			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	92	96			
cM capacity (veh/h)	462	723	1002			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	124	208	582			
Volume Left	65	41	0			
Volume Right	59	0	518			
cSH	558	1002	1700			
Volume to Capacity	0.22	0.04	0.34			
Queue Length 95th (ft)	21	3	0			
Control Delay (s)	13.3	2.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	13.3	2.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		2.3				
Intersection Capacity Utilization		47.9%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

20: Griffing Ave & Railroad St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	50	23	296	39	22	12	159	12	12	113	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	54	25	322	42	24	13	173	13	13	123	17
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	95	388	199	153								
Volume Left (vph)	15	322	13	13								
Volume Right (vph)	25	24	13	17								
Hadj (s)	-0.09	0.16	0.01	-0.02								
Departure Headway (s)	5.4	5.2	5.5	5.6								
Degree Utilization, x	0.14	0.56	0.30	0.24								
Capacity (veh/h)	589	661	593	586								
Control Delay (s)	9.3	14.7	10.9	10.3								
Approach Delay (s)	9.3	14.7	10.9	10.3								
Approach LOS	A	B	B	B								
Intersection Summary												
Delay				12.4								
Level of Service				B								
Intersection Capacity Utilization				45.2%	ICU Level of Service	A						
Analysis Period (min)				15								

Timings

21: Roanoke Ave & W 2nd St/E 2nd St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	16	35	17	51	14	329	70	32
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.5	5.5	5.5	5.5
Minimum Split (s)	15.0	15.0	15.0	15.0	10.5	10.5	10.5	10.5
Total Split (s)	19.0	19.0	19.0	19.0	36.0	36.0	36.0	36.0
Total Split (%)	34.5%	34.5%	34.5%	34.5%	65.5%	65.5%	65.5%	65.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		10.4		10.4		35.0		35.0
Actuated g/C Ratio		0.20		0.20		0.68		0.68
v/c Ratio		0.31		0.40		0.29		0.14
Control Delay		14.3		13.4		5.5		4.5
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		14.3		13.4		5.5		4.5
LOS		B		B		A		A
Approach Delay		14.3		13.4		5.5		4.5
Approach LOS		B		B		A		A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 51.4

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.40

Intersection Signal Delay: 8.3

Intersection LOS: A

Intersection Capacity Utilization 46.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 21: Roanoke Ave & W 2nd St/E 2nd St

 ø2	 ø4
36 s	19 s
 ø6	 ø8
36 s	19 s

Timings

22: Roanoke Ave & Railroad St

Timing Plan: Saturday Peak Ho



Lane Group	EBL	NBL	NBT	SBT	ø6	ø8
Lane Configurations						
Volume (vph)	59	14	410	143		
Turn Type	NA	Perm	NA	NA		
Protected Phases	2		4	8 6	6	8
Permitted Phases		4				
Detector Phase	2	4	4	8 6		
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	9.0	9.0	9.0		9.0	9.0
Total Split (s)	18.0	35.0	35.0		27.0	35.0
Total Split (%)	22.5%	43.8%	43.8%		34%	44%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	5.0		5.0			
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Max	Max		Max	Max
Act Effect Green (s)	8.9		30.0	57.0		
Actuated g/C Ratio	0.12		0.39	0.75		
v/c Ratio	0.36		0.71	0.42		
Control Delay	33.3		26.8	0.9		
Queue Delay	0.0		0.0	0.0		
Total Delay	33.3		26.8	0.9		
LOS	C		C	A		
Approach Delay	33.3		26.8	0.9		
Approach LOS	C		C	A		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 76

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 14.4

Intersection LOS: B

Intersection Capacity Utilization 44.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 22: Roanoke Ave & Railroad St

#22 #23 ø2 18 s	#22 #23 ø6 27 s	#22 #23 ø4 35 s
		#22 #23 ø8 35 s

Timings

23: Roanoke Ave & Northville Turnpike

Timing Plan: Saturday Peak Ho

							
Lane Group	WBL	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations							
Volume (vph)	172	331	144	17	314		
Turn Type	NA	NA	pm+ov	Perm	NA		
Protected Phases	6	4 2	6		8	2	4
Permitted Phases			4 2	8			
Detector Phase	6	4 2	6	8	8		
Switch Phase							
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0		9.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0		27.0	35.0	35.0	18.0	35.0
Total Split (%)	33.8%		33.8%	43.8%	43.8%	23%	44%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0		
Total Lost Time (s)	5.0		5.0		5.0		
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max		Max	Max	Max	None	Max
Act Effct Green (s)	22.0	44.0	76.0		30.0		
Actuated g/C Ratio	0.29	0.58	1.00		0.39		
v/c Ratio	0.41	0.35	0.10		0.59		
Control Delay	24.6	0.9	0.1		22.9		
Queue Delay	0.0	0.0	0.0		0.0		
Total Delay	24.6	0.9	0.1		22.9		
LOS	C	A	A		C		
Approach Delay	24.6	0.7			22.9		
Approach LOS	C	A			C		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 76

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 13.0

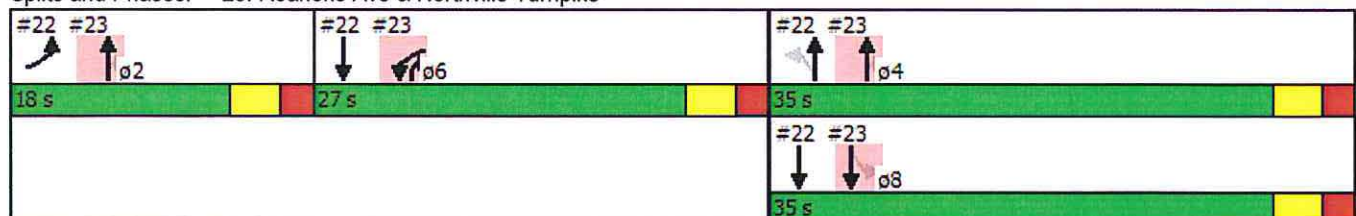
Intersection LOS: B

Intersection Capacity Utilization 49.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 23: Roanoke Ave & Northville Turnpike



Timings

24: Osborn Ave/Osborn St & Court St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	112	107	18	388	3	56	57	60
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	35.0	35.0	35.0	35.0	25.0	25.0	25.0	25.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)		30.2		30.2		12.0		12.0
Actuated g/C Ratio		0.58		0.58		0.23		0.23
v/c Ratio		0.35		0.50		0.18		0.72
Control Delay		8.8		9.5		14.5		19.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		8.8		9.5		14.5		19.0
LOS		A		A		B		B
Approach Delay		8.8		9.5		14.5		19.0
Approach LOS		A		A		B		B

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 52.3

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 12.4

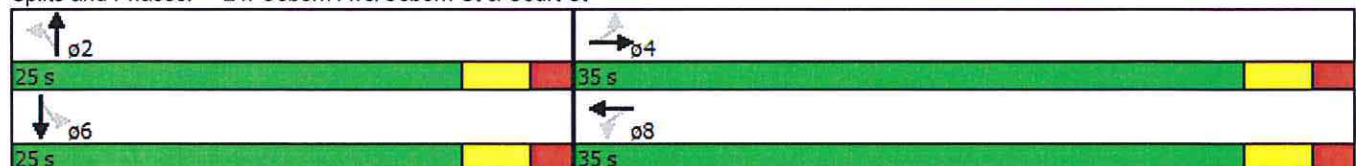
Intersection LOS: B

Intersection Capacity Utilization 75.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 24: Osborn Ave/Osborn St & Court St



Operational Data

Traffic Flow Data (veh/hr)

2019 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows						Flow Modifiers		
		U-Turn	Exit-4	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Peconic	0	0	0	0	0	0	2.0	1.00	0.9
2	CR 94	0	218	334	147	50	0	2.0	1.00	0.9
3	CR 63	0	32	366	140	21	0	2.0	1.00	0.9
4	CR 104	0	42	215	229	31	0	2.0	1.00	0.9
5	NYS 24	0	9	112	316	347	0	2.0	1.00	0.9

Operational Results

2019 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR
			Entry	Bypass	Entry	Bypass		Entry	Bypass	
1	Peconic	None	0		0		1159	0		0.0000
2	CR 94	None	749		163		562	1579		0.4826
3	CR 63	None	559		708		204	1027		0.5563
4	CR 104	None	517		1089		177	1004		0.5371
5	NYS 24	None	784		1101		505	1105		0.7459

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Peconic	None	0.00		0.00	0.00		A		A
2	CR 94	None	5.83		5.83	3.81		A		A
3	CR 63	None	7.31		7.31	3.83		A		A
4	CR 104	None	14.09		14.09	7.06		B		B
5	NYS 24	None	19.00		19.00	15.56		C		C

Operational Data

Traffic Flow Data (veh/hr)

2019 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows						Flow Modifiers		
		U-Turn	Exit-4	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Peconic	0	0	0	0	0	0	2.0	1.00	0.9
2	CR 94	0	356	341	393	138	0	2.0	1.00	0.9
3	CR 63	0	58	233	88	39	0	2.0	1.00	0.9
4	CR 104	0	87	107	214	39	0	2.0	1.00	0.9
5	NYS 24	0	102	160	250	371	0	2.0	1.00	0.9

Operational Results

2019 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Peconic	None	0		0		1172	0		0.0000	
2	CR 94	None	1228		348		414	1468		0.8833	
3	CR 63	None	418		1189		384	869		0.4929	
4	CR 104	None	447		1074		533	1013		0.4563	
5	NYS 24	None	883		1053		467	1130		0.8286	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Peconic	None	0.00		0.00	0.00		A		A
2	CR 94	None	23.26		23.26	29.27		C		C
3	CR 63	None	7.62		7.62	3.02		A		A
4	CR 104	None	10.78		10.78	4.54		B		B
5	NYS 24	None	23.41		23.41	22.66		C		C

Build Condition Mitigation 2 - Capacity Analyses

Timings

5: Nugent St/Court St & W Main St

Timing Plan: PM Peak Hour

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	84	414	427	212	400	396	191	107	2	328
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA
Protected Phases		2			6	7	4			8
Permitted Phases	2		2	6		4	4	Free	8	
Detector Phase	2	2	2	6	6	7	4		8	8
Switch Phase										
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	3.0	5.0		6.0	6.0
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	9.0	12.0		11.8	11.8
Total Split (s)	44.0	44.0	44.0	44.0	44.0	21.0	46.0		25.0	25.0
Total Split (%)	48.9%	48.9%	48.9%	48.9%	48.9%	23.3%	51.1%		27.8%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.0	3.5		3.5	3.5
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.0	2.3		2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	5.0	5.8			5.8
Lead/Lag						Lead			Lag	Lag
Lead-Lag Optimize?						Yes			Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None
Act Effct Green (s)	37.5	37.5	37.5	37.5	37.5	41.0	40.2	90.0		19.2
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42	0.46	0.45	1.00		0.21
v/c Ratio	0.42	0.59	0.50	0.97	0.66	1.15	0.27	0.07		1.05
Control Delay	26.1	24.2	6.7	75.9	31.7	117.6	16.8	0.1		91.7
Queue Delay	0.0	0.4	0.0	0.0	0.7	0.0	0.0	0.0		18.2
Total Delay	26.1	24.6	6.7	75.9	32.4	117.6	16.8	0.1		109.9
LOS	C	C	A	E	C	F	B	A		F
Approach Delay		16.4			47.4		71.7			109.9
Approach LOS		B			D		E			F

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 42.1 (47%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 53.1

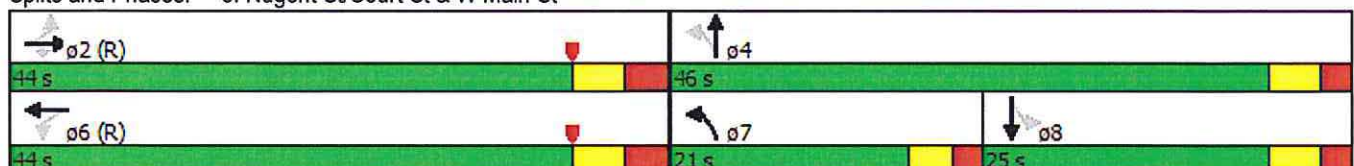
Intersection LOS: D

Intersection Capacity Utilization 100.4%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 5: Nugent St/Court St & W Main St



Timings

6: W Main St & Osborn Ave

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations		↕	↕	↕
Volume (vph)	7	518	624	102
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	11.3	11.3	11.3	11.2
Total Split (s)	69.0	69.0	69.0	21.0
Total Split (%)	76.7%	76.7%	76.7%	23.3%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.8	2.8	2.8	2.7
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		6.3	6.3	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)		66.0	66.0	11.5
Actuated g/C Ratio		0.73	0.73	0.13
v/c Ratio		0.43	0.63	0.59
Control Delay		5.9	6.7	45.4
Queue Delay		1.5	0.0	0.0
Total Delay		7.4	6.7	45.4
LOS		A	A	D
Approach Delay		7.4	6.7	45.4
Approach LOS		A	A	D

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 83.7 (93%), Referenced to phase 4:EBTL and 8:WBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.2

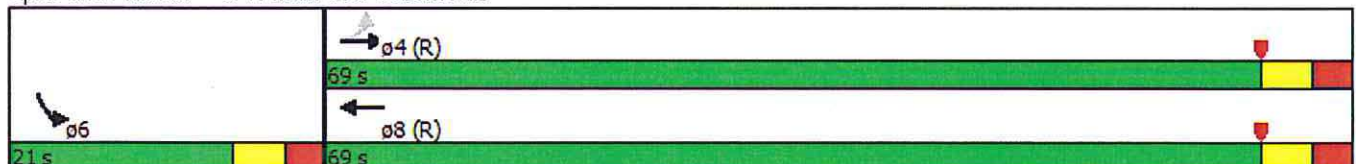
Intersection LOS: B

Intersection Capacity Utilization 53.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 6: W Main St & Osborn Ave



Timings

7: W Main St & Griffing Ave

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	56	588	598	124
Turn Type	Perm	NA	NA	NA
Protected Phases		2	6	4
Permitted Phases	2			
Detector Phase	2	2	6	4
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.8	15.8	15.8	10.5
Total Split (s)	65.0	65.0	65.0	25.0
Total Split (%)	72.2%	72.2%	72.2%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.3	2.3	2.3	2.0
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		5.8	5.8	5.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effect Green (s)		63.7	63.7	15.0
Actuated g/C Ratio		0.71	0.71	0.17
v/c Ratio		0.54	0.57	0.72
Control Delay		9.9	12.9	42.3
Queue Delay		0.1	5.2	1.5
Total Delay		10.0	18.2	43.8
LOS		A	B	D
Approach Delay		10.0	18.2	43.8
Approach LOS		A	B	D

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 59.2 (66%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 18.3

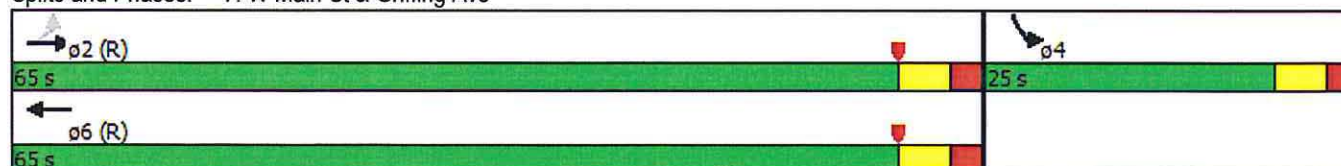
Intersection LOS: B

Intersection Capacity Utilization 98.7%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 7: W Main St & Griffing Ave



Timings

8: Peconic Ave/Roanoke Ave & W Main St

Timing Plan: PM Peak Hour

										
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Volume (vph)	10	425	252	275	422	225	414	314	20	309
Turn Type	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA	pt+ov	pm+pt	NA
Protected Phases		2	7	1	6	7	4	4 1	3	8
Permitted Phases	2		2	6		4			8	
Detector Phase	2	2	7	1	6	7	4	4 1	3	8
Switch Phase										
Minimum Initial (s)	10.0	10.0	4.0	4.0	10.0	4.0	10.0		4.0	10.0
Minimum Split (s)	15.9	15.9	9.9	9.5	28.0	9.9	15.9		9.5	15.9
Total Split (s)	37.0	37.0	15.0	12.0	49.0	15.0	31.5		9.5	26.0
Total Split (%)	41.1%	41.1%	16.7%	13.3%	54.4%	16.7%	35.0%		10.6%	28.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	2.4	2.4	1.0	1.0	2.4	1.0	2.4		1.0	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.9	5.9	4.5	4.5	5.9	4.5	5.9		4.5	5.9
Lead/Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag
Lead-Lag Optimize?			Yes			Yes			Yes	Yes
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None		None	None
Act Effect Green (s)	31.1	31.1	47.5	45.1	43.7	35.9	30.7	43.3	25.9	19.5
Actuated g/C Ratio	0.35	0.35	0.53	0.50	0.49	0.40	0.34	0.48	0.29	0.22
v/c Ratio	0.04	0.71	0.33	0.95	0.59	0.76	0.69	0.37	0.08	0.90
Control Delay	21.0	31.6	12.9	60.6	20.2	37.0	34.0	5.5	17.4	60.9
Queue Delay	0.0	12.9	0.9	0.0	0.5	4.1	0.0	0.0	0.0	0.0
Total Delay	21.0	44.5	13.8	60.6	20.7	41.0	34.0	5.5	17.4	60.9
LOS	C	D	B	E	C	D	C	A	B	E
Approach Delay		32.9			35.7		26.3			58.5
Approach LOS		C			D		C			E

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 34.7

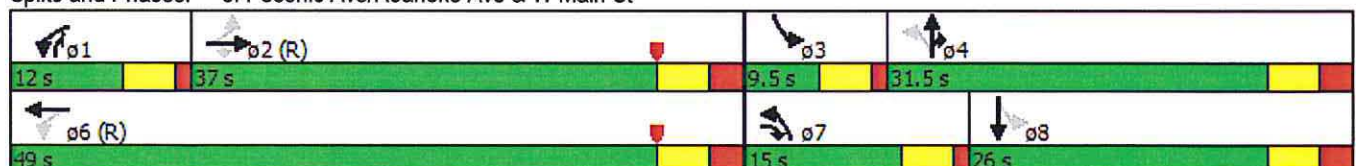
Intersection LOS: C

Intersection Capacity Utilization 85.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Peconic Ave/Roanoke Ave & W Main St



HCM Unsignalized Intersection Capacity Analysis

10: W Main St & East Ave

Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	90	560	572	77	79	76
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	98	609	622	84	86	83
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		893	265			
pX, platoon unblocked	0.79				0.89	0.79
vC, conflicting volume	705				1468	664
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	497				980	444
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				61	83
cM capacity (veh/h)	853				220	490
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	707	705	168			
Volume Left	98	0	86			
Volume Right	0	84	83			
cSH	853	1700	301			
Volume to Capacity	0.11	0.41	0.56			
Queue Length 95th (ft)	10	0	80			
Control Delay (s)	2.9	0.0	31.2			
Lane LOS	A		D			
Approach Delay (s)	2.9	0.0	31.2			
Approach LOS			D			
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			88.3%	ICU Level of Service	E	
Analysis Period (min)			15			

Timings

11: McDermott Ave/Maple Ave & W Main St

Timing Plan: PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	14	630	101	598	128	13	88	14
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phase	2	2	6	6	4	4	8	8
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	15.0	15.0	15.0	15.0	9.0	9.0	9.0	9.0
Total Split (s)	67.0	67.0	67.0	67.0	23.0	23.0	23.0	23.0
Total Split (%)	74.4%	74.4%	74.4%	74.4%	25.6%	25.6%	25.6%	25.6%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effect Green (s)		62.0		62.0		17.4		17.4
Actuated g/C Ratio		0.69		0.69		0.19		0.19
v/c Ratio		0.60		0.76		0.92		0.60
Control Delay		9.6		14.9		66.5		42.7
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		9.6		14.9		66.5		42.7
LOS		A		B		E		D
Approach Delay		9.6		14.9		66.5		42.7
Approach LOS		A		B		E		D

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 89.4

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 22.2

Intersection LOS: C

Intersection Capacity Utilization 103.7%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 11: McDermott Ave/Maple Ave & W Main St

 02	 04
67 s	23 s
 06	 08
67 s	23 s

HCM Unsignalized Intersection Capacity Analysis

12: Parking Lot/Union Ave & W Main St

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	825	23	23	739	44	9	3	22	35	2	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	897	25	25	803	48	10	3	24	38	2	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		289										
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	851			922			1845	1858	909	1860	1847	827
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	851			760			1941	1958	744	1960	1944	827
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			72	93	93	0	95	97
cM capacity (veh/h)	796			673			35	47	327	31	48	374
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	946	876	37	50								
Volume Left	24	25	10	38								
Volume Right	25	48	24	10								
cSH	796	673	87	39								
Volume to Capacity	0.03	0.04	0.42	1.28								
Queue Length 95th (ft)	2	3	43	127								
Control Delay (s)	0.9	1.1	73.9	400.0								
Lane LOS	A	A	F	F								
Approach Delay (s)	0.9	1.1	73.9	400.0								
Approach LOS			F	F								
Intersection Summary												
Average Delay			12.8									
Intersection Capacity Utilization			67.5%		ICU Level of Service					C		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

13: W Main St & Ostrander Ave

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	773	12	5	850	69	0	0	0	40	2	66
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.75	0.75	0.75	0.86	0.86	0.86
Hourly flow rate (vph)	44	849	13	6	944	77	0	0	0	47	2	77
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		662										
pX, platoon unblocked				0.81			0.81	0.81	0.81	0.81	0.81	
vC, conflicting volume	1021			863			2016	1976	856	1938	1944	983
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1021			714			2136	2087	706	2040	2048	983
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			99			100	100	100	0	95	75
cM capacity (veh/h)	676			726			20	40	356	32	43	305
Direction, Lane #	EB 1	WB 1	SB 1									
Volume Total	907	1027	126									
Volume Left	44	6	47									
Volume Right	13	77	77									
cSH	676	726	72									
Volume to Capacity	0.07	0.01	1.74									
Queue Length 95th (ft)	5	1	274									
Control Delay (s)	1.9	0.2	480.8									
Lane LOS	A	A	F									
Approach Delay (s)	1.9	0.2	480.8									
Approach LOS			F									
Intersection Summary												
Average Delay			30.3									
Intersection Capacity Utilization			82.7%			ICU Level of Service				E		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

14: W Main St & Riverside Dr

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	71	169	655	87	197	762
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	72	172	668	89	201	778
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1892	713			757	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1892	713			757	
tC, single (s)	*7.1	*6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	60			77	
cM capacity (veh/h)	41	435			863	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	245	757	979			
Volume Left	72	0	201			
Volume Right	172	89	0			
cSH	114	1700	863			
Volume to Capacity	2.16	0.45	0.23			
Queue Length 95th (ft)	520	0	23			
Control Delay (s)	610.0	0.0	5.7			
Lane LOS	F		A			
Approach Delay (s)	610.0	0.0	5.7			
Approach LOS	F					
Intersection Summary						
Average Delay		78.2				
Intersection Capacity Utilization		115.1%		ICU Level of Service		H
Analysis Period (min)		15				

* User Entered Value

HCM Unsignalized Intersection Capacity Analysis

15: W Main St & Fishel Ave

Timing Plan: PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	18	101	109	715	858	37
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	21	120	130	851	1021	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2154	1043	1065			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2154	1043	1065			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	50	57	80			
cM capacity (veh/h)	43	281	662			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	142	981	1065			
Volume Left	21	130	0			
Volume Right	120	0	44			
cSH	153	662	1700			
Volume to Capacity	0.93	0.20	0.63			
Queue Length 95th (ft)	166	18	0			
Control Delay (s)	112.8	5.6	0.0			
Lane LOS	F	A				
Approach Delay (s)	112.8	5.6	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay		9.8				
Intersection Capacity Utilization		108.3%		ICU Level of Service		G
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

16: W Main St & Hubbard Ave

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	118	53	561	158	50	601
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.92	0.92	0.86	0.86
Hourly flow rate (vph)	123	55	610	172	58	699
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1511	696			782	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1511	696			782	
tC, single (s)	6.4	6.4			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.5			2.2	
p0 queue free %	0	87			93	
cM capacity (veh/h)	123	411			836	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	178	782	757			
Volume Left	123	0	58			
Volume Right	55	172	0			
cSH	157	1700	836			
Volume to Capacity	1.14	0.46	0.07			
Queue Length 95th (ft)	241	0	6			
Control Delay (s)	171.8	0.0	1.8			
Lane LOS	F		A			
Approach Delay (s)	171.8	0.0	1.8			
Approach LOS	F					
Intersection Summary						
Average Delay		18.6				
Intersection Capacity Utilization		89.4%		ICU Level of Service	E	
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

17: Peconic Ave

Timing Plan: PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	162	167	934	157	37	796
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	176	182	1015	171	40	865
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			TWLT
Median storage (veh)						2
Upstream signal (ft)						294
pX, platoon unblocked	0.71					
vC, conflicting volume	2046	593			1186	
vC1, stage 1 conf vol	1101					
vC2, stage 2 conf vol	946					
vCu, unblocked vol	2266	593			1186	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	9	60			93	
cM capacity (veh/h)	194	449			585	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	
Volume Total	176	182	677	509	905	
Volume Left	176	0	0	0	40	
Volume Right	0	182	0	171	0	
cSH	194	449	1700	1700	585	
Volume to Capacity	0.91	0.40	0.40	0.30	0.07	
Queue Length 95th (ft)	177	48	0	0	6	
Control Delay (s)	92.5	18.4	0.0	0.0	2.1	
Lane LOS	F	C			A	
Approach Delay (s)	54.8		0.0		2.1	
Approach LOS	F					
Intersection Summary						
Average Delay			8.8			
Intersection Capacity Utilization			87.6%	ICU Level of Service		E
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 18: Griffing Ave/Griffing St & Parking Lot/W 2nd St

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	8	2	66	2	112	0	140	14	56	133	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.53	0.53	0.53	0.84	0.84	0.84	0.92	0.92	0.92	0.86	0.86	0.86
Hourly flow rate (vph)	15	15	4	79	2	133	0	152	15	65	155	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								507				
pX, platoon unblocked												
vC, conflicting volume	579	452	155	456	445	160	155			167		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	579	452	155	456	445	160	155			167		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	97	100	84	100	85	100			95		
cM capacity (veh/h)	350	482	896	486	487	883	1438			1398		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	34	214	167	220								
Volume Left	15	79	0	65								
Volume Right	4	133	15	0								
cSH	432	675	1438	1398								
Volume to Capacity	0.08	0.32	0.00	0.05								
Queue Length 95th (ft)	6	34	0	4								
Control Delay (s)	14.0	12.8	0.0	2.6								
Lane LOS	B	B		A								
Approach Delay (s)	14.0	12.8	0.0	2.6								
Approach LOS	B	B										
Intersection Summary												
Average Delay			6.0									
Intersection Capacity Utilization			41.1%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

19: Griffing St/Griffing Ave & Court St

Timing Plan: PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	71	47	100	179	143	135
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	83	55	119	213	170	161
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)				986		
pX, platoon unblocked						
vC, conflicting volume	702	251	331			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	702	251	331			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	77	93	90			
cM capacity (veh/h)	357	788	1234			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	137	332	331			
Volume Left	83	119	0			
Volume Right	55	0	161			
cSH	457	1234	1700			
Volume to Capacity	0.30	0.10	0.19			
Queue Length 95th (ft)	31	8	0			
Control Delay (s)	16.2	3.5	0.0			
Lane LOS	C	A				
Approach Delay (s)	16.2	3.5	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay		4.2				
Intersection Capacity Utilization		47.5%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

20: Griffing Ave & Railroad St

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	16	96	28	43	94	22	30	213	7	3	207	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	104	30	47	102	24	33	232	8	3	225	20
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	152	173	272	248								
Volume Left (vph)	17	47	33	3								
Volume Right (vph)	30	24	8	20								
Hadj (s)	-0.06	0.01	0.04	-0.01								
Departure Headway (s)	5.6	5.6	5.3	5.3								
Degree Utilization, x	0.23	0.27	0.40	0.36								
Capacity (veh/h)	579	583	633	638								
Control Delay (s)	10.2	10.6	11.7	11.2								
Approach Delay (s)	10.2	10.6	11.7	11.2								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			11.1									
Level of Service			B									
Intersection Capacity Utilization			52.2%	ICU Level of Service		A						
Analysis Period (min)			15									

Timings

21: Roanoke Ave & W 2nd St/E 2nd St

Timing Plan: PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	24	60	9	104	19	318	90	303
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.5	5.5	5.5	5.5
Minimum Split (s)	15.0	15.0	15.0	15.0	10.5	10.5	10.5	10.5
Total Split (s)	19.0	19.0	19.0	19.0	36.0	36.0	36.0	36.0
Total Split (%)	34.5%	34.5%	34.5%	34.5%	65.5%	65.5%	65.5%	65.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effect Green (s)		11.3		11.3		31.0		31.0
Actuated g/C Ratio		0.22		0.22		0.59		0.59
v/c Ratio		0.36		0.53		0.35		0.47
Control Delay		17.6		18.6		6.8		8.3
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		17.6		18.6		6.8		8.3
LOS		B		B		A		A
Approach Delay		17.6		18.6		6.8		8.3
Approach LOS		B		B		A		A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 52.3

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 10.9

Intersection LOS: B

Intersection Capacity Utilization 67.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 21: Roanoke Ave & W 2nd St/E 2nd St

 ø2	 ø4
36 s	19 s
 ø6	 ø8
36 s	19 s

Timings

22: Roanoke Ave & Railroad St

Timing Plan: PM Peak Hour



Lane Group	EBL	NBL	NBT	SBT	ø6	ø8
Lane Configurations						
Volume (vph)	83	21	399	407		
Turn Type	NA	Perm	NA	NA		
Protected Phases	2		4	8 6	6	8
Permitted Phases		4				
Detector Phase	2	4	4	8 6		
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	9.0	9.0	9.0		9.0	9.0
Total Split (s)	18.0	35.0	35.0		27.0	35.0
Total Split (%)	22.5%	43.8%	43.8%		34%	44%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			
Total Lost Time (s)	5.0		5.0			
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Max	Max		Max	Max
Act Effect Green (s)	10.5		30.0	57.0		
Actuated g/C Ratio	0.14		0.39	0.74		
v/c Ratio	0.54		0.64	0.41		
Control Delay	36.5		25.2	1.0		
Queue Delay	0.0		0.0	0.4		
Total Delay	36.5		25.2	1.4		
LOS	D		C	A		
Approach Delay	36.5		25.2	1.4		
Approach LOS	D		C	A		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 77.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 14.8

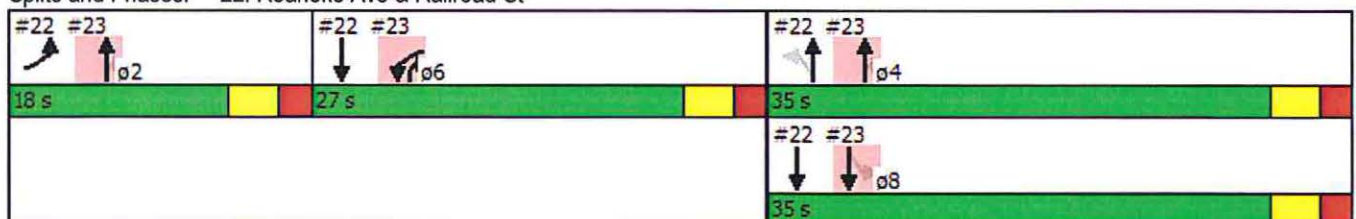
Intersection LOS: B

Intersection Capacity Utilization 52.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 22: Roanoke Ave & Railroad St



Timings

23: Roanoke Ave & Northville Turnpike

Timing Plan: PM Peak Hour

							
Lane Group	WBL	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations							
Volume (vph)	210	338	144	28	339		
Turn Type	NA	NA	pm+ov	Perm	NA		
Protected Phases	6	4 2	6		8	2	4
Permitted Phases			4 2	8			
Detector Phase	6	4 2	6	8	8		
Switch Phase							
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0		9.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0		27.0	35.0	35.0	18.0	35.0
Total Split (%)	33.8%		33.8%	43.8%	43.8%	23%	44%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0		
Total Lost Time (s)	5.0		5.0		5.0		
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max		Max	Max	Max	None	Max
Act Effct Green (s)	22.0	45.5	77.5		30.0		
Actuated g/C Ratio	0.28	0.59	1.00		0.39		
v/c Ratio	0.50	0.33	0.09		0.58		
Control Delay	27.2	1.0	0.1		23.4		
Queue Delay	0.0	0.9	0.0		0.0		
Total Delay	27.2	1.9	0.1		23.4		
LOS	C	A	A		C		
Approach Delay	27.2	1.4			23.4		
Approach LOS	C	A			C		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 77.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 14.6

Intersection LOS: B

Intersection Capacity Utilization 62.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 23: Roanoke Ave & Northville Turnpike

 #22  #23 ø2		 #22  #23 ø6		 #22  #23 ø4	
18 s		27 s		35 s	
				 #22  #23 ø8	
				35 s	

Timings

24: Osborn Ave/Osborn St & Court St

Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔		↔		↔
Volume (vph)	111	132	10	228	8	55	51	100
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	35.0	35.0	35.0	35.0	25.0	25.0	25.0	25.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)		30.2		30.2		13.7		13.7
Actuated g/C Ratio		0.56		0.56		0.25		0.25
v/c Ratio		0.35		0.33		0.19		0.74
Control Delay		9.3		7.8		13.5		22.4
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		9.3		7.8		13.5		22.4
LOS		A		A		B		C
Approach Delay		9.3		7.8		13.5		22.4
Approach LOS		A		A		B		C

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 54

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 13.8

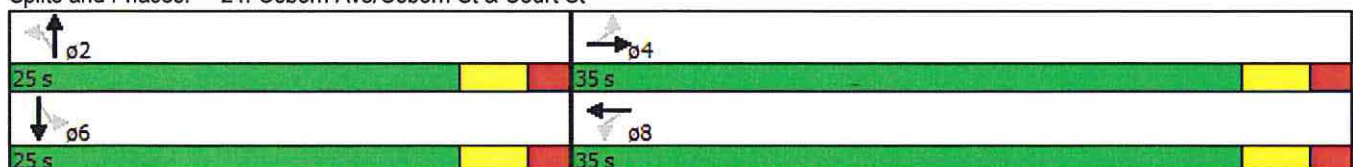
Intersection LOS: B

Intersection Capacity Utilization 68.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 24: Osborn Ave/Osborn St & Court St



Timings

5: Nugent St/Court St & W Main St

Timing Plan: Saturday Peak Ho

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Configurations											
Volume (vph)	96	535	428	125	503	490	143	136	3	152	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Free	Perm	NA	
Protected Phases		2			6	7	4			8	
Permitted Phases	2		2	6		4	4	Free	8		
Detector Phase	2	2	2	6	6	7	4		8	8	
Switch Phase											
Minimum Initial (s)	15.0	15.0	15.0	15.0	15.0	3.0	5.0		6.0	6.0	
Minimum Split (s)	21.5	21.5	21.5	21.5	21.5	9.0	12.0		11.8	11.8	
Total Split (s)	43.0	43.0	43.0	43.0	43.0	29.0	47.0		18.0	18.0	
Total Split (%)	47.8%	47.8%	47.8%	47.8%	47.8%	32.2%	52.2%		20.0%	20.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.0	3.5		3.5	3.5	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.0	2.3		2.3	2.3	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	5.0	5.8			5.8	
Lead/Lag						Lead			Lag	Lag	
Lead-Lag Optimize?						Yes			Yes	Yes	
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	36.5	36.5	36.5	36.5	36.5	42.0	41.2	90.0		12.2	
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.47	0.46	1.00		0.14	
v/c Ratio	0.59	0.78	0.54	0.87	0.79	1.00	0.19	0.09		0.90	
Control Delay	38.5	32.3	10.6	61.8	25.8	62.3	15.3	0.1		70.3	
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0		0.0	
Total Delay	38.5	32.3	10.6	61.8	26.3	62.3	15.3	0.1		70.3	
LOS	D	C	B	E	C	E	B	A		E	
Approach Delay		24.0			33.3		42.6			70.3	
Approach LOS		C			C		D			E	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 35.6

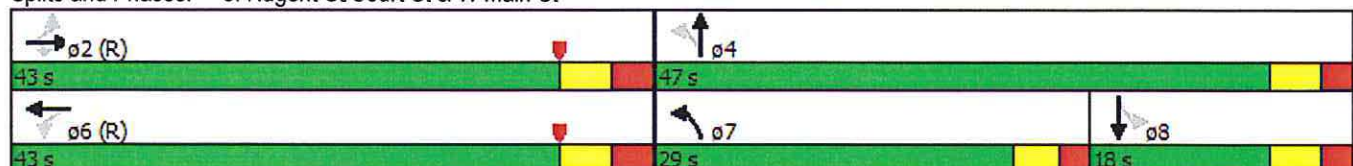
Intersection LOS: D

Intersection Capacity Utilization 100.0%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 5: Nugent St/Court St & W Main St



Timings

6: W Main St & Osborn Ave

Timing Plan: Saturday Peak Ho



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	9	662	616	133
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	11.3	11.3	11.3	11.2
Total Split (s)	66.0	66.0	66.0	24.0
Total Split (%)	73.3%	73.3%	73.3%	26.7%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.8	2.8	2.8	2.7
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		6.3	6.3	6.2
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)		63.7	63.7	13.8
Actuated g/C Ratio		0.71	0.71	0.15
v/c Ratio		0.52	0.57	0.65
Control Delay		6.9	6.4	45.9
Queue Delay		0.1	0.1	0.0
Total Delay		7.0	6.4	45.9
LOS		A	A	D
Approach Delay		7.0	6.4	45.9
Approach LOS		A	A	D

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 11.0

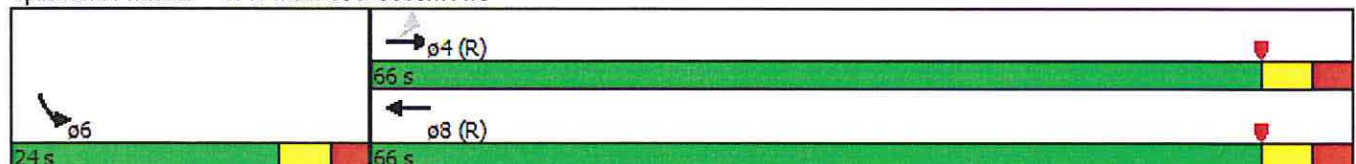
Intersection LOS: B

Intersection Capacity Utilization 60.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: W Main St & Osborn Ave



Timings

7: W Main St & Griffing Ave

Timing Plan: Saturday Peak Ho



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Volume (vph)	46	808	656	107
Turn Type	Perm	NA	NA	NA
Protected Phases		2	6	4
Permitted Phases	2			
Detector Phase	2	2	6	4
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	5.0
Minimum Split (s)	15.8	15.8	15.8	10.5
Total Split (s)	65.7	65.7	65.7	24.3
Total Split (%)	73.0%	73.0%	73.0%	27.0%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	2.3	2.3	2.3	2.0
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		5.8	5.8	5.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Max	C-Max	C-Max	None
Act Effct Green (s)		63.3	63.3	15.4
Actuated g/C Ratio		0.70	0.70	0.17
v/c Ratio		0.65	0.56	0.74
Control Delay		19.9	6.4	43.9
Queue Delay		2.6	0.8	0.1
Total Delay		22.5	7.2	44.0
LOS		C	A	D
Approach Delay		22.5	7.2	44.0
Approach LOS		C	A	D

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 19.0

Intersection LOS: B

Intersection Capacity Utilization 99.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 7: W Main St & Griffing Ave

	ø2 (R)			ø4
65.7 s			24.3 s	
	ø6 (R)			
65.7 s				

Timings

8: Peconic Ave/Roanoke Ave & W Main St/E Main St

Timing Plan: Saturday Peak Ho

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Configurations											
Volume (vph)	27	520	306	256	441	285	333	426	20	290	
Turn Type	Perm	NA	pm+ov	pm+pt	NA	pm+pt	NA	pt+ov	pm+pt	NA	
Protected Phases		2	7	1	6	7	4	4 1	3	8	
Permitted Phases	2		2	6		4			8		
Detector Phase	2	2	7	1	6	7	4	4 1	3	8	
Switch Phase											
Minimum Initial (s)	10.0	10.0	4.0	10.0	10.0	4.0	10.0		4.0	4.0	
Minimum Split (s)	15.9	15.9	9.9	16.0	28.0	9.9	15.9		9.0	21.9	
Total Split (s)	37.0	37.0	15.0	16.0	53.0	15.0	28.0		9.0	22.0	
Total Split (%)	41.1%	41.1%	16.7%	17.8%	58.9%	16.7%	31.1%		10.0%	24.4%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.0	3.5	
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4		2.0	2.4	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9	5.9	5.9	5.9	5.9	5.9		5.0	5.9	
Lead/Lag	Lag	Lag	Lead	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes		Yes	Yes	
Recall Mode	C-Max	C-Max	None	None	C-Max	None	None		None	None	
Act Effct Green (s)	31.1	31.1	46.1	47.1	47.1	31.1	27.5	43.5	21.0	16.1	
Actuated g/C Ratio	0.35	0.35	0.51	0.52	0.52	0.35	0.31	0.48	0.23	0.18	
v/c Ratio	0.10	0.83	0.41	0.97	0.59	1.22	0.62	0.51	0.08	1.08	
Control Delay	14.6	34.4	17.0	60.5	15.9	154.3	34.2	10.8	20.4	110.2	
Queue Delay	0.0	13.2	1.0	0.0	0.0	0.2	0.0	0.0	0.0	6.7	
Total Delay	14.6	47.6	18.0	60.5	15.9	154.5	34.2	10.8	20.4	116.9	
LOS	B	D	B	E	B	F	C	B	C	F	
Approach Delay		35.9			31.3		57.5			111.6	
Approach LOS		D			C		E			F	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.22

Intersection Signal Delay: 51.3

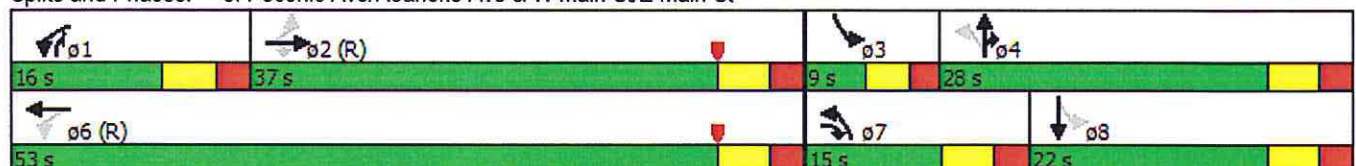
Intersection LOS: D

Intersection Capacity Utilization 95.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Peconic Ave/Roanoke Ave & W Main St/E Main St



HCM Unsignalized Intersection Capacity Analysis

10: E Main St & East Ave

Timing Plan: Saturday Peak Ho



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	83	706	585	94	94	87
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	90	767	636	102	102	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		885	275			
pX, platoon unblocked	0.75				0.87	0.75
vC, conflicting volume	738				1635	687
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	482				1025	414
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				50	80
cM capacity (veh/h)	817				203	481
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	858	738	197			
Volume Left	90	0	102			
Volume Right	0	102	95			
cSH	817	1700	281			
Volume to Capacity	0.11	0.43	0.70			
Queue Length 95th (ft)	9	0	120			
Control Delay (s)	2.8	0.0	42.8			
Lane LOS	A		E			
Approach Delay (s)	2.8	0.0	42.8			
Approach LOS			E			
Intersection Summary						
Average Delay			6.1			
Intersection Capacity Utilization			98.8%	ICU Level of Service		F
Analysis Period (min)			15			

Timings

11: McDermott Ave/Maple Ave & E Main St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	28	748	118	583	151	18	76	17
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		4		8
Permitted Phases	2		6		4		8	
Detector Phase	2	2	6	6	4	4	8	8
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	4.0	4.0	4.0	4.0
Minimum Split (s)	15.0	15.0	15.0	15.0	21.5	21.5	21.5	21.5
Total Split (s)	62.0	62.0	62.0	62.0	28.0	28.0	28.0	28.0
Total Split (%)	68.9%	68.9%	68.9%	68.9%	31.1%	31.1%	31.1%	31.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.5		5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)		57.0		57.0		22.5		22.5
Actuated g/C Ratio		0.63		0.63		0.25		0.25
v/c Ratio		0.80		0.93		0.96		0.50
Control Delay		16.2		33.9		68.3		30.8
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		16.2		33.9		68.3		30.8
LOS		B		C		E		C
Approach Delay		16.2		33.9		68.3		30.8
Approach LOS		B		C		E		C

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 32.3

Intersection LOS: C

Intersection Capacity Utilization 118.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 11: McDermott Ave/Maple Ave & E Main St

	ø2 (R)			ø4
62 s			28 s	
	ø6 (R)			ø8
62 s			28 s	

HCM Unsignalized Intersection Capacity Analysis 12: Parking Lot/Union Ave & E Main St/W Main St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	23	929	25	19	695	53	2	0	13	31	1	18
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	1010	27	21	755	58	2	0	14	34	1	20
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		278										
pX, platoon unblocked				0.64			0.64	0.64	0.64	0.64	0.64	
vC, conflicting volume	813			1037			1919	1928	1023	1913	1912	784
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	813			775			2156	2170	753	2147	2146	784
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			89	100	95	0	96	95
cM capacity (veh/h)	823			543			20	28	263	20	29	396
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	1062	834	16	54								
Volume Left	25	21	2	34								
Volume Right	27	58	14	20								
cSH	823	543	99	31								
Volume to Capacity	0.03	0.04	0.16	1.74								
Queue Length 95th (ft)	2	3	14	155								
Control Delay (s)	0.9	1.1	48.4	631.9								
Lane LOS	A	A	E	F								
Approach Delay (s)	0.9	1.1	48.4	631.9								
Approach LOS			E	F								
Intersection Summary												
Average Delay			18.9									
Intersection Capacity Utilization			77.3%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

13: W Main St & Ostrander Ave

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	85	784	14	7	728	49	0	0	0	40	4	101
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.88	0.88	0.88	0.75	0.75	0.75	0.77	0.77	0.77
Hourly flow rate (vph)	87	800	14	8	827	56	0	0	0	52	5	131
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)		641										
pX, platoon unblocked				0.70			0.70	0.70	0.70	0.70	0.70	
vC, conflicting volume	883			814			1985	1879	807	1852	1859	855
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	883			521			2193	2042	511	2002	2012	855
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			99			100	100	100	0	86	64
cM capacity (veh/h)	770			739			12	35	397	29	37	361
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	901	891	0	188								
Volume Left	87	8	0	52								
Volume Right	14	56	0	131								
cSH	770	739	1700	81								
Volume to Capacity	0.11	0.01	0.00	2.32								
Queue Length 95th (ft)	9	1	0	436								
Control Delay (s)	3.0	0.3	0.0	714.3								
Lane LOS	A	A	A	F								
Approach Delay (s)	3.0	0.3	0.0	714.3								
Approach LOS			A	F								
Intersection Summary												
Average Delay			69.4									
Intersection Capacity Utilization			107.1%		ICU Level of Service					G		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

14: W Main St & Riverside Dr

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	41	102	716	53	120	683
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.84	0.84	0.84	0.84	0.86	0.86
Hourly flow rate (vph)	49	121	852	63	140	794
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1957	884			915	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1957	884			915	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	15	65			81	
cM capacity (veh/h)	57	344			733	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	170	915	934			
Volume Left	49	0	140			
Volume Right	121	63	0			
cSH	142	1700	733			
Volume to Capacity	1.20	0.54	0.19			
Queue Length 95th (ft)	250	0	17			
Control Delay (s)	202.0	0.0	5.0			
Lane LOS	F		A			
Approach Delay (s)	202.0	0.0	5.0			
Approach LOS	F					
Intersection Summary						
Average Delay		19.3				
Intersection Capacity Utilization		102.0%		ICU Level of Service		G
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

15: W Main St & Fishel Ave

Timing Plan: Saturday Peak Ho

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	17	83	70	748	720	24
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.74	0.74	0.84	0.84	0.86	0.86
Hourly flow rate (vph)	23	112	83	890	837	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1908	851	865			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1908	851	865			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	69	89			
cM capacity (veh/h)	68	363	787			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	135	974	865			
Volume Left	23	83	0			
Volume Right	112	0	28			
cSH	209	787	1700			
Volume to Capacity	0.65	0.11	0.51			
Queue Length 95th (ft)	97	9	0			
Control Delay (s)	49.2	2.9	0.0			
Lane LOS	E	A				
Approach Delay (s)	49.2	2.9	0.0			
Approach LOS	E					
Intersection Summary						
Average Delay		4.8				
Intersection Capacity Utilization		98.6%		ICU Level of Service		F
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

16: W Main St & Hubbard Ave

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	130	47	606	97	53	567
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.82	0.82	0.81	0.81
Hourly flow rate (vph)	153	55	739	118	65	700
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1629	798			857	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1629	798			857	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	86			92	
cM capacity (veh/h)	102	389			792	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	208	857	765			
Volume Left	153	0	65			
Volume Right	55	118	0			
cSH	127	1700	792			
Volume to Capacity	1.64	0.50	0.08			
Queue Length 95th (ft)	382	0	7			
Control Delay (s)	381.2	0.0	2.1			
Lane LOS	F		A			
Approach Delay (s)	381.2	0.0	2.1			
Approach LOS	F					
Intersection Summary						
Average Delay			44.2			
Intersection Capacity Utilization			90.5%	ICU Level of Service		E
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

17: Peconic Ave & Parking Lot Access

Timing Plan: Saturday Peak Ho

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	166	32	1038	168	9	889
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	180	35	1128	183	10	966
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL		TWLTL	
Median storage (veh)			2		2	
Upstream signal (ft)					311	
pX, platoon unblocked	0.73					
vC, conflicting volume	2205	1220			1311	
vC1, stage 1 conf vol	1220					
vC2, stage 2 conf vol	986					
vCu, unblocked vol	2469	1220			1311	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	10	84			98	
cM capacity (veh/h)	201	220			528	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1		
Volume Total	180	35	1311	976		
Volume Left	180	0	0	10		
Volume Right	0	35	183	0		
cSH	201	220	1700	528		
Volume to Capacity	0.90	0.16	0.77	0.02		
Queue Length 95th (ft)	176	14	0	1		
Control Delay (s)	88.1	24.4	0.0	0.6		
Lane LOS	F	C		A		
Approach Delay (s)	77.8		0.0	0.6		
Approach LOS	F					
Intersection Summary						
Average Delay			6.9			
Intersection Capacity Utilization			80.7%	ICU Level of Service		D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 18: Griffing Ave/Griffing St & Parking Lot/W 2nd St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	3	0	30	0	49	0	123	14	36	138	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.73	0.73	0.73	0.83	0.83	0.83	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	4	0	36	0	59	0	128	15	38	144	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)								559				
pX, platoon unblocked												
vC, conflicting volume	413	361	144	356	354	135	144			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	413	361	144	356	354	135	144			143		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	100	94	100	94	100			97		
cM capacity (veh/h)	507	554	909	587	553	919	1451			1422		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	7	95	143	181								
Volume Left	3	36	0	38								
Volume Right	0	59	15	0								
cSH	534	757	1451	1422								
Volume to Capacity	0.01	0.13	0.00	0.03								
Queue Length 95th (ft)	1	11	0	2								
Control Delay (s)	11.8	10.4	0.0	1.7								
Lane LOS	B	B		A								
Approach Delay (s)	11.8	10.4	0.0	1.7								
Approach LOS	B	B										
Intersection Summary												
Average Delay			3.3									
Intersection Capacity Utilization			32.5%				ICU Level of Service			A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

19: Griffing St/Griffing Ave & Court St

Timing Plan: Saturday Peak Ho

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	52	47	33	133	120	58
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.71	0.71
Hourly flow rate (vph)	65	59	41	166	169	82
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				1010		
pX, platoon unblocked						
vC, conflicting volume	459	210	251			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	459	210	251			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	93	97			
cM capacity (veh/h)	543	835	1327			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	124	208	251			
Volume Left	65	41	0			
Volume Right	59	0	82			
cSH	651	1327	1700			
Volume to Capacity	0.19	0.03	0.15			
Queue Length 95th (ft)	17	2	0			
Control Delay (s)	11.8	1.8	0.0			
Lane LOS	B	A				
Approach Delay (s)	11.8	1.8	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay		3.1				
Intersection Capacity Utilization		34.4%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis

20: Griffing Ave & Railroad St

Timing Plan: Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	14	50	23	61	39	52	12	159	12	12	113	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	54	25	66	42	57	13	173	13	13	123	17
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	95	165	199	153								
Volume Left (vph)	15	66	13	13								
Volume Right (vph)	25	57	13	17								
Hadj (s)	-0.09	-0.09	0.01	-0.02								
Departure Headway (s)	4.9	4.8	4.8	4.8								
Degree Utilization, x	0.13	0.22	0.26	0.20								
Capacity (veh/h)	666	692	713	699								
Control Delay (s)	8.6	9.2	9.5	9.0								
Approach Delay (s)	8.6	9.2	9.5	9.0								
Approach LOS	A	A	A	A								

Intersection Summary

Delay	9.1			
Level of Service	A			
Intersection Capacity Utilization	34.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Timings

21: Roanoke Ave & W 2nd St/E 2nd St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	16	35	17	51	14	329	68	265
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.5	5.5	5.5	5.5
Minimum Split (s)	15.0	15.0	15.0	15.0	10.5	10.5	10.5	10.5
Total Split (s)	19.0	19.0	19.0	19.0	36.0	36.0	36.0	36.0
Total Split (%)	34.5%	34.5%	34.5%	34.5%	65.5%	65.5%	65.5%	65.5%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)		10.3		10.3		35.0		35.0
Actuated g/C Ratio		0.20		0.20		0.68		0.68
v/c Ratio		0.31		0.35		0.29		0.33
Control Delay		14.3		14.7		5.5		5.9
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		14.3		14.7		5.5		5.9
LOS		B		B		A		A
Approach Delay		14.3		14.7		5.5		5.9
Approach LOS		B		B		A		A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 51.3

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 7.9

Intersection Capacity Utilization 58.2%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service B

Splits and Phases: 21: Roanoke Ave & W 2nd St/E 2nd St

 ø2	 ø4
36 s	19 s
 ø6	 ø8
36 s	19 s

Timings

22: Roanoke Ave & Railroad St

Timing Plan: Saturday Peak Ho

	  					
Lane Group	NBL	NBT	SBT	ø2	ø6	ø8
Lane Configurations						
Volume (vph)	14	410	376			
Turn Type	Perm	NA	NA			
Protected Phases		4	8 6	2	6	8
Permitted Phases	4					
Detector Phase	4	4	8 6			
Switch Phase						
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	9.0	9.0		9.0	9.0	9.0
Total Split (s)	35.0	35.0		18.0	27.0	35.0
Total Split (%)	43.8%	43.8%		23%	34%	44%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		0.0				
Total Lost Time (s)		5.0				
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max	Max		None	Max	Max
Act Effct Green (s)		30.0	57.0			
Actuated g/C Ratio		0.41	0.78			
v/c Ratio		0.69	0.41			
Control Delay		23.9	1.0			
Queue Delay		0.0	0.0			
Total Delay		23.9	1.0			
LOS		C	A			
Approach Delay		23.9	1.0			
Approach LOS		C	A			

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 73.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 11.7

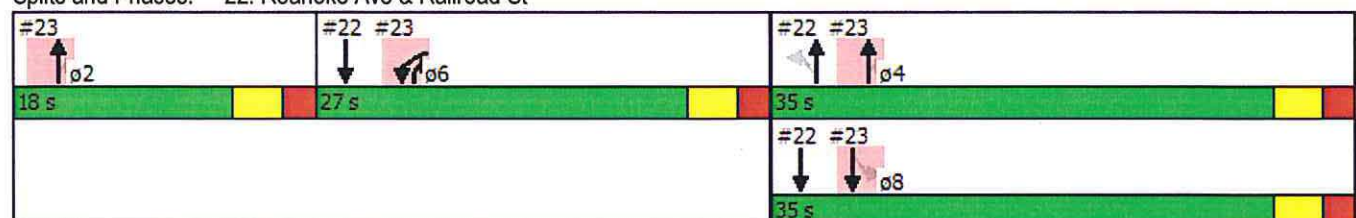
Intersection LOS: B

Intersection Capacity Utilization 37.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 22: Roanoke Ave & Railroad St



Timings

23: Roanoke Ave & Northville Turnpike

Timing Plan: Saturday Peak Ho

							
Lane Group	WBL	NBT	NBR	SBL	SBT	ø2	ø4
Lane Configurations							
Volume (vph)	172	272	144	17	314		
Turn Type	NA	NA	pm+ov	Perm	NA		
Protected Phases	6	4 2	6		8	2	4
Permitted Phases			4 2	8			
Detector Phase	6	4 2	6	8	8		
Switch Phase							
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0		9.0	9.0	9.0	9.0	9.0
Total Split (s)	27.0		27.0	35.0	35.0	18.0	35.0
Total Split (%)	33.8%		33.8%	43.8%	43.8%	23%	44%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0		
Total Lost Time (s)	5.0		5.0		5.0		
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Max		Max	Max	Max	None	Max
Act Effct Green (s)	22.0	41.5	73.5		30.0		
Actuated g/C Ratio	0.30	0.56	1.00		0.41		
v/c Ratio	0.40	0.29	0.10		0.57		
Control Delay	22.6	0.5	0.1		20.6		
Queue Delay	0.0	0.0	0.0		0.0		
Total Delay	22.6	0.5	0.1		20.6		
LOS	C	A	A		C		
Approach Delay	22.6	0.4			20.6		
Approach LOS	C	A			C		

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 73.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 12.4

Intersection LOS: B

Intersection Capacity Utilization 49.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 23: Roanoke Ave & Northville Turnpike

 #23 ø2 18 s		 #22  #23 ø6 27 s		 #22  #23 ø4 35 s	
				 #22  #23 ø8 35 s	

Timings

24: Osborn Ave/Osborn St & Court St

Timing Plan: Saturday Peak Ho

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Volume (vph)	112	107	18	58	3	56	57	126
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total Split (s)	35.0	35.0	35.0	35.0	25.0	25.0	25.0	25.0
Total Split (%)	58.3%	58.3%	58.3%	58.3%	41.7%	41.7%	41.7%	41.7%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	None	None	None	None
Act Effct Green (s)		30.2		30.2		14.2		14.2
Actuated g/C Ratio		0.55		0.55		0.26		0.26
v/c Ratio		0.30		0.17		0.16		0.73
Control Delay		8.7		4.7		13.9		24.2
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		8.7		4.7		13.9		24.2
LOS		A		A		B		C
Approach Delay		8.7		4.7		13.9		24.2
Approach LOS		A		A		B		C

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 54.5

Natural Cycle: 40

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 14.9

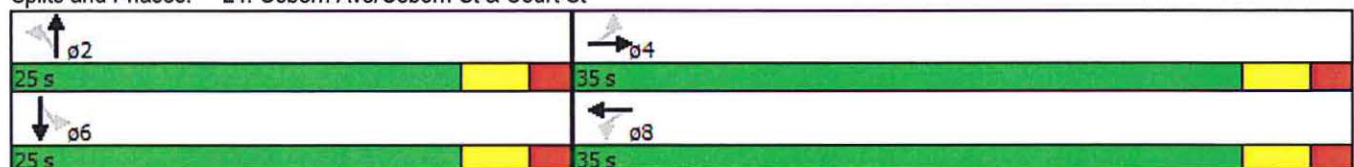
Intersection LOS: B

Intersection Capacity Utilization 57.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 24: Osborn Ave/Osborn St & Court St



Timings

25: Railroad St

Timing Plan: Saturday Peak Ho



Lane Group	EBR	WBT	NBL
Lane Configurations			
Volume (vph)	74	121	30
Turn Type	custom	NA	NA
Protected Phases		8	2
Permitted Phases	4		
Detector Phase	4	8	2
Switch Phase			
Minimum Initial (s)	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0
Total Split (%)	50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	Max	Max	Max
Act Effct Green (s)	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40
v/c Ratio	0.06	0.18	0.05
Control Delay	0.1	8.6	7.6
Queue Delay	0.0	0.0	0.0
Total Delay	0.1	8.6	7.6
LOS	A	A	A
Approach Delay		8.6	7.6
Approach LOS		A	A

Intersection Summary

Cycle Length: 40

Actuated Cycle Length: 40

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 40

Control Type: Pretimed

Maximum v/c Ratio: 0.18

Intersection Signal Delay: 5.7

Intersection LOS: A

Intersection Capacity Utilization 16.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 25: Railroad St

ø2 (R)	ø4
20 s	20 s
	ø8
	20 s

Operational Data

Traffic Flow Data (veh/hr)

2019 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows						Flow Modifiers		
		U-Turn	Exit-4	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Peconic	0	374	223	349	0	216	2.0	1.00	0.9
2	CR 94	0	216	334	147	50	0	2.0	1.00	0.9
3	CR 63	0	62	363	140	21	0	2.0	1.00	0.9
4	CR 104	0	42	215	227	31	0	2.0	1.00	0.9
5	NYS 24	0	9	112	316	344	0	2.0	1.00	0.9

Operational Results

2019 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Peconic	Yield	946	216	754	754	1148	1224	825	0.8119	0.2671
2	CR 94	None	747		1107		808	1013		0.7751	
3	CR 63	None	586		1300		552	832		0.7318	
4	CR 104	None	515		1486		399	773		0.7188	
5	NYS 24	None	781		1123		877	1094		0.7504	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Peconic	Yield	19.80	5.85	17.21	19.62	1.11	C	A	C
2	CR 94	None	18.32		18.32	15.56		C		C
3	CR 63	None	13.92		13.92	8.96		B		B
4	CR 104	None	27.17		27.17	16.00		D		D
5	NYS 24	None	19.28		19.28	15.53		C		C

Operational Data

Traffic Flow Data (veh/hr)

2019 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows						Flow Modifiers		
		U-Turn	Exit-4	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Peconic	0	239	227	388	0	222	2.0	1.00	0.9
2	CR 94	0	357	192	193	138	0	2.0	1.00	0.9
3	CR 63	0	58	236	88	39	0	2.0	1.00	0.9
4	CR 104	0	87	107	216	39	0	2.0	1.00	0.9
5	NYS 24	0	102	160	250	374	0	2.0	1.00	0.9

Operational Results

2019 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Peconic	Yield	854	222	762	762	1178	1219	822	0.7314	0.2755
2	CR 94	None	880		1201		636	956		1.0535	
3	CR 63	None	421		1302		770	832		0.5186	
4	CR 104	None	449		1164		558	966		0.4807	
5	NYS 24	None	886		1057		556	1128		0.8317	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Peconic	Yield	16.86	5.93	14.60	14.17	1.16	C	A	B
2	CR 94	None	61.18		61.18	65.78		F		F
3	CR 63	None	8.32		8.32	3.24		A		A
4	CR 104	None	11.69		11.69	4.81		B		B
5	NYS 24	None	23.55		23.55	21.77		C		C